Transducer Protector

Pyrogen Study

FINAL REPORT

Client: Finetech Research and Innovation Corporation
Testing Institution: SGS Taiwan Ltd.
Report No. : UB/2013/70737A-10
Report Date: 2013/08/27

Note:

1. The content of this report is invalid if it is not presented as the entire report.
2. Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law.
3. The results shown in this test report refer only to the test article(s) tested.
4. The report is the Chinese version of translations UB/2013/70737A-11

STUDY SCHEDULE

Pyrogen Study:Transducer Protector

Report No.:	UB/2013/70737A-10
Registration date:	2013/07/16
Experimental study date：	2013/08/23
Animal grouping:	2013/08/19
Test article administration:	2013/08/23
Body temperature measurement after administration :	2013/08/23

Testing Institution

Name: SGS TAIWAN LTD.

Address: No. 38, Wu Chyuan 7th Rd., New Taipei Industrial Park, Wu Ku Dist., New Taipei City 24890, Taiwan (R. O. C.)

Subcontract Lab

Name: LEON Biotechnology Company Limited Biocompatibility Testing Laboratory

Address: 4F.-2, No. 288-8, Xinya Rd., Qianzhen Dist., Kaohsiung City 806, Taiwan (R.O.C.)

Client / Sponsor

Name: Finetech Research and Innovation Corporation

Address: No.29, Anle St., Xiushui Township, Changhua County 504, Taiwan (R.O.C.)

SGS

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INFORMATION FOR ☒ TEST ARTICLE/ ☐ CONTROL ARTICLE

Sponsor Company Name	Finetech research and innovation corporation
Sponsor Address	No.29, Anle St., Xiushui Township, Changhua County 504, Taiwan (R.O.C.)
Contract study item	☒ Base on the contract ☐ Others _____
Name of Test article/ Control article	Transducer Protector
Batch/Lot number	☐ Base on the specific number on the package : _____ ☐ Base on the date on the package : _____ ☐ Base on the arrived date ☑ Others : N/A
Specification & Amount	10pcs/pack * 7packs (e.g.10ml / bottle * 6 bottles)
Retention amount (Note 2)	The amount of the same lot is sufficient for ☐ One test ☐ Two test (for retention)
External features	External features: ☐ liquid ☐ powder ☐ tablet ☐ capsule ☒ Other column Color : translucent white
Major components & Purity	Major components: Polypropylene meterial housing with membrane Purity:
Solvent and solubility	N/A
Storage condition	☒ Room temperature ☐ 4℃ ☐ Dry ☐ Light sensitive ☐ Others_____
Expiration date(Note 3)	☐ Date: ___ / ___ / ___ (YYYY/MM/DD) or ☒ Period : 2 year 0 month 0 day
Attachment(Note 4)	☐ Certificate of Analysis ☐ Material Safety Data Sheet ☐ Stability Test Result ☐ Other : _____ ☒ No attachment (Note4)
Sterilization	Has been sterilized ☐ YES ☒ NO (If Yes, please select the following item) Methods ☐ EOsterilization ☐ Gamma sterilization ☐ Steam sterilization ☐ Other_____
Categorization of devices (The column is only for device used)	1. ☒ Contact with intact skin or mucosa (cumulative contact duration) ☒ Short-term (no greater than 4 hr) ☐ Long-term (exceeding 4 hr) Maximum duration is_____hrs 2. ☐ Implanted device
Specific requirement (Note 5)	N/A

Sponsor Signature/ Date : Golden Li 2013. July 12th.

Note 1. Above all information is disclosure by the sponsor.
Note 2. If the sponsor doesn't provide the retention of test article/control article, the retention of a reserved test article/control article from each batch of test article /control article is the responsibility of the Sponsor.
Note 3. If the effective period is less than 5 years, the test article/control article will be retained till the expiry date. If the effective period is longer than 5 years, the test article/control article will be retained for 5 years only.
Note 4. Determination and documentation of identity, strength, purity, stability, composition, method of synthesis, fabrication, derivation or other characteristics of the test article/control article are the responsibility of the Sponsor.
Note 5. The test article/control article which has been destroyed or cutting will be discarded after the end of experiment. For retention or return of the kind of test article/control article, please indicate in the "special requirement". The human intake suggests or dose requested by the sponsor also can fill in the "special requirement". Note treatment method after test if the test article need to be retreated
Note 6. The code number of test article is the same as the report number.
Note 7. Note 'N/A' if not applicable. Do not leave blank.

