



STUDY REPORT

**STUDY No.
181003/AGG/PC-b**

STUDY TITLE

**EFFECT OF OHTAKA SUPERFOOD™ POWDER OVER
INTESTINAL MICRO FLORA OF SWISS ALBINO MICE**

Sponsor's name and Address

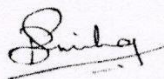
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Study Report Approval

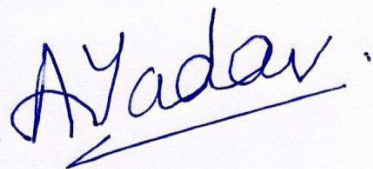
On Behalf of Vedic Lifesciences Pvt. Ltd.



22.06.2020

Date/Month/Year

Study Monitor- Dr Pamela Sinha



22 JUN 2020

Date/Month/Year

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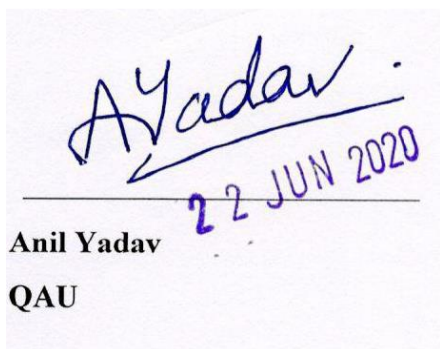
GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

This study was conducted in accordance with OECD Principles of Good Laboratory Practice (GLP), document no. ENV/MC/CHEM (98)17 (as revised in 1997) and adopted by the decision of the OECD Council [C(97)186/Final]. This study was performed in accordance with the Standard Operating Procedures and signed Study Plan.

There were no circumstances that might have affected the quality or integrity of the study.

No circumstances in the study have been left unreported which might have influence on the quality or integrity of the study.

This is also to certify that the results presented in this report are complete, true and accurate reflection of the raw data obtained during the conduct of the study and I, hereby accept the responsibility for the validity of the data.



Anil Yadav
QAU

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SUMMARY

The objective of the study was to assess the effect of prebiotic powder and compare the number of intestinal micro flora in excrement of mice before and after administration and evaluating the function of test item in adjusting the intestinal flora function of mice; when administered repeatedly for 14 consecutive days by oral route. The test was carried out according to the method for intestinal flora examination for “adjusting intestinal flora function” in the Technical Specification for Inspection and Evaluation of Health Food (version 2003).

Animals were acclimatized for minimum 5 days before the initiation of treatment. A total of 40 male Swiss Albino mice were randomly divided into four (G1 to G4) groups. Each group comprised of 10 males. Animals in group G2, G3 and G4 were administered with test item (Ohtaka Superfood™ Powder) at the dose levels of 0.205, 0.400 and 0.625 g/kg b.w. respectively. Animals in group G1 were administered with vehicle (0.5 % carboxy methyl cellulose). The administration of test item formulations and vehicle was performed by oral gavage for a period of 14 consecutive days. The dose formulations were prepared daily just before dosing.

Animals were observed for cage side clinical signs once daily and mortality and morbidity twice during working days and once during holidays. Body weight was measured daily during treatment and on day 15 (terminal body weight) prior to necropsy.

All the mice were sacrificed terminally on day 15. The sacrificed animals were subjected to detailed gross pathological examination.

For assessment of microbial load of intestinal excrement faecal pellets of approximately 0.1 g, was collected from each mouse under sterile conditions, both before and after administration of test item. Subsequent dilutions were made and inoculated on respective culture medium. Later the obtained colonies were characterized morphologically followed by gram staining and biochemical testing as confirmative tests.

No mortality and adverse clinical signs were observed throughout the experiment across all the groups. No treatment related adverse effect on the body weight and body weight gain was observed.

No treatment related gross pathological changes were observed during necropsy in any of the groups.

The Ohtaka Superfood™ Powder increased the microbial load of *Bifidobacterium* and *Enterobacterium* when administered repeatedly for 14 consecutive days up to a dose level of 0.625 g/kg.

LIST OF ABBREVIATIONS

%	Percent
±	Plus or Minus
°C	Degree Centigrade
µg	Microgram
µL	Micro liter
CFU	Colony Forming Unit
COA	Certificate of Analysis
e.g.	Example
EMB	Eosin Methylene Blue
g	Gram
h/hr	Hour
Kg	Kilogram
mg	Milligram
mL	Milliliter
mm	Millimeter
No.	Number
PPE	Personal Protective Equipment
RO	Reverse Osmosis

1.0 OBJECTIVE

This study was performed to assess the effect of Ohtaka Superfood™ Powder on the intestinal micro flora in fecal matter of mice before and after administration.

2.0 PREFACE

2.1 GENERAL

Title of the study : Effect of OhtakaSuperfood™ Powder over Intestinal Micro Flora of Swiss Albino Mice

Monitoring Scientist : Dr. Pamela Sinha
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203, Morya Landmark 1, Off New Link Road,
Andheri (West), Mumbai 400053, India

2.2 STUDY SCHEDULE

Study Initiation Date	20 th Feb. 2020
*Proposed Experiment Start Date	20 th Feb. 2020
*Proposed Experiment Completion Date	21 st Mar. 2020
Study Completion Date	22 nd Jun. 2020

2.3 SAFETY PRECAUTIONS

Safety precautions like use of Personal Protective Equipment (PPE) namely apron, facemask, head cap, gloves and goggles and isolation of test material from the other exposure conditions were followed to ensure the health and safety of the personnel. All study related activity were performed in bio safety cabinet/Laminar air flow unit wherever applicable.

2.4 AMENDMENTS AND DEVIATIONS

No amendment to the study plan was raised during the conduct of the study. no from the study plan were recorded during the study.

2.5 ARCHIVING

Vedic Lifesciences Pvt. Ltd. will retain the study plan, a sample of the test item (till expiry/ ten year which ever earlier), raw data and final report of the present study and

all the soft copies for at least ten years. No data will be discarded without the Sponsor's written consent.

3.0 TEST ITEM DETAILS

The identity, composition, concentration and stability of the test item are the responsibility of the sponsor. No analysis will be performed to confirm the same.

The following are the characteristic details of test item as provided by sponsor.

Test Item

Test Item Name	:	OhtakaSuperfood™ Powder
Batch No.	:	OTAK-082817-0374
Physical Appearance	:	Powder and Tan
Date of Manufacture	:	28 th Aug. 2017
Date of Expiry	:	27 th Aug. 2020
Storage Conditions	:	21-29°C
Manufactured by	:	Anderson Global Group

4.0 CONTROLS

4.1 NEGATIVECONTROL

Based on the solubility test the vehicle will be selected and same will be used as negative control.

5.0 TEST SYSTEM

Species	:	Mice (<i>MusMusculus</i>)
Sex	:	Male
Strain	:	Swiss Albino
Number of animals per group	:	10
Total Number of animals	:	30
Age at the start of acclimatization	:	6-8 weeks
Body weight range	:	± 20 % of mean body weight
Animal source	:	From CPCSEA approved vendor

The screening of intestinal micro flora (Bifidobacterium, Lactobacillus, Enterococcus and Enterobacterium) of mice was conducted using fecal matter from different sources of animals. Based on the results from screening test the source of animals was selected.

5.1 JUSTIFICATION OF TEST SYSTEM

Mouse is the preferred animal which has been used for many years as suitable experimental animal in gut micro flora investigations. Literature data related to such investigations are also available, which refers to the use of mice as experimental animals.

6.0 ANIMAL HUSBANDRY

6.1 ENVIRONMENTAL CONDITIONS

Animals were maintained in a controlled environment of the experimental animal room with a temperature of 19-25° C, relative humidity of 50 ± 20 %, a light/dark cycle of ~12 hours.

6.2 HOUSING

The animals were housed group wise having maximum 3 animals per cage throughout the study period in clean, sterilized polycarbonate rodent cages (Dimension; L 23.5 X B 16.0 X H 12.5 cubic centimeter) covered with stainless steel grid top mesh having provision for water bottles and feed. Autoclaved clean corn cob was used as a bedding material. The bedding material was analyzed for microbial and contaminant analysis as per routine analysis procedures of test facility. Authorized photo copies of microbial and contaminant analysis reports of bedding material were part of study raw data file.

6.3 ROOM SANITATION

The floor and work top of the experimental room was mopped with 0.03% sodium hypochlorite twice daily on working days and once on holidays.

6.4 FEED AND WATER

The animals will be fed *ad libitum* with autoclaved pellet feed. Drinking water processed by Reverse Osmosis followed by autoclaving was provided *ad libitum* to all animals via water bottles. Water was analyzed for microbial and chemical contaminants as per routine analysis procedures of test facility. An authorized photocopy of such analyzed reports is maintained in the study raw data file. An authorized photocopy of feed analysis reports of nutritional components and contaminants provided by vendor is

kept as a part of study raw data file.

6.5 ACCLIMATIZATION

Animals were acclimatized at least for 5 days before the initiation of treatment. A thorough physical examination was performed before selecting the animals. Animals without any visual signs of illness were used for the study. All animals were observed for cage side clinical signs once daily during acclimatization.

6.6 RANDOMIZATION AND GROUPING

A total of 46 animals were used for the study,

Animals were randomized and grouped one day prior to initiation of dosing of each phase based on the body weight. Randomization was done using Microsoft excel. Extra 6 animals not selected for randomization were returned to the animal house veterinarian.

6.7 ANIMAL IDENTIFICATION

The animals were marked (at the tip of tail) with temporary animal numbers at the start of acclimatization. The animals were marked with animal permanent numbers with indelible marker at the base of tail.

During acclimatization, cages were identified by cage cards which had the details like; Study No., Study Code, Species, Strain, Sex, Cage No., Animal No., Acclimatization Start Date, Acclimatization End Date, Sign & Date. After randomization, cages were identified by cage cards (Treatment Cage Card) which had details like; Study No. Test Item Code, Species, Strain, Sex, Cage No., Group No., Dose, Animal No., Treatment Start Date, Date of Necropsy, Sign & Date.

7.0 EXPERIMENTAL PROCEDURE

7.1 STUDY DESIGN

The animals in G1 to G4 were divided in to four phases

Group No.	Product details	Treatment Group	Dose (g/kgb.wt.)	Conc. (g/ mL)	No. of Animals / Group	Animal No.
G1	-	Negative Control	-	0	10	01 - 10
G2	Ohtaka Superfood TM Powder	Low Dose	0.205	0.0205	10	31 - 40
G3		Mid Dose	0.400	0.0400	10	41 - 50
G4		High Dose	0.625	0.0625	10	51 - 60

Phase	Animal No.
I	G1 : 1-3, G2 : 11-13, G3 : 21-23, G4 : 31-33,
II	G1 : 4-6, G2 : 14-16, G3 : 24-26, G4 : 34-36,
III	G1 : 7-10, G2 : 17-20, G3 : 27-30, G4 : 37-40,

7.2 DOSE SELECTION

Animals in group G2, G3 and G4 were administered with test item at dose levels of 0.205, 0.400 and 0.625g/kg b.wt., respectively by oral gavage for a period of 14 consecutive days. Animals in group G1 were administered with vehicle by oral gavage for a period of 14 consecutive days. Dosing by oral route of administration was started on day 1 for phase I, on day 4 for phase II and on day 8 for phase III animals respectively.

The dose volume was maintained constant at 10 mL/kg body weight for all the dose groups. Volume of dose to be administered to each animal was calculated based on most recent body weight using below mentioned formula.

$$\text{Dose Volume (mL)} = \text{Body Weight (g)} \times 10/1000$$

7.3 JUSTIFICATION FOR SELECTION OF DOSE AND ROUTE OF ADMINISTRATION

The doses were selected based on sponsor suggestion. Oral route is the intended route in humans. Therefore to understand resistance of intestinal micro flora after and before treatment, oral route of administration was selected for this study.

7.4 DOSE FORMULATION PREPARATION

The dose formulations were prepared daily just before dosing. The required quantity of test item was initially suspended in small volume of 0.5 % carboxy methyl cellulose using mortar and pestle, after which the formulation was further mixed with 0.5 % carboxy methyl cellulose to attain the desired concentration of dose formulation. For low and intermediate doses dilutions were made similarly.

7.5 DOSE ADMINISTRATION

Route of administration : Oral

Prepared dose formulations were administered to mice by oral gavage using 1 mL disposable syringe attached to a 21 Gavage needle.

8.0 OBSERVATIONS

8.1 CLINICAL SIGNS

All animals were observed for cage side clinical signs once daily during experiment. Detailed clinical signs were performed outside the home cage for all animals on the day of randomization and on days 7 and 14. The clinical signs observation included but not limited to changes in skin, eyes and mucous membranes, occurrence of secretions and excretions and autonomic activity (e.g. lacrimation and respiratory pattern) etc.

