Canine Clinical Trial

Evaluating the utilization and absorption of

Product **GLC 1000™**

Manufacturer**: GLC Direct**

Double-Blind Cross-Over Trial

FINAL REPORT

SUBMITTED TO:

GLC Direct

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Research and Report by:

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Study Purpose

The Purpose of this study was to measure, evaluate, and compare the amount of absorbed ingredients in the study products. All products except for the **GLC1000**™ were purchased off of a pet store shelf by Researcher.

GLC 1000™ is a readily available Full Spectrum Glucosamine With Chondroitin product. Taken as an oral all natural supplement. Ingredients as printed on the label in a 3.5g dose: Chondroitin Sulfate 760mg, Glucosamine HCl 760mg, Glucosamine Sulfate 760mg, Glucosamine Potassium 760mg, N-acetyl D-glucosamine 205mg, Ascorbate 205mg, Manganese Proteinate 50mg.

Study Design

This study took place at the same location in Nevada on two separate dates one week apart. A Blood serum sample of 3cc's was drawn following standard blood draw techniques, by a professional health-care for pets' staff member. Each subject was tested for a baseline, administered the product, then re-tested at 30 minuets, 1-hour, 2-hours, 4-hours, 6-hours, 8-hours, 10-hours, 12-hours, 15-hours, 20-hours, and 24-hours.

The study utilized 6- canine subjects.

1. Subject number one and two were both under 20 pounds one female and one male.
2. Subject number three and four were both 25-40 pounds one female and one male.
3. Subject number five and six were both 100-125 pounds one female and one male.
4. Female subjects (3) ranged from 2 to 10 years of age.
5. Male subjects (3) ranged from 2 to 10 years of age.

INCLUSION CRITERIA

- Subjects whose owners have signed a written informed consent consistent with required guidelines.
- Subjects 2 years of age or older, either sex.
- Subjects who are not on any medication, antioxidant/herbal supplement.
- Subjects with normal glucose, lipids, kidney, liver and thyroid functions, prior to the start date of this study.
- Subjects who were able to

follow the protocol as designed by **GLC Direct** and **Fenestra Research labs**.

- In generally good health.

EXCLUSION CRITERIA

- History of head trauma
- History of serious diseases or illness diagnosed at this time.
- Known moderate to severe renal insufficiency.
- Recent history (<6 months prior to Visit 1) of myocardial infarction.
- Subjects with known communicable disease(s).
- Subjects with a history of cancer within the last 5 years.
- Subjects currently prescribed diuretic medications, cardiac stimulants, or any other prescribed or non-prescribed medication that may, in the opinion of the Fenestra research staff, alter testing results.
- Females who are pregnant, lactating, or nursing or who may become pregnant during the course of the study.
- Subjects with any condition not previously named that, in the opinion of the investigators or intake staff, would jeopardize the safety of the subject or affect the validity of the data collected in this study.

The Protocol

On visit one each canine was examined, a full health screening including a visual examination; thirty-nine different parameters were measured using a blood sample. Each subject weight was measured. A consent form was signed at this time.

On visit two if subjects meet all of the inclusion criteria, none of the exclusion criteria, and if all visual and blood tests were within normal ranges then subject was added to this study. Each canine was separated into a group determined by their weight. *Please see below at Test #1 and Test #2 for groups that each canine was assigned to. Each subject was provided one test product according to the group they were now in. All three test products were administered orally (sprinkled over kibble). Each

product was administered according to the information contained on the package label, no loading doses were administrated for any of the products. Each subject was provided water at all times, a bed to lie down in, playtime, and any other meals they were provided prior to this study. Subjects remained at the test site for the entire 24-hour period. At the end of this 24-hour period each canine returned home.

On visit three each canine was separated into a group determined by their weight. *Please see below at Test #1 and Test #2 for groups that each canine was assigned to. Each subject was provided one test product according to the group they were now in. All three test products were administered orally (sprinkled over kibble). Each product was administered according to the information contained on the package label, no loading doses were administrated for any of the products. Each subject was provided water al all times, a bed to lie down in, playtime, and any other meals they were provided prior to this study. Subjects remained at the test site for the entire 24-hour period. At the end of this 24-hour period each canine returned home.

Subjects cross-over was done in the following manor:

Test #1

GLC 1000™- Subjects # 1 and 2

Product x- Subjects #3 and 4

Product z- subjects #5 and 6

Test #2

GLC 1000™- Subjects # 3 and 6

Product x- Subjects #1 and 5

Product z- subjects #2 and 4

Chart A

Hour	GLC 1000	Product X	Product Z
30 min.	20	18	10
1	42	26	10
2	43	28	11
4	43	28	11
6	43	22	8
8	42	18	5
10	42	3	1
12	39	0	0
15	29	0	0
20	11	0	0
24	0	0	0

***Chart A shows the percentage on average over the two tests, of each product ingredient that was found in the blood stream at that specific time interval.**

The Results

All three products were found palatable by all of the canines in this study. No canine showed any signs of allergic or any other kind of negative reaction to the products used. All three products had some absorption into the blood stream. None of the three products provided any significant amounts in the blood stream after 20-hours. Product Z never provided a significant source of absorbed product into the blood stream of any of the subjects used in this study.

CONCLUSION

Based on these clinical comparisons it is our findings that:

1. **GLC 1000™- Can be absorbed and utilized by all canines regardless of weigh or age differences at about 43% during hours 1-10, 34% for hours 12-15 post the ingesting of this product.**
2. Product X- Can be absorbed and utilized by all canines regardless of weight or age differences at about 27% during hours 1-6, 20% for hours 6-8 post the ingesting of this product.
3. Product Z- Can be absorbed and utilized by all canines regardless of weight or age differences at about 10.5% during hours 1-4, 6.5% for hours 6-8 post the ingesting of this product.

Based on the data obtained in this study these statements can be made:

1. **GLC 1000™** is a highly bio-available and significant source of Chondroitin Sulfate, Glucosamine HCl , glucosamine sulfate, Glucosamine Potassium, N-acetyl D-glucosamine, and Ascorbate for all canines.
2. Some of the other products available on the market today for joint health in canines are a poor source of bio-available nutrients.

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