版次：3.1 試驗-對照物質資料表 Information for test article-control article
發行日期：2013.06.14

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STATEMENT OF GLP COMPLIANCE

All study activities performed by SGS Taiwan are carried out in compliance with the GLP (Good Laboratory Practices) for Nonclinical Laboratory Studies (Department of Health, Taiwan, 2006), current OECD Principles of Good Laboratory Practice (Organization for Economic Cooperation and Development, Paris, ENV/MC/CHEM (98) 17) and U.S. Food and Drug Administration Good Laboratory Practice Regulations, 21 CFR Part 58. (1987).The study is conducted in accordance with the protocol and standard operating procedures and monitored in conformity with the protocol. All laboratory data are accurately recorded and verified. SGS Taiwan makes no GLP compliance claim for characterization and verification of the test article identity and properties; this is the responsibility of the sponsor.

Study Director: Howard Kao 2013.09.18

Howard Kao / SGS Taiwan Ltd. Date Completed

Deputy of
Facility Manager: Amy Liu 2013.09.18

Amy Liu / SGS Taiwan Ltd. Date Completed

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QUALITY ASSURANCE STATEMENT

This study is audited by Quality Assurance personnel of SGS Life Science Service. The QA inspection report includes review of study plan, result of a study-based audit and results of audit of raw data and study report. The audit report is issued upon the completion of final report of testing.

QA Manager:

Amy Liu / SGS Taiwan Ltd.

2013.09.18
Date Completed

ARCHIVING

All the study-related protocol and the final report will be kept in archives room in SGS (TAIWAN) LTD. Retention of the test articles will be kept for 5 years in Sample Storage Room. All the records and test articles will be kept according to GLP guideline. Agent authorized by the sponsor can apply for review according to SGS procedure.

Archiving Room Address:

No. 38, Wu Chyuan 7th Rd., New Taipei Industrial Park, Wu Ku Dist., New Taipei City 24890, Taiwan (R. O. C.)

ABSTRACT

The study was to evaluate whether "Transducer Protector" extract passed the pyrogen study in the New Zealand White Rabbits. The body temperatures of 3 qualified white rabbits were measured 5 times after a single dose (10 ml/kg) injection in ear vein. The body temperature elevations of the administered rabbits were in acceptable range, the pyrogen study response was negative. The test article extract meets the requirements for the absence of pyrogens.

PURPOSE

The study was to follow USP<151> guidelines to evaluate whether the test article "Transducer Protector" extract passed the pyrogen study in the New Zealand White Rabbits by a single dose injection (10 ml/kg).

EXPERIMENTAL DESIGN

A. Animals

1. Species/Strain	New Zealand White Rabbit
2. Resource	ANIMAL HEALTH RESEARCH INSTITUTE
3. Body weights (sex)	＞1.5 kg (female) (3~12 month)
4. Quarantine/acclimation	Once animals introduced in-house. Animals were subjected to quarantine and acclimated before treatment. Rabbits were selected by veterinarians based on health status.

B. Feeding and care

1. Environment	
Temperature	20~23℃ (30~70%)
2. Cage and animal no.	
Quarantine/acclimation	1 rabbit/cage
3. Feed	
Name	Altromin 2023
Brand	Altromin, Germany
Way to supply	*ad libitum*
4. Drinking water	
Sort	RO Water
Way to supply	*ad libitum*

C. Individual and group identification

1. Individual identification

Animals were identified by ear-marking.

2. Group identification

Cages were properly labeled for identification including the Study Title/No., Administration/ Observation Period, Room No., Cage No., Quantity/cage, Species, Strain, Sex, In House Date, In House Age, Animal ID No., Keeper and Deputy.