Animals were observed for mortality and morbidity twice during working days and once during holidays.

8.2 BODY WEIGHT

All animals were weighed on the day of receipt, prior to randomization and daily during treatment. Weight changes were calculated and reported.

8.3 EUTHANASIA

All animals were humanely euthanized using carbon dioxide asphyxiation on day 15.

8.4 GROSS PATHOLOGY

All animals were subjected to complete gross necropsy, including examination of external surface of the body, all orifices, and cavities (cranial, thoracic and abdominal) and for detailed internal examination of viscera.

8.5 COLLECTION OF INTESTINAL EXCREMENT

From each animal approximately 0.1 gm of excrement was collected aseptically in of thioglycolate broth medium on the day of randomization and on day 15.

8.6 MICROBIAL LOAD OF INTESTINAL EXCREMENT

Excrement was diluted with 1 mL of thioglycolate broth medium and then viable count was performed on serially diluted samples in thioglycolate broth and plated in selective medium in duplicate by pour plate method (~20 mL of medium) to determine the microbial load of intestinal micro flora per gram. The plates were incubated at $37\pm 2^{\circ}\text{C}$ for about 48 to 72 hours. Post incubation colonies were counted in each plate and recorded.

Based on the colony morphology the following tests were performed as a confirmatory test for *Bifidobacterium*, *Lactobacillus*, *Enterococcus* and *Enterobacterium*, for all individual animals:

Name of the organism	Culture response, biochemical tests, Activity	Result
<i>Bifidobacterium</i>	Growth on Bifidobacterium selective agar	Present
	Gram staining	Gram positive bacilli, Y shaped
	Motility	Non motile
	Bile esculin	Positive
	Oxidase	Negative
	Catalase	Negative
<i>Lactobacillus</i>	Growth on lactobacillus selective agar	Present, large, white colonies.
	Gram staining	Gram positive rods
	Motility	Non motile
	Catalase	Negative
	Oxidase	Negative
<i>Enterococcus</i>	Growth on Enterococcus selective agar	Present, pink - dark red (maroon) colored colonies
	Gram staining	Gram positive cocci
	Bile esculin	Positive
<i>Enterobacterium</i>	Growth on EMB agar	Present, confirmed followed by Indole methyl red, Vogues proskaur, Lactose, Citrate, Urease, TSI, Oxidase etc..tests

Note: Refer Appendix 7 for the results of individual animal culture response, biochemical tests, identification results

Colony count obtained for all the groups was recorded and colonies per gram of excrement were calculated using below mentioned formula.

.

Bacterial colony logarithm change value (%) will be calculated using below mentioned formula.

$$\text{CFU per gram of faecal sample} = \frac{\text{Mean no. of colony counted on plates} \times \text{dilution factor} \times \text{volume of stock}}{\text{Weight of fecal sample}}$$

Bacterial colony logarithm change value (%) will be calculated using below mentioned formula.

$$\text{Bacterial colony logarithm change value (\%)} = 100 \times \frac{(\text{bacterial colony logarithm after test item administration} - \text{bacterial colony logarithm before test item administration})}{\text{bacterial colony logarithm before test item administration}}$$

bacterial colony logarithm before test item administration

The Following Chemicals/ Reagents/ Solutions were used for experiment

Name	Make	Catalogue	Batch No.
Fluid thioglycollate medium	Himedia	M009	0000311824, 0000349789
Bifidobacterium agar, Modified	Himedia	M1858	0000298501, 0000351197
bifidobacteriumagar supplement	Himedia	FD285	0000364225
EMB agar	Himedia	M317	0000345757
M enterococcus agar base	Himedia	M1108	0000308470, 0000337556
Lactobacillus selection Agar Base	Himedia	M1180	0000382160
3% Catalase solution	NA	NA	NA
Oxygen indicator	Himedia	LE065	0000406692
Lactose Fermentation tubes	NA	NA	NA
Sodium Carbonate	Finar	11560SG500	786410218EQ
Ethanol	Chnagshu hongsheng	NA	20161220
Esculin Supplement	Himedia	FD050	0000409453
Peptone water	Himedia	M028	0000303570
Acetone	Finar	10020LM500	539980209AQ
Urea 40%	Himedia	FD048	0000323287
Anaerogas pack 3.5L	Himedia	LE002A	18-1034
Anaero Bag	Himedia	LE 010	18-1031
Kovacs Indole Reagent	Himedia	R008	0000312971
Triple sugar iron agar	Himedia	M021	0000328595
Urea agar base	TM media	TM 394	0000302556
Gram stains kit	Himedia	K001	0000314160, 0000360822
Anaero indicator tablet	Himedia	LE065	19-1041
Pottasium Hydroxidepellets	Finar	11290SG500	75890020710
Methyl red solution	Nice	NA	304329
α -Naphthol	Himedia	GRM1392	0000268394
Simmons citrate agar	Himedia	M099	0000255405

The Following Instruments were used for the experiment:

Name of the consumable /Instrument	Make	Model
Bio-Safety Cabinet Level II	Laminar Flow systems	-
Laminar Air flow unit	Laminar Flow systems	-
BOD Incubator	Newtronic	NEC 108RTSS1
Micropipettes	Rainin, Eppendorf	-
Autoclave	Equitron	7441SLEFA
Petri dishes	Falcon	353146
Cyclomixer	Remi	CM-101
Refrigerator	Haier	HYC-360

9.0 DATA RECORDING

Summary and individual data of the animals for parameters like clinical signs, body weight, body weight gain and intestinal micro flora count were recorded in a tabular form.

10.0 STATISTICAL ANALYSIS

All continuous data like body weight, body weight change, each group intestinal micro flora obtained from the mice calculated and data was subjected for various statistical analyses using systat software. Data was evaluated for basic statistics, homogeneity of variance by barlett's test, ANOVA, Dunnett's two sided test for equal variance and Dunnett T3 for unequal variance. Data was evaluated by t- test as applicable. The parameters were analyzed at 5% ($p < 0.05$) level of significance.

11.0 REPORTING

Draft report was submitted to the Sponsor for review of the formatting and completeness. Following receipt of the Sponsor's comments two original sets of final report will be prepared. One (Original 01 of 02) will remain in the archives of VLPL, while another (Original 02 of 02) will be sent to the Sponsor.

12.0 RESULT AND DISCUSSION

12.1 CLINICAL SIGNS AND MORTALITY

[Table 1 and 2: Summary of Mortality and Summary of Clinical Signs; Appendix 1: Individual Animal Clinical Signs]

No mortality and adverse clinical signs were observed throughout the experiment across all the groups.

12.2 BODY WEIGHT

[Table 3 and 4: Summary of Animal Body Weight (g) and Summary of Animal Body Weight Gain (g) respectively; Appendix 2 and 3: Individual Animal Body Weight (g) and Individual Animal Body Weight Gain (g)]

No statistically significant difference in the body weight and body weight gain was observed in groups G2, G3, and G4 when compared with group G1 animals.

12.3 GROSS PATHOLOGY

[Table 5: Summary of Gross Pathology; Appendix No. 4: Individual Animal Gross Pathology].

No gross pathological changes were observed during necropsy across all groups.

12.4 MICROBIAL LOAD OF INTESTINAL EXCREMENT

[Table 6: Summary of Intestinal micro flora before and after treatment; Appendix No. 5 and 6: Individual Animal intestinal micro flora before treatment and Individual Animal intestinal micro flora after treatment].

Animals were dosed for 14 consecutive days. Animals in group G2, G3 and G4 were administered with test item at the dose levels of 0.205, 0.400 and 0.625 g/kg b.w. respectively. Animals in group G1 were administered with vehicle (0.5 % carboxy methyl cellulose). Before and after the consecutive 14 days administration of test item, intestinal microflora of all test item group animals were compared with vehicle control group animals.

OBSERVATIONS FOR GROUPS TREATED WITH OHTAKA SUPERFOOD™ POWDER

In Group G2 (Low dose) no statistical significance was observed in any of the organism in pre and post microbial load analysis. A slight increase in *Bifidobacterium* and *Enterobacterium* load was observed post treatment. Whereas, *Lactobacillus* and

Enterococcus showed slight reduction in the post treatment microbial load. The observed % change values (bacterial colony logarithm change value) for *Bifidobacterium*, *Lactobacillus*, *Enterococcus* and *Enterobacterium* were 2.424, -2.161, -2.907 and 3.145 respectively.

In Group G3 (Mid dose) no statistical significance was observed in any of the organism in pre and post microbial load analysis. *Bifidobacterium* and *Enterobacterium* showed substantial increase in the post treatment load. Whereas, *Lactobacillus* and *Enterococcus* showed slight reduction in post treatment load. The observed % change values (bacterial colony logarithm change value) for *Bifidobacterium*, *Lactobacillus*, *Enterococcus* and *Enterobacterium* were 6.842, -1.935, -1.738 and 3.035 respectively.

In Group G4 (High dose) no statistical significance was observed in any of the organism in pre and post microbial load analysis. A substantial increase in *Bifidobacterium* and *Enterobacterium* load was observed post treatment. Slight reduction was observed in *Lactobacillus* and *Enterococcus* in the post treatment microbial load. The observed % change values (bacterial colony logarithm change value) for *Bifidobacterium*, *Lactobacillus*, *Enterococcus* and *Enterobacterium* were 8.408, -2.343, -2.809 and 4.109 respectively.

Biologically significant increase in all the treated groups for *Bifidobacterium* can be attributed to the effect of the test item in adjusting the intestinal microflora.

13 CONCLUSION

Based on the above findings following conclusions were drawn, The Ohtaka Superfood™ Powder increased the microbial load of *Bifidobacterium* and *Enterobacterium* when administered repeatedly for 14 consecutive days up to a dose level of 0.625 g/kg

14 REFERENCES

- Impact of a Resistant Dextrin on Intestinal Ecology: How Altering the Digestive Ecosystem with NUTRIOSE®, a Soluble Fiber with Prebiotic Properties, May Be Beneficial for Health, The Journal of International Medical Research, 2012; 40: 211 – 224 [first published online ahead of print as 40(1) 8].
- Nanjing Medical University Report No.: KY101KF2016002-03

- Katarzyna Śliżewska^{1*}, Zdzisława Libudzisz¹, Renata Barczyńska², Dietary resistant dextrins positively modulate fecal and cecal microbiota composition in young rats. ABP, BIOCHIMICA POLONICA, Vol. 62, No 4/2015, 677–681
- C Lefranc-Millot, L Guérin-Deremaux, D Wils, C Neut, LE Miller and MH Saniez-Degrave, Impact of a Resistant Dextrin on Intestinal Ecology: How Altering the Digestive Ecosystem with NUTRIOSE®, a Soluble Fibre with Prebiotic Properties, May Be Beneficial for Health DOI: 10.1177/147323001204000122 Journal of International Medical Research 2012 40: 211.

TABLE – 1: SUMMARY OF MORTALITY

Group	Treatment	Dose (g/kg b.w.)	Mortality / No. of Animals
			Male
G1	Vehicle Control	0	0/10
G2	Low Dose	0.205	0/10
G3	Mid Dose	0.400	0/10
G4	High Dose	0.625	0/10

TABLE – 2: SUMMARY OF CLINICAL SIGNS

Group : G1						Treatment : Vehicle Control				
Sex : Male						Dose: 0 g/kg b.w.				
Observation	Study Day									
	1	2	3	4	5	6	7	8	9	10
Normal	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
Observation	Study Day									
	11	12	13	14						
Normal	10/10	10/10	10/10	10/10						

Group : G2					Treatment : Low Dose					
Sex : Male					Dose: 0.205 g/kg b.w.					
Observation	Study Day									
	1	2	3	4	5	6	7	8	9	10
Normal	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
Observation	Study Day									
	11	12	13	14						
Normal	10/10	10/10	10/10	10/10						

TABLE – 2: SUMMARY OF CLINICAL SIGNS Contd...

Group : G3					Treatment : Mid Dose					
Sex : Male					Dose: 0.400 g/kg b.w.					
Observation	Study Day									
	1	2	3	4	5	6	7	8	9	10
Normal	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
Observation	Study Day									
	11	12	13	14						
Normal	10/10	10/10	10/10	10/10						

Group : G4					Treatment : High Dose					
Sex : Male					Dose: 0.625 g/kg b.w.					
Observation	Study Day									
	1	2	3	4	5	6	7	8	9	10
Normal	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
Observation	Study Day									
	11	12	13	14						
Normal	10/10	10/10	10/10	10/10						

TABLE – 3: SUMMARY OF ANIMAL BODY WEIGHT (g) Contd.

Group	Treatment	Dose (g/kg b.w.)		Body Weight (g) on Day					
				1	2	3	4	5	6
G1	Vehicle Control	0	MEAN	28.31	28.19	28.47	28.81	29.27	29.38
			SD	1.40	1.48	1.46	1.49	1.48	1.48
			N	10	10	10	10	10	10
G2	Low Dose	0.205	MEAN	28.08	28.26	28.48	28.70	28.92	29.03
			SD	1.30	1.41	1.40	1.45	1.39	1.35
			N	10	10	10	10	10	10
G3	Mid Dose	0.400	MEAN	28.52	28.73	28.62	29.03	29.24	29.35
			SD	1.27	1.34	1.36	1.44	1.51	1.46
			N	10	10	10	10	10	10
G4	High Dose	0.625	MEAN	28.88	29.03	29.06	29.19	29.40	29.74
			SD	1.71	1.81	1.84	1.87	1.98	1.87
			N	10	10	10	10	10	10
Group	Treatment	Dose (g/kg b.w.)		Body Weight (g) on Day					
				7	8	9	10	11	12
G1	Vehicle Control	0	MEAN	29.57	29.86	29.91	30.22	30.39	30.52
			SD	1.41	1.53	1.48	1.46	1.50	1.55
			N	10	10	10	10	10	10
G2	Low Dose	0.205	MEAN	29.33	29.55	29.90	30.07	30.19	30.43
			SD	1.34	1.49	1.35	1.45	1.41	1.50
			N	10	10	10	10	10	10
G3	Mid Dose	0.400	MEAN	29.66	29.88	30.22	30.40	30.80	31.02
			SD	1.44	1.49	1.57	1.40	1.46	1.39
			N	10	10	10	10	10	10
G4	High Dose	0.625	MEAN	30.02	30.21	30.48	30.58	30.87	30.87
			SD	1.89	1.70	1.80	1.95	1.97	1.94
			N	10	10	10	10	10	10
Group	Treatment	Dose (g/kg b.w.)		Body Weight (g) on Day					
				13	14	15			
G1	Vehicle Control	0	MEAN	30.92	31.01	31.09			
			SD	1.57	1.56	1.64			
			N	10	10	10			
G2	Low Dose	0.205	MEAN	30.65	30.91	31.28			
			SD	1.52	1.54	1.51			

			N	10	10	10
			MEAN	31.42	31.53	31.96
G3	Mid Dose	0.400	SD	1.44	1.44	1.46
			N	10	10	10
			MEAN	31.32	31.51	31.72
G4	High Dose	0.625	SD	1.93	1.90	2.03
			N	10	10	10

TABLE – 4: SUMMARY OF ANIMAL BODY WEIGHT GAIN (G) - RELATIVE TO DAY 1

Group	Treatment	Dose (g/kg b.w.)		Body Weight Gain (g) relative to day 1				
				1 - 2	1 - 3	1 - 4	1 - 5	1 - 6
G1	Vehicle Control	0	MEAN	-0.12	0.15	0.50	0.95	1.07
			SD	0.65	0.69	0.91	0.97	0.91
			N	10	10	10	10	10
G2	Low Dose	0.205	MEAN	0.18	0.40	0.62	0.84	0.95
			SD	0.32	0.35	0.44	0.46	0.45
			N	10	10	10	10	10
G3	Mid Dose	0.400	MEAN	0.21	0.10	0.51	0.72	0.83
			SD	0.25	0.30	0.34	0.41	0.36
			N	10	10	10	10	10
G4	High Dose	0.625	MEAN	0.14	0.18	0.31	0.52	0.86
			SD	0.29	0.37	0.32	0.59	0.60
			N	10	10	10	10	10
Group	Treatment	Dose (g/kg b.w.)		Body Weight Gain (g) relative to day 1				
				1 - 7	1 - 8	1 - 9	1-10	1 - 11
G1	Vehicle Control	0	MEAN	1.26	1.55	1.60	1.90	2.08
			SD	0.52	0.48	0.47	0.61	0.69
			N	10	10	10	10	10
G2	Low Dose	0.205	MEAN	1.25	1.47	1.82	1.99	2.11
			SD	0.46	0.56	0.51	0.54	0.41
			N	10	10	10	10	10
G3	Mid Dose	0.400	MEAN	1.14	1.36	1.70	1.88	2.28
			SD	0.24	0.41	0.48	0.40	0.57
			N	10	10	10	10	10
G4	High Dose	0.625	MEAN	1.14	1.33	1.60	1.70	1.98

			SD	0.79	0.76	0.56	0.56	0.58
			N	10	10	10	10	10
Group	Treatment	Dose (g/kg b.w.)	Body Weight Gain (g) relative to day 1					
				1 - 12	1 -13	1 - 14	1-15	
G1	Vehicle Control	0	MEAN	2.20	2.61	2.70	2.78	
			SD	0.87	0.66	0.71	0.68	
			N	10	10	10	10	
G2	Low Dose	0.205	MEAN	2.35	2.57	2.83	3.20	
			SD	0.51	0.56	0.58	0.70	
			N	10	10	10	10	
G3	Mid Dose	0.400	MEAN	2.50	2.90	3.01	3.44	
			SD	0.41	0.60	0.57	0.65	
			N	10	10	10	10	
G4	High Dose	0.625	MEAN	1.99	2.44	2.63	2.84	
			SD	0.63	0.63	0.68	0.71	
			N	10	10	10	10	

TABLE -5: SUMMARY OF GROSS PATHOLOGY

Group		G1	G2	G3	G4
Observation	Treatment	Vehicle Control	Low Dose	Mid Dose	High Dose
	Dose (g/kg b.w.)	0	0.205	0.400	0.625
No Abnormality Detected	-	10/10	10/10	10/10	10/10

TABLE –6: SUMMARY OF INTESTINAL MICRO FLORA BEFORE AND AFTER TREATMENT

Group →		G1(Vehicle Control)	G2	G3	G4
Dose (g/kg b.wt.)		0	0.205	0.4	0.625
Before test item administration	Mean	8.505	8.123	8.072	8.027
	SD	0.615	0.685	0.761	0.749
After test item administration	Mean	8.460	8.320	8.624	8.702
	SD	1.108	0.669	0.703	0.731
% change value		-0.528	2.424	6.842	8.408
<i>Lactobacillus</i>					
Before test item administration	Mean	8.161	7.900	8.330	8.269
	SD	0.886	0.718	1.179	0.554
After test item administration	Mean	8.037	7.729	8.169	8.075
	SD	0.649	0.810	0.800	0.735
% change value		-1.516	-2.161	-1.935	-2.343
<i>Enterococcus</i>					
Before test item administration	Mean	8.699	8.485	8.427	8.460
	SD	0.572	0.896	0.859	0.719
After test item administration	Mean	8.650	8.238	8.280	8.222
	SD	0.593	0.323	1.037	0.641
% change value		-0.564	-2.907	-1.738	-2.809
<i>Enterobacterium</i>					
Before test item administration	Mean	8.078	7.997	7.360	7.757
	SD	1.396	1.395	1.260	1.008
After test item administration	Mean	8.240	8.248	7.583	8.076
	SD	0.908	1.015	0.981	0.914
% change value		2.013	3.145	3.035	4.109

APPENDIX – 1: INDIVIDUAL ANIMAL CLINICAL SIGNS

Group	: G1					Treatment : Vehicle Control				
Sex	: Male					Dose: 0 g/kg b.w.				
Animal	Study Day									
No.	1	2	3	4	5	6	7	8	9	10
1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1
Animal	Study Day									
No.	11	12	13	14						
1	1	1	1	1						
2	1	1	1	1						
3	1	1	1	1						
4	1	1	1	1						
5	1	1	1	1						
6	1	1	1	1						
7	1	1	1	1						
8	1	1	1	1						
9	1	1	1	1						
10	1	1	1	1						

Key: 1 – Normal

APPENDIX – 1: INDIVIDUAL ANIMAL CLINICAL SIGNS Contd.

Group	: G2					Treatment : Low Dose				
Sex	: Male					Dose: 0.205 g/kg b.w.				
Animal	Study Day									
No.	1	2	3	4	5	6	7	8	9	10
11	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1
Animal	Study Day									
No.	11	12	13	14						
11	1	1	1	1						
12	1	1	1	1						
13	1	1	1	1						
14	1	1	1	1						
15	1	1	1	1						
16	1	1	1	1						
17	1	1	1	1						
18	1	1	1	1						
19	1	1	1	1						
20	1	1	1	1						

Key: 1 - Normal

APPENDIX – 1: INDIVIDUAL ANIMAL CLINICAL SIGNS Contd.

APPENDIX IV INDIVIDUAL ANIMAL CLINICAL SIGNS CONT'D.										
Group	: G3					Treatment : Mid Dose				
Sex	: Male					Dose: 0.400 g/kg b.w.				
Animal	Study Day									
No.	1	2	3	4	5	6	7	8	9	10
21	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1
26	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1	1	1	1
29	1	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1
Animal	Study Day									
No.	11	12	13	14						
21	1	1	1	1						
22	1	1	1	1						
23	1	1	1	1						
24	1	1	1	1						
25	1	1	1	1						
26	1	1	1	1						
27	1	1	1	1						
28	1	1	1	1						
29	1	1	1	1						
30	1	1	1	1						

Key: 1 - Normal

APPENDIX – 1: INDIVIDUAL ANIMAL CLINICAL SIGNS Contd.

Group	: G4					Treatment : High Dose				
Sex	: Male					Dose: 0.625 g/kg b.w.				
Animal	Study Day									
No.	1	2	3	4	5	6	7	8	9	10
31	1	1	1	1	1	1	1	1	1	1
32	1	1	1	1	1	1	1	1	1	1
33	1	1	1	1	1	1	1	1	1	1
34	1	1	1	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1
36	1	1	1	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1	1	1	1
38	1	1	1	1	1	1	1	1	1	1
39	1	1	1	1	1	1	1	1	1	1
40	1	1	1	1	1	1	1	1	1	1
Animal	Study Day									
No.	11	12	13	14						
31	1	1	1	1						
32	1	1	1	1						
33	1	1	1	1						
34	1	1	1	1						
35	1	1	1	1						
36	1	1	1	1						
37	1	1	1	1						
38	1	1	1	1						
39	1	1	1	1						
40	1	1	1	1						

Key: 1 - Normal

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (G)

Group	: G1	Treatment : Vehicle Control				
Sex	: Male	Dose: 0 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	1	2	3	4	5	6
1	26.713	26.413	26.569	27.346	28.641	28.637
2	28.308	29.150	29.838	30.552	31.108	31.304
3	30.147	30.575	30.647	31.213	31.501	31.527
4	27.897	27.988	27.955	28.119	28.157	28.294
5	28.674	27.247	28.022	28.059	29.052	29.002
6	29.758	28.846	28.737	28.763	29.117	29.708
7	26.145	26.254	26.424	26.754	26.914	27.023
8	27.478	27.349	28.037	28.617	28.964	29.012
9	27.794	27.879	28.012	28.125	28.245	28.273
10	30.214	30.224	30.427	30.597	30.974	31.003
Group	: G1	Treatment : Vehicle Control				
Sex	: Male	Dose: 0 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	7	8	9	10	11	12
1	28.400	28.342	29.020	29.468	29.270	30.081
2	30.633	30.892	30.198	31.312	31.509	31.443
3	31.680	31.983	32.406	32.062	32.502	32.983
4	28.578	28.797	29.119	29.210	29.257	29.379
5	29.557	30.427	29.861	29.866	29.452	29.102
6	30.500	31.078	31.099	31.864	31.952	31.996
7	27.210	27.341	27.452	27.628	27.942	28.004
8	29.124	29.257	29.476	29.645	30.123	30.145
9	28.819	28.974	28.791	29.350	29.951	30.027
10	31.245	31.540	31.687	31.745	31.978	32.012

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G1	Treatment : Vehicle Control	
Sex	: Male	Dose: 0 g/kg b.w.	
Animal No.	Body Weight (g) on Day		
	13	14	15
1	30.323	30.751	29.927
2	31.853	31.221	31.948
3	33.413	33.678	33.749
4	29.647	29.779	30.119
5	30.920	30.396	30.148
6	32.207	32.642	32.815
7	28.124	28.451	28.425
8	30.245	30.412	30.517
9	30.054	30.198	30.570
10	32.456	32.587	32.679