D. Grouping

Group	Dose of administration (ml/kg)	Sex	Number
Pyrogen test	10	female	3

E. Administration of test article and control solution

1. Preparation

According to ISO 10993-12 guidelines, the ratio of the test article to the extractant is 0.2 g sample/ml. and immersed in 0.9% saline (TAI YU PHARMACEUTICAL CO., LTD.) for 72 hrs at 50°C with constant agitation (100 rpm). The pH adjustment, filtration and centrifugation are not conducted. The appearance of extract was not different than 0.9% saline.

2. Method, route and frequency of administration

A single dose was injected to the ear vein of each rabbit.

3. Dose of administration

The volumes of test article extract used were based on body weights (Appendix 1) (10 ml/kg) recorded on the first day of study prior to administration.

F. Procedure

1. On the day of test, the test was conducted in a procedure room which environmental condition was same as the holding room where the animals are housed. All foods were withheld during the test period.
2. During the study, only the water was provided. Control temperatures of each animal were determined using anus thermometer (accuracy ± 0.1℃). Not more than 30 minutes before injection, "control" body temperatures were measured on all the animals. The variation of "control" body temperature among the 3 selected animals were not be more than 1℃. The body temperature all the selected animals were not more than 39.8℃.
3. Test article extract (warm up to 37℃ ± 2℃) were injected into ear vein of the animal. The time for administration was not over 10 minutes. Body temperatures were recorded at 30-minute intervals between 1 and 3 hours subsequent to the injection. The temperature elevation can be obtained by subtracting the control temperature from the average temperature (among 5 times measurement). If no rabbit shows an individual rise in temperature of 0.5℃ or more above its respective control temperature, the product meets the requirements for the absence of pyrogens.

RESULTS

1. Body weight (Appendix 1)

   Body weights of three animals were above 1.5 kg and were qualified for the study.

2. Control temperature (Table 1)

   The temperatures of three rabbits were within 39.8℃ and the body temperature difference was within 1℃.

3. Body temperatures measurement after test article administration (Table 2；Table 3)

   The elevation of body temperatures of the three rabbits were below 0.5℃.

4. No other adverse effect was observed on all test animals during the administration and observation period.

CONCLUSION

The elevation of body temperatures of the three rabbits were below 0.5℃. The response of pyrogen study was negative, therefore the test article extract meets the requirements for the absence of pyrogens.

REFERENCES

1 United States Pharmacopeia <151>: Rabbit pyrogen test.

2 ISO 10993, Biological evaluation of medical devices-Part 12 : Sample preparation and reference materials (2012) ISO.

3 Good Laboratory Practice for Nonclinical Laboratory Studies. Title 21 of the U.S. Code of Federal Regulations, Part 58 (1997) United States Food and Drug Administration.

4 Good Laboratory Practice for Nonclinical Laboratory Studies (2000) Department of Health, the Executive Yuan.

5 BS EN ISO 10993 (2009) Biological evaluation of medical devices—Part 11: Tests for systemic toxicity

6 Current OECD Principles of Good Laboratory Practice (Organization for Economic Cooperation and Development, Paris, ENV/MC/CHEM (98) 17).

Table 1. Control Temperature of Rabbits

Animal number	Control temperature (℃)
130803-01	39.0
130803-02	38.9
130803-03	38.9

Table 2. Body Temperature Records (After Administration)

Body temperature (℃)						
Animal number	1st	2nd	3rd	4th	5th	Average
130803-01	38.9	38.9	38.8	38.9	38.9	38.9
130803-02	38.5	38.5	38.4	38.4	38.4	38.4
130803-03	38.8	38.8	38.8	38.8	38.8	38.8

Remark: body temperature were measured 1 h after administration, time interval for measurement was 30 min.

Table 3. Temperature Elevation

Animal number	**Elevation (body temperature after administration)**
130803-01	<0
130803-02	<0
130803-03	<0

Remark: temperature elevation: the average temperature (among 5 times measurement) subtracts control temperature.

Appendix 1. Individual Body Weight

Dose (ml/kg)	Sex	Animal number	Weight (g)
10	female	130803-01	2.8
		130803-02	2.6
		130803-03	2.4

TEST ARTICLE PHOTO