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G2	Treatment : Low Dose				
Sex	: Male	Dose: 0.205 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	1	2	3	4	5	6
11	26.854	26.450	26.851	27.016	27.410	27.487
12	27.543	27.712	28.024	28.011	28.710	28.495
13	29.155	29.514	29.665	29.997	30.289	30.196
14	28.457	29.067	29.204	29.913	29.993	30.022
15	28.647	29.348	29.747	29.916	30.124	30.254
16	29.538	29.444	29.746	29.931	29.914	30.176
17	26.270	26.479	26.786	26.975	27.145	27.667
18	26.478	26.547	26.469	26.758	26.927	26.875
19	27.845	27.948	28.172	28.249	28.347	28.678
20	30.012	30.045	30.125	30.256	30.346	30.425
Group	: G2	Treatment : Low Dose (VLS/T04)				
Sex	: Male	Dose: 0.205 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	7	8	9	10	11	12
11	28.036	28.127	28.647	28.214	28.345	28.678
12	28.852	29.109	29.441	29.516	29.783	30.127
13	30.286	30.687	30.925	31.024	31.125	31.759
14	30.219	30.553	30.981	30.763	30.690	30.881
15	30.497	30.786	31.021	31.782	31.420	31.978
16	30.875	30.934	31.093	31.212	31.428	31.497
17	27.964	27.378	28.045	28.347	28.679	28.627
18	27.035	27.169	27.647	27.974	28.046	28.069
19	28.975	30.046	30.249	30.321	30.427	30.579
20	30.524	30.678	30.975	31.547	31.978	32.058

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G2	Treatment : Low Dose	
Sex	: Male	Dose: 0.205 g/kg b.w.	
Animal No.	Body Weight (g) on Day		
	13	14	15
11	28.946	29.458	29.978
12	30.294	30.451	30.968
13	31.946	32.057	32.624
14	30.934	31.286	32.037
15	32.457	32.610	32.987
16	31.578	31.974	31.874
17	28.976	29.375	29.976
18	28.267	28.146	28.367
19	30.648	30.974	31.024
20	32.476	32.768	32.978

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G3	Treatment : Mid Dose				
Sex	: Male	Dose: 0.400 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	1	2	3	4	5	6
21	28.459	28.946	28.457	28.975	29.120	29.314
22	28.647	28.457	28.956	29.478	29.976	30.147
23	30.479	30.597	30.458	31.023	31.245	31.654
24	28.119	28.455	28.625	28.976	29.004	29.014
25	28.649	28.647	28.214	28.657	28.947	29.045
26	30.264	30.648	30.623	31.245	31.542	31.025
27	26.457	26.579	26.497	26.768	26.849	26.974
28	26.845	26.974	26.789	27.214	27.349	27.459
29	28.264	28.349	28.127	28.279	28.347	28.679
30	29.014	29.678	29.478	29.687	29.978	30.145
Group	: G3	Treatment : Mid Dose				
Sex	: Male	Dose: 0.400 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	7	8	9	10	11	12
21	29.645	29.769	30.124	30.578	31.243	31.024
22	30.021	30.778	30.945	31.027	31.697	31.268
23	31.751	32.015	32.403	32.021	32.158	32.647
24	29.547	29.976	30.547	30.248	30.875	31.026
25	29.758	29.624	29.997	30.457	30.678	31.054
26	31.457	31.795	32.097	32.012	32.647	32.945
27	27.124	27.254	27.348	27.469	27.679	28.147
28	27.647	27.947	28.045	28.676	29.013	29.457
29	29.357	29.459	30.148	30.576	30.976	31.426
30	30.248	30.216	30.569	30.947	31.023	31.247

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G3	Treatment : Mid Dose	
Sex	: Male	Dose: 0.400 g/kg b.w.	
Animal No.	Body Weight (g) on Day		
	13	14	15
21	31.587	31.956	32.145
22	31.974	31.456	32.045
23	32.781	32.945	33.214
24	31.945	32.014	32.654
25	31.649	31.987	32.420
26	33.148	33.489	34.056
27	28.267	28.349	28.679
28	29.678	30.135	30.678
29	31.758	31.267	31.768
30	31.394	31.678	31.978

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G4	Treatment : High Dose				
Sex	: Male	Dose: 0.625 g/kg b.w.				
Animal No.	Body Weight (g) on Day					
	1	2	3	4	5	6
31	28.647	28.965	28.647	28.367	28.579	29.065
32	28.314	28.085	28.420	28.481	28.241	29.076
33	31.547	31.976	32.045	32.159	32.458	32.045
34	28.657	28.800	28.607	28.977	29.317	29.479
35	28.497	28.976	28.129	28.798	28.697	29.657
36	31.247	31.459	31.689	32.027	32.648	32.876
37	26.421	26.105	26.245	26.489	26.314	26.273
38	26.523	26.978	27.345	27.138	27.976	28.427
39	28.976	28.797	28.973	29.017	29.197	29.487
40	30.012	30.127	30.497	30.467	30.579	31.023
Group	: G4	Treatment : High Dose				
Sex	: Male	Dose: 0.625 g/kg b.w				
Animal No.	Body Weight (g) on Day					
	7	8	9	10	11	12
31	29.457	29.687	30.136	30.247	30.254	30.459
32	29.211	29.483	29.414	29.614	29.667	30.006
33	32.598	32.457	33.065	33.157	33.658	33.169
34	29.418	29.377	30.077	30.146	30.317	30.081
35	29.759	30.067	30.679	30.187	30.675	30.973
36	32.967	33.012	33.058	33.678	33.782	33.987
37	26.377	27.011	27.085	27.016	27.435	27.259
38	29.467	29.752	29.247	29.124	29.428	29.376
39	29.649	30.014	30.425	30.675	30.945	31.054
40	31.345	31.247	31.648	31.967	32.517	32.346

APPENDIX – 2: INDIVIDUAL ANIMAL BODY WEIGHT (g) Contd.

Group	: G4	Treatment : High Dose	
Sex	: Male	Dose: 0.625 g/kg b.w	
Animal No.	Body Weight (g) on Day		
	13	14	15
31	30.976	31.346	30.946
32	30.520	30.672	30.707
33	33.759	33.498	34.069
34	30.789	30.967	31.045
35	31.658	31.876	32.167
36	33.867	34.345	34.687
37	27.467	27.679	28.013
38	29.758	29.978	30.012
39	31.487	31.678	31.945
40	32.945	33.075	33.648

APPENDIX – 3: INDIVIDUAL ANIMAL BODY WEIGHT GAIN (G) -RELATIVE TO DAY 1

Group	: G1	Treatment : Vehicle Control					
Sex	: Male	Dose: 0 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-2	1-3	1-4	1-5	1-6	1-7	1-8
1	-0.300	-0.144	0.633	1.928	1.924	1.687	1.629
2	0.842	1.530	2.244	2.800	2.996	2.325	2.584
3	0.428	0.500	1.066	1.354	1.380	1.533	1.836
4	0.091	0.058	0.222	0.260	0.397	0.681	0.900
5	-1.427	-0.652	-0.615	0.378	0.328	0.883	1.753
6	-0.912	-1.021	-0.995	-0.641	-0.050	0.742	1.320
7	0.109	0.279	0.609	0.769	0.878	1.065	1.196
8	-0.129	0.559	1.139	1.486	1.534	1.646	1.779
9	0.085	0.218	0.331	0.451	0.479	1.025	1.180
10	0.010	0.213	0.383	0.760	0.789	1.031	1.326
Group	: G1	Treatment : Vehicle Control					
Sex	: Male	Dose: 0 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-9	1-10	1-11	1-12	1-13	1-14	1-15
1	2.307	2.755	2.557	3.368	3.610	4.038	3.214
2	1.890	3.004	3.201	3.135	3.545	2.913	3.640
3	2.259	1.915	2.355	2.836	3.266	3.531	3.602
4	1.222	1.313	1.360	1.482	1.750	1.882	2.222
5	1.187	1.192	0.778	0.428	2.246	1.722	1.474
6	1.341	2.106	2.194	2.238	2.449	2.884	3.057
7	1.307	1.483	1.797	1.859	1.979	2.306	2.280
8	1.998	2.167	2.645	2.667	2.767	2.934	3.039
9	0.997	1.556	2.157	2.233	2.260	2.404	2.776
10	1.473	1.531	1.764	1.798	2.242	2.373	2.465

APPENDIX – 3: INDIVIDUAL ANIMAL BODY WEIGHT GAIN (g) - Relative to day 1
1Contd.

Group	: G2	Treatment : Low Dose					
Sex	: Male	Dose: 0.205 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-2	1-3	1-4	1-5	1-6	1-7	1-8
11	-0.404	-0.003	0.162	0.556	0.633	1.182	1.273
12	0.169	0.481	0.468	1.167	0.952	1.309	1.566
13	0.359	0.510	0.842	1.134	1.041	1.131	1.532
14	0.610	0.747	1.456	1.536	1.565	1.762	2.096
15	0.701	1.100	1.269	1.477	1.607	1.850	2.139
16	-0.094	0.208	0.393	0.376	0.638	1.337	1.396
17	0.209	0.516	0.705	0.875	1.397	1.694	1.108
18	0.069	-0.009	0.280	0.449	0.397	0.557	0.691
19	0.103	0.327	0.404	0.502	0.833	1.130	2.201
20	0.033	0.113	0.244	0.334	0.413	0.512	0.666
Group	: G2	Treatment : Low Dose					
Sex	: Male	Dose: 0.205 g/kg b.w					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-9	1-10	1-11	1-12	1-13	1-14	1-15
11	1.793	1.360	1.491	1.824	2.092	2.604	3.124
12	1.898	1.973	2.240	2.584	2.751	2.908	3.425
13	1.770	1.869	1.970	2.604	2.791	2.902	3.469
14	2.524	2.306	2.233	2.424	2.477	2.829	3.580
15	2.374	3.135	2.773	3.331	3.810	3.963	4.340
16	1.555	1.674	1.890	1.959	2.040	2.436	2.336
17	1.775	2.077	2.409	2.357	2.706	3.105	3.706
18	1.169	1.496	1.568	1.591	1.789	1.668	1.889
19	2.404	2.476	2.582	2.734	2.803	3.129	3.179
20	0.963	1.535	1.966	2.046	2.464	2.756	2.966

APPENDIX – 3: INDIVIDUAL ANIMAL BODY WEIGHT GAIN (g) - Relative to day 1
1Contd.

Group	: G3	Treatment : Mid Dose					
Sex	: Male	Dose: 0.400 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-2	1-3	1-4	1-5	1-6	1-7	1-8
21	0.487	-0.002	0.516	0.661	0.855	1.186	1.310
22	-0.190	0.309	0.831	1.329	1.500	1.374	2.131
23	0.118	-0.021	0.544	0.766	1.175	1.272	1.536
24	0.336	0.506	0.857	0.885	0.895	1.428	1.857
25	-0.002	-0.435	0.008	0.298	0.396	1.109	0.975
26	0.384	0.359	0.981	1.278	0.761	1.193	1.531
27	0.122	0.040	0.311	0.392	0.517	0.667	0.797
28	0.129	-0.056	0.369	0.504	0.614	0.802	1.102
29	0.085	-0.137	0.015	0.083	0.415	1.093	1.195
30	0.664	0.464	0.673	0.964	1.131	1.234	1.202
Group	: G3	Treatment : Mid Dose					
Sex	: Male	Dose: 0.400 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-9	1-10	1-11	1-12	1-13	1-14	1-15
21	1.665	2.119	2.784	2.565	3.128	3.497	3.686
22	2.298	2.380	3.050	2.621	3.327	2.809	3.398
23	1.924	1.542	1.679	2.168	2.302	2.466	2.735
24	2.428	2.129	2.756	2.907	3.826	3.895	4.535
25	1.348	1.808	2.029	2.405	3.000	3.338	3.771
26	1.833	1.748	2.383	2.681	2.884	3.225	3.792
27	0.891	1.012	1.222	1.690	1.810	1.892	2.222
28	1.200	1.831	2.168	2.612	2.833	3.290	3.833
29	1.884	2.312	2.712	3.162	3.494	3.003	3.504
30	1.555	1.933	2.009	2.233	2.380	2.664	2.964

APPENDIX – 3: INDIVIDUAL ANIMAL BODY WEIGHT GAIN (g) - Relative to day 1
1Contd.

Group	: G4	Treatment : High Dose					
Sex	: Male	Dose: 0.625 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-2	1-3	1-4	1-5	1-6	1-7	1-8
31	0.318	0.000	-0.280	-0.068	0.418	0.810	1.040
32	-0.229	0.106	0.167	-0.073	0.762	0.897	1.169
33	0.429	0.498	0.612	0.911	0.498	1.051	0.910
34	0.143	-0.050	0.320	0.660	0.822	0.761	0.720
35	0.479	-0.368	0.301	0.200	1.160	1.262	1.570
36	0.212	0.442	0.780	1.401	1.629	1.720	1.765
37	-0.316	-0.176	0.068	-0.107	-0.148	-0.044	0.590
38	0.455	0.822	0.615	1.453	1.904	2.944	3.229
39	-0.179	-0.003	0.041	0.221	0.511	0.673	1.038
40	0.115	0.485	0.455	0.567	1.011	1.333	1.235
Group	: G4	Treatment : High Dose					
Sex	: Male	Dose: 0.625 g/kg b.w.					
Animal No.	Body Weight Gain (g) relative to day 1						
	1-9	1-10	1-11	1-12	1-13	1-14	1-15
31	1.489	1.600	1.607	1.812	2.329	2.699	2.299
32	1.100	1.300	1.353	1.692	2.206	2.358	2.393
33	1.518	1.610	2.111	1.622	2.212	1.951	2.522
34	1.420	1.489	1.660	1.424	2.132	2.310	2.388
35	2.182	1.690	2.178	2.476	3.161	3.379	3.670
36	1.811	2.431	2.535	2.740	2.620	3.098	3.440
37	0.664	0.595	1.014	0.838	1.046	1.258	1.592
38	2.724	2.601	2.905	2.853	3.235	3.455	3.489
39	1.449	1.699	1.969	2.078	2.511	2.702	2.969
40	1.636	1.955	2.505	2.334	2.933	3.063	3.636

APPENDIX –4: INDIVIDUAL ANIMAL GROSS PATHOLOGY

Group	: G1	Treatment:	Vehicle Control
Sex	: Male	Dose:	0 g/kg b.w.
Animal No.	Mode of Sacrifice	Gross Pathology Observation	
		External	Internal
1	TS	NAD	NAD
2	TS	NAD	NAD
3	TS	NAD	NAD
4	TS	NAD	NAD
5	TS	NAD	NAD
6	TS	NAD	NAD
7	TS	NAD	NAD
8	TS	NAD	NAD
9	TS	NAD	NAD
10	TS	NAD	NAD
Group	: G2	Treatment:	Low Dose
Sex	: Male	Dose:	0.205 g/kg b.w.
Animal No.	Mode of Sacrifice	Gross Pathology Observation	
		External	Internal
11	TS	NAD	NAD
12	TS	NAD	NAD
13	TS	NAD	NAD
14	TS	NAD	NAD
15	TS	NAD	NAD
16	TS	NAD	NAD
17	TS	NAD	NAD
18	TS	NAD	NAD
19	TS	NAD	NAD
20	TS	NAD	NAD

Keys: TS - Terminal Sacrifice, NAD - No Abnormality Detected

APPENDIX – 4: INDIVIDUAL ANIMAL GROSS PATHOLOGY Contd.

Group	: G3	Treatment:	Mid Dose (VLS/T04)
Sex	: Male	Dose:	0.400 g/kg b.w.
Animal No.	Mode of Sacrifice	Gross Pathology Observation	
		External	Internal
21	TS	NAD	NAD
22	TS	NAD	NAD
23	TS	NAD	NAD
24	TS	NAD	NAD
25	TS	NAD	NAD
26	TS	NAD	NAD
27	TS	NAD	NAD
28	TS	NAD	NAD
29	TS	NAD	NAD
30	TS	NAD	NAD
Group	: G4	Treatment:	High Dose
Sex	: Male	Dose:	0.625 g/kg b.w.
Animal No.	Mode of Sacrifice	Gross Pathology Observation	
		External	Internal
31	TS	NAD	NAD
32	TS	NAD	NAD
33	TS	NAD	NAD
34	TS	NAD	NAD
35	TS	NAD	NAD
36	TS	NAD	NAD
37	TS	NAD	NAD
38	TS	NAD	NAD
39	TS	NAD	NAD
40	TS	NAD	NAD

Keys: TS - Terminal Sacrifice, NAD - No Abnormality Detected

APPENDIX –5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT

Name of the organism: Bifidobacterium

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	16	4	74074074.07	7.87
	R2	TNTC	TNTC	24	5		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	65	1312500000	9.12
	R2	TNTC	TNTC	TNTC	61		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	41	4	225000000	8.35
	R2	TNTC	TNTC	49	5		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	23	171232876.7	8.23
	R2	TNTC	TNTC	TNTC	27		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	75	13	177777777.8	8.25
	R2	TNTC	TNTC	85	12		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	55	4	100819672.1	8.00
	R2	TNTC	TNTC	68	3		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	112	1288043478	9.11
	R2	TNTC	TNTC	TNTC	125		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	121	2284313725	9.36
	R2	TNTC	TNTC	TNTC	112		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	51	9	43750000	7.64
	R2	TNTC	TNTC	54	3		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	113	1288888889	9.11
	R2	TNTC	TNTC	TNTC	119		

R= Replicate, TNTC= Too Numerous To Count

**APPENDIX –5: INDIVIDUAL ANIMALINTESTINAL MICRO FLORA BEFORE
TREATMENT Contd.**

Name of the organism: Bifidobacterium

Group : G2				Treatment : Low Dose			
Sex : Male				Dose: 0.205 g/kg b.w.			
Animal No: 11							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	121	12	354687500	8.55
	R2	TNTC	TNTC	106	28		
Animal No: 12							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	106	14	1	9115044.2	6.96
	R2	TNTC	100	12	1		
Animal No: 13							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	43	443925234	8.65
	R2	TNTC	TNTC	TNTC	52		
Animal No: 14							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	62	6	196875000	8.29
	R2	TNTC	TNTC	64	7		
Animal No: 15							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	47	22	120000000	8.08
	R2	TNTC	TNTC	49	18		
Animal No: 16							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	67	659340659	8.82
	R2	TNTC	TNTC	TNTC	53		
Animal No: 17							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	5	93617021	7.97
	R2	TNTC	TNTC	46	4		
Animal No: 18							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	20	2	Nil	7656250	6.88
	R2	TNTC	29	4	Nil		
Animal No: 19							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	17	5	233333333	8.37
	R2	TNTC	TNTC	11	1		
Animal No: 20							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	29	452054795	8.66
	R2	TNTC	TNTC	TNTC	37		

R= Replicate, TNTC=Too Numerous To Count

APPENDIX –5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Bifidobacterium

Group : G3			Treatment : Mid Dose				
Sex : Male			Dose: 0.400 g/kg b.w.				
Animal No: 21							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	49	3	Nil	14677419.4	7.17
	R2	TNTC	42	4	1		
Animal No: 22							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log alue
Replicate	R1	TNTC	TNTC	34	3	41666666.7	7.62
	R2	TNTC	TNTC	36	4		
Animal No: 23							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log alue
Replicate	R1	TNTC	TNTC	TNTC	32	1575000000	9.20
	R2	TNTC	TNTC	TNTC	31		
Animal No: 24							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	97	7	1	33392857.1	7.52
	R2	TNTC	90	6	2		
Animal No: 25							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	37	3	95000000	7.98
	R2	TNTC	TNTC	39	2		
Animal No: 26							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	34	1042857143	9.02
	R2	TNTC	TNTC	TNTC	39		
Animal No: 27							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	62	7	2	13815789.5	7.14
	R2	TNTC	43	9	1		
Animal No: 28							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	28	593023256	8.77
	R2	TNTC	TNTC	TNTC	23		
Animal No: 29							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	39	6	54375000	7.74
	R2	TNTC	TNTC	48	6		
Animal No: 30							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	44	369747899	8.57
	R2	TNTC	TNTC	TNTC	44		

R= Replicate, TNTC=Too Numerous To Count

APPENDIX –5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Bifidobacterium

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	7	34848485	7.54
	R2	TNTC	TNTC	27	6		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	280	26	4.08E+08	8.61
	R2	TNTC	TNTC	259	27		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	31	3.65E+08	8.56
	R2	TNTC	TNTC	TNTC	34		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	50	5	1	11046512	7.04
	R2	TNTC	45	7	1		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	29	3	1.68E+08	8.22
	R2	TNTC	TNTC	38	6		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	97	1.02E+09	9.01
	R2	TNTC	TNTC	TNTC	82		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	32	3	52112676	7.72
	R2	TNTC	TNTC	42	4		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	32	7	2	5847458	6.77
	R2	TNTC	37	3	3		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	40	4	1.09E+08	8.04
	R2	TNTC	TNTC	32	6		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	27	5.71E+08	8.76
	R2	TNTC	TNTC	TNTC	29		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX –5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	106	12	383333333.3	8.58
	R2	TNTC	TNTC	101	14		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	102	19	200000000	8.30
	R2	TNTC	TNTC	90	13		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	26	1425000000	9.15
	R2	TNTC	TNTC	TNTC	31		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	30	195205479.5	8.29
	R2	TNTC	TNTC	TNTC	27		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	60	7	115555555.6	8.06
	R2	TNTC	TNTC	44	8		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	278	4450819672	9.65
	R2	TNTC	TNTC	TNTC	265		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	10	2	14130434.78	7.15
	R2	TNTC	TNTC	16	Nil		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	65	6	132352941.2	8.12
	R2	TNTC	TNTC	70	9		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	55	9	47916666.67	7.68
	R2	TNTC	TNTC	60	6		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	36	3	Nil	4111111.111	6.61
	R2	TNTC	38	5	1		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G2		Treatment : Low Dose					
Sex : Male		Dose: 0.205 g/kg b.w.					
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	25	3	84375000	7.93
	R2	TNTC	TNTC	29	6		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	36	4	30973451.33	7.49
	R2	TNTC	TNTC	34	10		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	197	24	3	17429906.54	7.24
	R2	TNTC	176	20	Nil		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	220	5625000000	9.75
	R2	TNTC	TNTC	TNTC	140		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	90	11	3	21000000	7.32
	R2	TNTC	78	8	2		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	77	8	78571428.57	7.90
	R2	TNTC	TNTC	66	10		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	32	3	72340425.53	7.86
	R2	TNTC	TNTC	36	7		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	52	4	168750000	8.23
	R2	TNTC	TNTC	56	8		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	42	6	Nil	60833333.33	7.78
	R2	TNTC	31	3	Nil		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	24	2	31506849.32	7.50
	R2	TNTC	TNTC	22	Nil		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G3			Treatment : Mid Dose				
Sex : Male			Dose: 0.400 g/kg b.w.				
Animal No: 21							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	36	4	Nil	13225806.45	7.12
	R2	TNTC	46	3	Nil		
Animal No: 22							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	99	9	1	11904761.9	7.08
	R2	TNTC	101	10	1		
Animal No: 23							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	298	12875000000	10.11
	R2	TNTC	TNTC	TNTC	217		
Animal No: 24							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	211	21	2	71428571.43	7.85
	R2	TNTC	189	18	1		
Animal No: 25							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	37	887500000	8.95
	R2	TNTC	TNTC	TNTC	34		
Animal No: 26							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	130	3771428571	9.58
	R2	TNTC	TNTC	TNTC	134		
Animal No: 27							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	258	6921052632	9.84
	R2	TNTC	TNTC	TNTC	268		
Animal No: 28							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	57	Nil	93023255.81	7.97
	R2	TNTC	TNTC	23	2		
Animal No: 29							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	168	13	1	20687500	7.32
	R2	TNTC	163	12	2		
Animal No: 30							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	32	1	31092436.97	7.49
	R2	TNTC	TNTC	42	5		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	121	15	129797979.8	8.11
	R2	TNTC	TNTC	136	14		
Animal No: 32							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	140	13	254545454.5	8.41
	R2	TNTC	TNTC	196	19		
Animal No: 33							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	38	8	48314606.74	7.68
	R2	TNTC	TNTC	48	12		
Animal No: 34							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	47	13	104651162.8	8.02
	R2	TNTC	TNTC	43	21		
Animal No: 35							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	93	10	435000000	8.64
	R2	TNTC	TNTC	81	6		
Animal No: 36							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	28	392045454.5	8.59
	R2	TNTC	TNTC	TNTC	41		
Animal No: 37							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	182	10	248591549.3	8.40
	R2	TNTC	TNTC	171	12		
Animal No: 38							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	120	8	1	19152542.37	7.28
	R2	TNTC	106	11	1		
Animal No: 39							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	62	4	174242424.2	8.24
	R2	TNTC	TNTC	53	6		
Animal No: 40							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	98	2051020408	9.31
	R2	TNTC	TNTC	TNTC	103		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Enterococcus

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	224	29	2	83518518.52	7.92
	R2	TNTC	227	26	8		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	5	104166666.7	8.02
	R2	TNTC	TNTC	58	9		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	94	14	445000000	8.65
	R2	TNTC	TNTC	84	3		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	81	606164383.6	8.78
	R2	TNTC	TNTC	TNTC	96		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	180	17	413333333.3	8.62
	R2	TNTC	TNTC	192	14		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	287	4795081967	9.68
	R2	TNTC	TNTC	TNTC	298		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	166	1891304348	9.28
	R2	TNTC	TNTC	TNTC	182		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	57	5	128431372.5	8.11
	R2	TNTC	TNTC	74	14		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	75	625000000	8.80
	R2	TNTC	TNTC	TNTC	75		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	133	1400000000	9.15
	R2	TNTC	TNTC	TNTC	119		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd

Name of the organism: Enterococcus

Group : G2			Treatment : Low Dose				
Sex : Male			Dose: 0.205 g/kg b.w.				
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	286	23	867187500	8.94
	R2	TNTC	TNTC	269	25		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	63	2	54424778.76	7.74
	R2	TNTC	TNTC	60	6		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	36	7	37850467.29	7.58
	R2	TNTC	TNTC	45	8		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	253	812500000	9.91
	R2	TNTC	TNTC	TNTC	267		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	67	4	161250000	8.21
	R2	TNTC	TNTC	62	4		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	3	53296703.3	7.73
	R2	TNTC	TNTC	55	4		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	45	3	100000000	8.00
	R2	TNTC	TNTC	49	6		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	110	325000000	9.51
	R2	TNTC	TNTC	TNTC	98		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	37	6	Nil	54166666.67	7.73
	R2	TNTC	28	2	Nil		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	249	3315068493	9.52
	R2	TNTC	TNTC	TNTC	235		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd

Name of the organism: Enterococcus

Group : G3			Treatment : Mid Dose				
Sex : Male			Dose: 0.400 g/kg b.w.				
Animal No: 21							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	194	10	1	61129032.26	7.79
	R2	TNTC	185	6	1		
Animal No: 22							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	135	12	2	17678571.43	7.25
	R2	TNTC	162	15	6		
Animal No: 23							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	141	7275000000	9.86
	R2	TNTC	TNTC	TNTC	150		
Animal No: 24							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	57	7	Nil	25535714.29	7.41
	R2	TNTC	86	4	Nil		
Animal No: 25							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	201	17	508750000	8.71
	R2	TNTC	TNTC	206	17		
Animal No: 26							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	99	2842857143	9.45
	R2	TNTC	TNTC	TNTC	100		
Animal No: 27							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	75	8	223684210.5	8.35
	R2	TNTC	TNTC	51	9		
Animal No: 28							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	49	1290697674	9.11
	R2	TNTC	TNTC	TNTC	62		
Animal No: 29							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	129	20	156875000	8.20
	R2	TNTC	TNTC	122	13		
Animal No: 30							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	172	13	140336134.5	8.15
	R2	TNTC	TNTC	162	19		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Enterococcus

Group : G4		Treatment : High Dose					
Sex : Male		Dose: 0.625 g/kg b.w.					
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	77	7	76262626.26	7.88
	R2	TNTC	TNTC	74	2		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	67	3	1	9469696.97	6.98
	R2	TNTC	58	4	Nil		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	128	17	151123595.5	8.18
	R2	TNTC	TNTC	141	14		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	109	16	266279069.8	8.43
	R2	TNTC	TNTC	120	10		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	67	9	315000000	8.50
	R2	TNTC	TNTC	59	4		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	91	965909090.9	8.98
	R2	TNTC	TNTC	TNTC	79		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	207	2943661972	9.47
	R2	TNTC	TNTC	TNTC	211		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	137	13	222881355.9	8.35
	R2	TNTC	TNTC	126	16		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	66	2060606061	9.31
	R2	TNTC	TNTC	TNTC	70		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	172	17	331632653.1	8.52
	R2	TNTC	TNTC	153	15		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 5: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	265	22	3	Nil	9148148.148	6.96
	R2	229	26	4	Nil		
Animal No: 2							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	109	11	Nil	Nil	2020833.333	6.31
	R2	85	10	2	Nil		
Animal No: 3							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	192	9475000000	9.98
	R2	TNTC	TNTC	TNTC	187		
Animal No: 4							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	162	16	4	11267123.29	7.05
	R2	TNTC	167	18	2		
Animal No: 5							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	22	1	Nil	6222222.222	6.79
	R2	TNTC	34	4	Nil		
Animal No: 6							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	112	18	1	26229508.2	7.42
	R2	TNTC	150	14	4		
Animal No: 7							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	245	2793478261	9.45
	R2	TNTC	TNTC	TNTC	269		
Animal No: 8							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	225	4588235294	9.66
	R2	TNTC	TNTC	TNTC	243		
Animal No: 9							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	67	6	50833333.33	7.71
	R2	TNTC	TNTC	55	5		
Animal No: 10							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	253	2861111111	9.46
	R2	TNTC	TNTC	TNTC	262		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 5 INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G2		Treatment : Low Dose					
Sex : Male		Dose: 0.205 g/kg b.w.					
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	17	1	1	Nil	562500	5.75
	R2	19	2	Nil	Nil		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	165	18	1	Nil	1393805.31	6.14
	R2	150	10	1	Nil		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	69	518691588.8	8.71
	R2	TNTC	TNTC	TNTC	42		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	67	2546875000	9.41
	R2	TNTC	TNTC	TNTC	96		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	92	9	1	Nil	2100000	6.32
	R2	76	4	1	Nil		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	69	2	71978021.98	7.86
	R2	TNTC	TNTC	62	7		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	53	1393617021	9.14
	R2	TNTC	TNTC	TNTC	78		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	36	1218750000	9.09
	R2	TNTC	TNTC	TNTC	42		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	39	6	608333333.3	8.78
	R2	TNTC	TNTC	34	4		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	41	575342465.8	8.76
	R2	TNTC	TNTC	TNTC	43		

R= Replicate, TNTC= Too Numerous To Count

**APPENDIX - 5 INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE
TREATMENT Contd**

Name of the organism: Enterobacterium

Group : G3		Treatment : Mid Dose					
Sex : Male		Dose: 0.400 g/kg b.w.					
Animal No: 21							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	13	1	Nil	Nil	483870.9677	5.68
	R2	17	Nil	Nil	Nil		
Animal No: 22							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	37	6	45833333.33	7.66
	R2	TNTC	TNTC	40	3		
Animal No: 23							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	15	Nil	Nil	Nil	775000	5.89
	R2	16	Nil	Nil	Nil		
Animal No: 24							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	65	6	2	Nil	1928571.429	6.29
	R2	43	2	Nil	Nil		
Animal No: 25							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	23	6	61250000	7.79
	R2	TNTC	TNTC	26	3		
Animal No: 26							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	39	7	2	12000000	7.08
	R2	TNTC	45	6	1		
Animal No: 27							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	150	4078947368	9.61
	R2	TNTC	TNTC	TNTC	160		
Animal No: 28							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	80	15	224418604.7	8.35
	R2	TNTC	TNTC	113	16		
Animal No: 29							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	43	8	Nil	5250000	6.72
	R2	TNTC	41	9	1		
Animal No: 30							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	33	336134453.8	8.53
	R2	TNTC	TNTC	TNTC	47		

R= Replicate, TNTC= Too Numerous To Count

**APPENDIX - 5 INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA BEFORE
TREATMENT Contd**

Name of the organism: Enterobacterium

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	30	6	29292929.29	7.47
	R2	TNTC	TNTC	28	3		
Animal No: 32							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	50	8	Nil	Nil	916666.6667	5.96
	R2	71	3	Nil	Nil		
Animal No: 33							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	188	21	3	19101123.6	7.28
	R2	TNTC	152	21	7		
Animal No: 34							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	36	23	106976744.2	8.03
	R2	TNTC	TNTC	56	25		
Animal No: 35							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	254	26	2	135000000	8.13
	R2	TNTC	286	28	2		
Animal No: 36							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	216	2352272727	9.37
	R2	TNTC	TNTC	TNTC	198		
Animal No: 37							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	140	9	4	18521126.76	7.27
	R2	TNTC	123	10	2		
Animal No: 38							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	226	29	4	39915254.24	7.60
	R2	TNTC	245	21	4		
Animal No: 39							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	55	6	Nil	16212121.21	7.21
	R2	TNTC	52	8	Nil		
Animal No: 40							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	79	1775510204	9.25
	R2	TNTC	TNTC	TNTC	95		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX –6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT

Name of the organism: Bifidobacterium

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	193	19	Nil	Nil	2432926.829	6.39
	R2	206	19	Nil	Nil		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	44	4	7558139.535	6.88
	R2	TNTC	TNTC	47	4		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	297	1899350649	9.28
	R2	TNTC	TNTC	TNTC	288		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	65	369318181.8	8.57
	R2	TNTC	TNTC	TNTC	65		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	297	2878787879	9.46
	R2	TNTC	TNTC	TNTC	273		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	62	6	143333333.3	8.16
	R2	TNTC	TNTC	67	7		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	142	1084070796	9.04
	R2	TNTC	TNTC	TNTC	103		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	295	8083333333	9.91
	R2	TNTC	TNTC	TNTC	287		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	42	401869158.9	8.60
	R2	TNTC	TNTC	TNTC	44		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	121	12	211475409.8	8.33
	R2	TNTC	TNTC	137	13		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Bifidobacterium

Group : G2		Treatment : Low Dose					
Sex : Male		Dose: 0.205 g/kg b.w.					
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	178	17	2	45394737	7.66
	R2	TNTC	167	15	1		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	29	4	92424242	7.97
	R2	TNTC	TNTC	32	3		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	37	1E+09	9.00
	R2	TNTC	TNTC	TNTC	29		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	22	331168831	8.52
	R2	TNTC	TNTC	TNTC	29		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	67	8	27892562	7.45
	R2	TNTC	TNTC	68	2		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	104	1.065E+09	9.03
	R2	TNTC	TNTC	TNTC	109		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	49	9	51704545	7.71
	R2	TNTC	TNTC	42	5		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	52	706666667	8.85
	R2	TNTC	TNTC	TNTC	54		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	56	1.621E+09	9.21
	R2	TNTC	TNTC	TNTC	51		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	30	6	64423077	7.81
	R2	TNTC	TNTC	37	5		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Bifidobacterium

Group : G3		Treatment : Mid Dose					
Sex : Male		Dose: 0.400 g/kg b.w.					
Animal No: 21							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	153	1875000000	9.27
	R2	TNTC	TNTC	TNTC	162		
Animal No: 22							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	197	2815384615	9.45
	R2	TNTC	TNTC	TNTC	169		
Animal No: 23							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	260	25	48148148.1	7.68
	R2	TNTC	TNTC	272	27		
Animal No: 24							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	156	11	74873096.4	7.87
	R2	TNTC	TNTC	139	13		
Animal No: 25							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	167	2283582090	9.36
	R2	TNTC	TNTC	TNTC	139		
Animal No: 26							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	51	807017544	8.91
	R2	TNTC	TNTC	TNTC	41		
Animal No: 27							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	90	7	508333333	8.71
	R2	TNTC	TNTC	93	8		
Animal No: 28							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	32	3	45333333.3	7.66
	R2	TNTC	TNTC	36	2		
Animal No: 29							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	268	19	182291667	8.26
	R2	TNTC	TNTC	257	27		
Animal No: 30							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	179	1188311688	9.07
	R2	TNTC	TNTC	TNTC	187		

R= Replicate, TNTC= Too Numerous To Count

**APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER
TREATMENT Contd**

Name of the organism: Bifidobacterium

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	241	24	2.84E+08	8.45
	R2	TNTC	TNTC	236	32		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	243	29	2	60256410	7.78
	R2	TNTC	227	22	2		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	92	3.21E+09	9.51
	R2	TNTC	TNTC	TNTC	94		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	192	12	5.4E+08	8.73
	R2	TNTC	TNTC	197	14		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	197	21	1	1.02E+08	8.01
	R2	TNTC	209	22	3		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	172	10	1.44E+08	8.16
	R2	TNTC	TNTC	166	6		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	143	2.2E+08	8.34
	R2	TNTC	TNTC	TNTC	160		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	149	1.29E+09	9.11
	R2	TNTC	TNTC	TNTC	172		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	277	1.51E+10	10.18
	R2	TNTC	TNTC	TNTC	235		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	278	14	5.6E+08	8.75
	R2	TNTC	TNTC	282	16		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	121	116	1	81707317.07	7.91
	R2	TNTC	125	18	3		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	39	61461794.02	7.79
	R2	TNTC	TNTC	TNTC	35		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	31	3	22727272.73	7.36
	R2	TNTC	TNTC	39	2		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	40	218750000	8.34
	R2	TNTC	TNTC	TNTC	37		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	43	5	40909090.91	7.61
	R2	TNTC	TNTC	38	1		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	72	12	157777777.8	8.20
	R2	TNTC	TNTC	70	8		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	63	7	55309734.51	7.74
	R2	TNTC	TNTC	62	4		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	32	986111111.1	8.99
	R2	TNTC	TNTC	TNTC	39		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	202	17	2	17476635.51	7.24
	R2	TNTC	172	21	2		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	96	1524590164	9.18
	R2	TNTC	TNTC	TNTC	90		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Lactobacillus

Group : G2			Treatment : Low Dose				
Sex : Male			Dose: 0.205 g/kg b.w.				
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	54	1394736842	9.14
	R2	TNTC	TNTC	TNTC	52		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	29	2	Nil	9242424.242	6.97
	R2	TNTC	32	1	Nil		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	9	128787878.8	8.11
	R2	TNTC	TNTC	43	4		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	42	649350649.4	8.81
	R2	TNTC	TNTC	TNTC	58		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	63	10	26859504.13	7.43
	R2	TNTC	TNTC	67	8		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	38	9	1	3600000	6.56
	R2	TNTC	34	5	1		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	92	7	101136363.6	8.00
	R2	TNTC	TNTC	86	6		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	45	2	53333333.33	7.73
	R2	TNTC	TNTC	35	1		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	92	5	1	25454545.45	7.41
	R2	TNTC	76	6	Nil		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	69	4	1	13557692.31	7.13
	R2	TNTC	72	6	1		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd

Name of the organism: Lactobacillus

Group : G3			Treatment : Mid Dose				
Sex : Male			Dose: 0.400 g/kg b.w.				
Animal No: 21							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	159	1970238095	9.29
	R2	TNTC	TNTC	TNTC	172		
Animal No: 22							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	98	9	1	14538461.54	7.16
	R2	TNTC	91	7	Nil		
Animal No: 23							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	169	2925925926	9.47
	R2	TNTC	TNTC	TNTC	147		
Animal No: 24							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	60	6	28680203.05	7.46
	R2	TNTC	TNTC	53	9		
Animal No: 25							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	26	3	43283582.09	7.64
	R2	TNTC	TNTC	32	2		
Animal No: 26							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	120	10	222807017.5	8.35
	R2	TNTC	TNTC	134	11		
Animal No: 27							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	152	12	733333333.3	8.87
	R2	TNTC	TNTC	112	13		
Animal No: 28							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	28	4	39333333.33	7.59
	R2	TNTC	TNTC	31	6		
Animal No: 29							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	175	16	119444444.4	8.08
	R2	TNTC	TNTC	169	19		
Animal No: 30							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	97	12	61363636.36	7.79
	R2	TNTC	TNTC	92	9		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd

Name of the organism: Lactobacillus

Group : G4		Treatment : High Dose					
Sex : Male		Dose: 0.625 g/kg b.w.					
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	153	23	175000000	8.24
	R2	TNTC	TNTC	141	13		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	102	2474358974	9.39
	R2	TNTC	TNTC	TNTC	91		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	28	6	112068965.5	8.05
	R2	TNTC	TNTC	37	5		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	40	6	131944444.4	8.12
	R2	TNTC	TNTC	55	6		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	44	5	1	18500000	7.27
	R2	TNTC	30	9	Nil		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	21	5	21367521.37	7.33
	R2	TNTC	TNTC	29	3		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	152	11	21811594.2	7.34
	R2	TNTC	TNTC	149	17		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	47	4	34677419.35	7.54
	R2	TNTC	TNTC	39	6		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	170	15	1091176471	9.04
	R2	TNTC	TNTC	201	18		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	144	12	268000000	8.43
	R2	TNTC	TNTC	124	11		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterococcus

Group : G1			Treatment : Vehicle Control				
Sex : Male			Dose: 0 g/kg b.w.				
Animal No: 1							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	180	18	2	22743902.44	7.36
	R2	TNTC	193	12	2		
Animal No: 2							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	112	182724252.5	8.26
	R2	TNTC	TNTC	TNTC	108		
Animal No: 3							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	245	1519480519	9.18
	R2	TNTC	TNTC	TNTC	223		
Animal No: 4							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	103	622159090.9	8.79
	R2	TNTC	TNTC	TNTC	116		
Animal No: 5							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	123	1323232323	9.12
	R2	TNTC	TNTC	TNTC	139		
Animal No: 6							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	123	7	267777777.8	8.43
	R2	TNTC	TNTC	118	12		
Animal No: 7							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	131	1146017699	9.06
	R2	TNTC	TNTC	TNTC	128		
Animal No: 8							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	152	12	425000000	8.63
	R2	TNTC	TNTC	154	18		
Animal No: 9							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	231	209813084.1	8.32
	R2	TNTC	TNTC	TNTC	218		
Animal No: 10							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	144	2245901639	9.35
	R2	TNTC	TNTC	TNTC	130		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterococcus

Group : G2		Treatment : Low Dose					
Sex : Male		Dose: 0.205 g/kg b.w.					
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	50	8	144736842.1	8.16
	R2	TNTC	TNTC	60	9		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	42	5	110606060.6	8.04
	R2	TNTC	TNTC	31	3		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	197	20	2	58787878.79	7.77
	R2	TNTC	191	16	7		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	56	707792207.8	8.85
	R2	TNTC	TNTC	TNTC	53		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	54	188016528.9	8.27
	R2	TNTC	TNTC	TNTC	37		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	70	9	67500000	7.83
	R2	TNTC	TNTC	65	8		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	153	15	196022727.3	8.29
	R2	TNTC	TNTC	192	16		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	22	380000000	8.58
	R2	TNTC	TNTC	TNTC	35		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	73	6	228787878.8	8.36
	R2	TNTC	TNTC	78	12		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	90	13	167307692.3	8.22
	R2	TNTC	TNTC	84	14		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterococcus

Group : G3		Treatment : Mid Dose					
Sex : Male		Dose: 0.400 g/kg b.w.					
Animal No: 21							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	36	Nil	41666666.67	7.62
	R2	TNTC	TNTC	34	3		
Animal No: 22							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	70	6	113076923.1	8.05
	R2	TNTC	TNTC	77	8		
Animal No: 23							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	150	30	291666666.7	8.46
	R2	TNTC	TNTC	165	35		
Animal No: 24							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	46	238578680.2	8.38
	R2	TNTC	TNTC	TNTC	48		
Animal No: 25							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	158	2358208955	9.37
	R2	TNTC	TNTC	TNTC	158		
Animal No: 26							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	61	1078947368	9.03
	R2	TNTC	TNTC	TNTC	62		
Animal No: 27							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	245	14527777778	10.16
	R2	TNTC	TNTC	TNTC	278		
Animal No: 28							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	55	10	74000000	7.87
	R2	TNTC	TNTC	56	8		
Animal No: 29							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	120	6	2	8020833.333	6.90
	R2	TNTC	111	8	1		
Animal No: 30							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	129	19	2	8798701.299	6.94
	R2	TNTC	142	24	1		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd

Name of the organism: Enterococcus

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	238	23	286309523.8	8.46
	R2	TNTC	TNTC	243	32		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	203	26	4	49615384.62	7.70
	R2	TNTC	184	23	1		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	243	12	2	86206896.55	7.94
	R2	TNTC	257	29	1		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	259	34	733333333.3	8.87
	R2	TNTC	TNTC	269	31		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	159	21	5	80750000	7.91
	R2	TNTC	164	20	4		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	152	1346153846	9.13
	R2	TNTC	TNTC	TNTC	163		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	25	61594202.9	7.79
	R2	TNTC	TNTC	TNTC	60		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	142	14	12096774.19	7.08
	R2	TNTC	TNTC	149	16		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	13	676470588.2	8.83
	R2	TNTC	TNTC	TNTC	10		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	195	19	339000000	8.53
	R2	TNTC	TNTC	144	16		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G1		Treatment : Vehicle Control					
Sex : Male		Dose: 0 g/kg b.w.					
Animal No: 1							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	147	13	2	14634146.34	7.17
	R2	TNTC	153	11	Nil		
Animal No: 2							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	91	137043189.4	8.14
	R2	TNTC	TNTC	TNTC	74		
Animal No: 3							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	87	551948051.9	8.74
	R2	TNTC	TNTC	TNTC	83		
Animal No: 4							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	95	9	Nil	5511363.636	6.74
	R2	TNTC	99	7	Nil		
Animal No: 5							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	140	16	1	14242424.24	7.15
	R2	TNTC	142	15	5		
Animal No: 6							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	281	29	614444444.4	8.79
	R2	TNTC	TNTC	272	26		
Animal No: 7							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	92	836283185.8	8.92
	R2	TNTC	TNTC	TNTC	97		
Animal No: 8							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	62	1708333333	9.23
	R2	TNTC	TNTC	TNTC	61		
Animal No: 9							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	265	26	240186915.9	8.38
	R2	TNTC	TNTC	249	22		
Animal No: 10							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	84	1385245902	9.14
	R2	TNTC	TNTC	TNTC	85		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G2			Treatment : Low Dose				
Sex : Male			Dose: 0.205 g/kg b.w.				
Animal No: 11							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	255	25	1	66447368.42	7.82
	R2	TNTC	250	29	2		
Animal No: 12							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	226	27	3	64090909.09	7.81
	R2	TNTC	197	20	4		
Animal No: 13							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	71	9	5	22272727.27	7.35
	R2	TNTC	76	12	2		
Animal No: 14							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	80	8	99350649.35	8.00
	R2	TNTC	TNTC	73	9		
Animal No: 15							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	98	14	Nil	4214876.033	6.62
	R2	TNTC	106	13	2		
Animal No: 16							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	80	12	77500000	7.89
	R2	TNTC	TNTC	75	12		
Animal No: 17							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	224	26	248295454.5	8.39
	R2	TNTC	TNTC	213	21		
Animal No: 18							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	85	1253333333	9.10
	R2	TNTC	TNTC	TNTC	103		
Animal No: 19							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	189	6045454545	9.78
	R2	TNTC	TNTC	TNTC	210		
Animal No: 20							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	269	5259615385	9.72
	R2	TNTC	TNTC	TNTC	278		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G3			Treatment : Mid Dose				
Sex : Male			Dose: 0.400 g/kg b.w.				
Animal No: 21							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	193	19	227380952.4	8.36
	R2	TNTC	TNTC	189	17		
Animal No: 22							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	135	18	Nil	19692307.69	7.29
	R2	TNTC	121	13	Nil		
Animal No: 23							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	83	9	162037037	8.21
	R2	TNTC	TNTC	92	7		
Animal No: 24							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	130	15	1	6725888.325	6.83
	R2	TNTC	135	15	2		
Animal No: 25							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	46	4	1	7462686.567	6.87
	R2	TNTC	54	6	1		
Animal No: 26							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	17	Nil	Nil	3508771.93	6.55
	R2	TNTC	23	2	Nil		
Animal No: 27							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	265	15	1419444444	9.15
	R2	TNTC	TNTC	246	19		
Animal No: 28							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	146	18	1	19066666.67	7.28
	R2	TNTC	140	15	Nil		
Animal No: 29							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	88	697916666.7	8.84
	R2	TNTC	TNTC	TNTC	113		
Animal No: 30							
		10^-1	10^-2	10^-3	10^-4	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	46	8	1	2792207.792	6.45
	R2	TNTC	40	5	Nil		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX - 6: INDIVIDUAL ANIMAL INTESTINAL MICRO FLORA AFTER TREATMENT Contd.

Name of the organism: Enterobacterium

Group : G4			Treatment : High Dose				
Sex : Male			Dose: 0.625 g/kg b.w.				
Animal No: 31							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	35	6	45833333.33	7.66
	R2	TNTC	TNTC	42	3		
Animal No: 32							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	55	14	142307692.3	8.15
	R2	TNTC	TNTC	56	4		
Animal No: 33							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	67	7	3	26896551.72	7.43
	R2	TNTC	89	8	4		
Animal No: 34							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	31	1	Nil	8611111.111	6.94
	R2	TNTC	31	2	Nil		
Animal No: 35							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	115	13	2	Nil	7625000	6.88
	R2	190	12	9	Nil		
Animal No: 36							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	60	55555555.6	8.74
	R2	TNTC	TNTC	TNTC	70		
Animal No: 37							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	82	113768115.9	8.06
	R2	TNTC	TNTC	TNTC	75		
Animal No: 38							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	142	10	2	122580645.2	8.09
	R2	TNTC	162	21	1		
Animal No: 39							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	90	5470588235	9.74
	R2	TNTC	TNTC	TNTC	96		
Animal No: 40							
		10 ⁻¹	10 ⁻²	10 ⁻³	10 ⁻⁴	Final Count per gram	Bacterial colony log value
Replicate	R1	TNTC	TNTC	TNTC	61	1170000000	9.07
	R2	TNTC	TNTC	TNTC	56		

R= Replicate, TNTC= Too Numerous To Count

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS

Bifidobacterium Before treatment

G1 Animal No.	Growth on <i>Bifido</i> <i>bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
1	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
2	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
3	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
4	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
5	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
6	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
7	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
8	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
9	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
10	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
G2 Animal No.	Growth on <i>Bifido</i> <i>bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
11	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
12	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
13	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
14	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
15	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
16	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
17	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
18	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
19	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
20	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
G3 Animal No.	Growth on <i>Bifido</i> <i>bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
41	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
42	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
43	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
44	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
45	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
46	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
47	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
48	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
49	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
50	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative

G4 Animal No.	Growth on <i>Bifido</i> <i>bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
51	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
52	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
53	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
54	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
55	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
56	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
57	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
58	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
59	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
60	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative

**APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS,
IDENTIFICATION RESULTS Contd**

Lactobacillus

Before treatment

G1 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
1	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
2	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
3	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
4	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
5	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
6	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
7	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
8	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
9	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
10	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G2 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
11	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
12	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative

	colonies	Lengthy rods			
13	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
14	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
15	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
16	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
17	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
18	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
19	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
20	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G3 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
21	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
22	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
23	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
24	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
25	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
26	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
27	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
28	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
29	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
30	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G4 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
31	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
32	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
33	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative

	colonies	Lengthy rods			
34	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
35	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
36	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
37	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
38	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
39	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
40	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd.

Enterococcus
Before treatment

G1 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
1	Dark red colonies	Positive, Cocci in pairs	Positive
2	Dark red colonies	Positive, Cocci in pairs	Positive
3	Dark red colonies	Positive, Cocci in pairs	Positive
4	Dark red colonies	Positive, Cocci in pairs	Positive
5	Dark red colonies	Positive, Cocci in pairs	Positive
6	Dark red colonies	Positive, Cocci in pairs	Positive
7	Dark red colonies	Positive, Cocci in pairs	Positive
8	Dark red colonies	Positive, Cocci in pairs	Positive
9	Dark red colonies	Positive, Cocci in pairs	Positive
10	Dark red colonies	Positive, Cocci in pairs	Positive
G2 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
11	Dark red colonies	Positive, Cocci in pairs	Positive
12	Dark red colonies	Positive, Cocci in pairs	Positive
13	Dark red colonies	Positive, Cocci in pairs	Positive
14	Dark red colonies	Positive, Cocci in pairs	Positive
15	Dark red colonies	Positive, Cocci in pairs	Positive
16	Dark red colonies	Positive, Cocci in pairs	Positive
17	Dark red colonies	Positive, Cocci in pairs	Positive

18	Dark red colonies	Positive, Cocci in pairs	Positive
19	Dark red colonies	Positive, Cocci in pairs	Positive
20	Dark red colonies	Positive, Cocci in pairs	Positive
G3 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
21	Dark red colonies	Positive, Cocci in pairs	Positive
22	Dark red colonies	Positive, Cocci in pairs	Positive
23	Dark red colonies	Positive, Cocci in pairs	Positive
24	Dark red colonies	Positive, Cocci in pairs	Positive
25	Dark red colonies	Positive, Cocci in pairs	Positive
26	Dark red colonies	Positive, Cocci in pairs	Positive
27	Dark red colonies	Positive, Cocci in pairs	Positive
28	Dark red colonies	Positive, Cocci in pairs	Positive
29	Dark red colonies	Positive, Cocci in pairs	Positive
30	Dark red colonies	Positive, Cocci in pairs	Positive
G4 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
31	Dark red colonies	Positive, Cocci in pairs	Positive
32	Dark red colonies	Positive, Cocci in pairs	Positive
53	Dark red colonies	Positive, Cocci in pairs	Positive
34	Dark red colonies	Positive, Cocci in pairs	Positive
35	Dark red colonies	Positive, Cocci in pairs	Positive
36	Dark red colonies	Positive, Cocci in pairs	Positive
37	Dark red colonies	Positive, Cocci in pairs	Positive
38	Dark red colonies	Positive, Cocci in pairs	Positive
39	Dark red colonies	Positive, Cocci in pairs	Positive
40	Dark red colonies	Positive, Cocci in pairs	Positive

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd

Enterobacter
Before Treatment

G1 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges- Proskauer	Citrate	Triple Sugar Iron	Urease
1	Metallic sheen	—	—	—	—	—	—
2	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
3	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
4	Metallic sheen	—	—	—	—	—	—
5	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
6	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
7	Metallic sheen	—	—	—	—	—	—
8	Metallic sheen	—	—	—	—	—	—
9	Metallic sheen	—	—	—	—	—	—
10	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
G2 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges- Proskauer	Citrate	Triple Sugar Iron	Urease
11	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
12	Metallic sheen	—	—	—	—	—	—
13	Metallic sheen	—	—	—	—	—	—
14	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
15	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
16	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
17	Metallic sheen	—	—	—	—	—	—
18	Metallic sheen	—	—	—	—	—	—
19	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
20	Metallic sheen	—	—	—	—	—	—
G3 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges- Proskauer	Citrate	Triple Sugar Iron	Urease

21	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
22	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
23	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
24	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
25	Metallic sheen	—	—	—	—	—	—
26	Metallic sheen	—	—	—	—	—	—
27	Metallic sheen	—	—	—	—	—	—
28	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
29	Metallic sheen	—	—	—	—	—	—
30	Metallic sheen	—	—	—	—	—	—
G4 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges-Proskauer	Citrate	Triple Sugar Iron	Urease
31	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
32	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
33	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
34	Metallic sheen	—	—	—	—	—	—
35	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
36	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
37	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
38	Metallic sheen	—	—	—	—	—	—
39	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
40	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd.

Bifidobacterium
After treatment

G1 Animal No.	Growth on <i>Bifido bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
1	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
2	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
3	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
4	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
5	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
6	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
7	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
8	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
9	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
10	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
G2 Animal No.	Growth on <i>Bifido bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
11	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
12	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
13	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
14	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
15	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
16	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
17	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
18	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
19	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
20	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative

G3 Animal No.	Growth on <i>Bifido bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
21	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
22	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
23	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
24	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
25	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
26	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
27	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
28	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
29	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
30	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
G4 Animal No.	Growth on <i>Bifido bacterium</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests		
				Bile esculin	Oxidase	Catalase
31	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
32	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
33	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
34	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
35	Present	Positive , L Shaped	Non Motile	Positive	Negative	Negative
36	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative
37	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
38	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
39	Present	Positive , Curved	Non Motile	Positive	Negative	Negative
40	Present	Positive , Y Shaped	Non Motile	Positive	Negative	Negative

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd.

Lactobacillus
After treatment

G1 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
1	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
2	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
3	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
4	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
5	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
6	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
7	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
8	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
9	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
10	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G2 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
11	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
12	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
13	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
14	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
15	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
16	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
17	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
18	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
19	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
20	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G3 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
21	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
22	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
23	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative

24	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
25	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
26	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
27	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
28	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
29	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
30	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
G4 Animal No.	Growth on <i>Lactobacillus</i> selective agar	Gram staining, Morphology	Motility	Biochemical Tests	
				Oxidase	Catalase
31	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
32	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
33	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
34	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
35	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
36	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
37	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
38	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
39	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative
40	Large white colonies	Positive, Slender Lengthy rods	Non Motile	Negative	Negative

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd.

***Enterococcus*
After treatment**

G1 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
1	Dark red colonies	Positive, Cocci in pairs	Positive
2	Dark red colonies	Positive, Cocci in pairs	Positive
3	Dark red colonies	Positive, Cocci in pairs	Positive
4	Dark red colonies	Positive, Cocci in pairs	Positive
5	Dark red colonies	Positive, Cocci in pairs	Positive
6	Dark red colonies	Positive, Cocci in pairs	Positive
7	Dark red colonies	Positive, Cocci in pairs	Positive
8	Dark red colonies	Positive, Cocci in pairs	Positive
9	Dark red colonies	Positive, Cocci in pairs	Positive
10	Dark red colonies	Positive, Cocci in pairs	Positive
G2 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
11	Dark red colonies	Positive, Cocci in pairs	Positive
12	Dark red colonies	Positive, Cocci in pairs	Positive
13	Dark red colonies	Positive, Cocci in pairs	Positive
14	Dark red colonies	Positive, Cocci in pairs	Positive
15	Dark red colonies	Positive, Cocci in pairs	Positive
16	Dark red colonies	Positive, Cocci in pairs	Positive
17	Dark red colonies	Positive, Cocci in pairs	Positive
18	Dark red colonies	Positive, Cocci in pairs	Positive
19	Dark red colonies	Positive, Cocci in pairs	Positive
20	Dark red colonies	Positive, Cocci in pairs	Positive
G3 Animal No.	Growth on <i>Enterococcus</i> selective agar	Gram staining, Morphology	Bile esculin
21	Dark red colonies	Positive, Cocci in pairs	Positive
22	Dark red colonies	Positive, Cocci in pairs	Positive
23	Dark red colonies	Positive, Cocci in pairs	Positive
24	Dark red colonies	Positive, Cocci in pairs	Positive
25	Dark red colonies	Positive, Cocci in pairs	Positive
26	Dark red colonies	Positive, Cocci in pairs	Positive
27	Dark red colonies	Positive, Cocci in pairs	Positive
28	Dark red colonies	Positive, Cocci in pairs	Positive
29	Dark red colonies	Positive, Cocci in pairs	Positive
30	Dark red colonies	Positive, Cocci in pairs	Positive

G4 Animal No.	Growth on Enterococcus selective agar	Gram staining, Morphology	Bile esculin
31	Dark red colonies	Positive, Cocci in pairs	Positive
32	Dark red colonies	Positive, Cocci in pairs	Positive
33	Dark red colonies	Positive, Cocci in pairs	Positive
34	Dark red colonies	Positive, Cocci in pairs	Positive
35	Dark red colonies	Positive, Cocci in pairs	Positive
36	Dark red colonies	Positive, Cocci in pairs	Positive
37	Dark red colonies	Positive, Cocci in pairs	Positive
38	Dark red colonies	Positive, Cocci in pairs	Positive
39	Dark red colonies	Positive, Cocci in pairs	Positive
40	Dark red colonies	Positive, Cocci in pairs	Positive

APPENDIX – 7: INDIVIDUAL ANIMAL CULTURE RESPONSE, BIOCHEMICAL TESTS, IDENTIFICATION RESULTS Contd.

***Enterobacter*
After Treatment**

G1 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges- Proskauer	Citrate	Triple Sugar Iron	Urease
1	Metallic sheen	—	—	—	—	—	—
2	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
3	Metallic sheen	—	—	—	—	—	—
4	Metallic sheen	—	—	—	—	—	—
5	Metallic sheen	—	—	—	—	—	—
6	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
7	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
8	Metallic sheen	—	—	—	—	—	—
9	Metallic sheen	—	—	—	—	—	—
10	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
G2 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges- Proskauer	Citrate	Triple Sugar Iron	Urease
11	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
12	Metallic sheen	—	—	—	—	—	—
13	Metallic sheen	—	—	—	—	—	—
14	Metallic sheen	—	—	—	—	—	—
15	Metallic sheen	—	—	—	—	—	—

16	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
17	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
18	Metallic sheen	—	—	—	—	—	—
19	Metallic sheen	—	—	—	—	—	—
20	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
G3 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges-Proskauer	Citrate	Triple Sugar Iron	Urease
21	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
22	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
23	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
24	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
25	Metallic sheen	—	—	—	—	—	—
26	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
27	Metallic sheen	—	—	—	—	—	—
28	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
29	Metallic sheen	—	—	—	—	—	—
30	Metallic sheen	—	—	—	—	—	—
G4 Animal No.	Growth on EMB agar	Biochemical Tests					
		Indole	Methyl red	Voges-Proskauer	Citrate	Triple Sugar Iron	Urease
31	Metallic sheen	—	—	—	—	—	—
32	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
33	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
34	Metallic sheen	—	—	—	—	—	—
35	No Metallic sheen	Negative	Negative	Positive	Positive	A/A, Gas	Negative
36	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
37	Metallic sheen	—	—	—	—	—	—
38	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
39	No Metallic sheen	Negative	Positive	Negative	Positive	A/A, Gas +H ₂ S	Positive
40	Metallic sheen	—	—	—	—	—	—

APPENDIX –8: CERTIFICATE OF ANALYSIS

Certificate of Analysis



Ohtaka Superfood™ Powder

Product Code: BP3012 Lot #: OTAK-082817-0374
Manufacture Date: 28 August, 2017 Retest Date: 27 August, 2020

Tests	Methods	Parameters	Results
Appearance (Visual)	Visual	Powder	Powder
Colour (Visual)	Visual	Tan to Brown	Tan
Odor	Olfactory	Characteristic	Characteristic
Loss on Drying (LOD)	USP 37	NMT 5%	2.30%
Lead (ppm)	ICP-MS	NMT 1	0.028 ppm
Arsenic (ppm)	ICP-MS	NMT 0.5	0.119 ppm
Cadmium (ppm)	ICP-MS	NMT 0.5	0.127 ppm
Mercury (ppm)	ICP-MS	NMT 0.5	0.007 ppm
Standard Plate Count (cfu/g)	AOAC 966.23	NMT 10,000	100 cfu/g
Yeast & Mold (cfu/g)	FDA BAM, 8th Ed.	NMT 1,000	< 20 cfu/g
Coliforms	AOAC 991.14	NMT 100	< 10 cfu/g
E. Coli	AOAC 991.14	Negative	Negative
Salmonella	AOAC 989.13	Negative	Negative
Potency Assay	Methods	Parameters	Results
Dietary Fiber	AOAC 991.43	NLT 20%	22.3%


Signature
September 19, 2017
Date



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