



SAFETY DATA SHEET

High Sensitivity Human L-FABP ELISA Kit

A kit for the quantitative determination of human L-FABP in urine

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE SUPPLIER

Product Name :	High Sensitivity Human L-FABP ELISA Kit A kit for the quantitative determination of human L-FABP in urine KIT COMPONENT : <ul style="list-style-type: none">① L-FABP Antibody Coated Microplate② Pretreatment Solution③ Assay Buffer④ The 2nd Ab-POD Conjugate⑤ Substrate Solution⑥ Wash Agent (×40 concentrate)⑦ Stop Solution⑧ Standard Diluent (0ng/mL)⑨ L-FABP Standard (400ng/mL)
CAS No. :	Not Applicable – Mixture
Product code :	None
Recommended use and restrictions on use:	For research use
Supplier:	CMIC HOLDINGS Co., Ltd. Hamamatsucho Bldg.,1-1-1 Shibaua, Minato-ku Tokyo 105-0023, JAPAN Phone: +81-3-6779-8017
Emergency Phone:	+81-3-6779-8017 (Monday-Friday, 9:00-17:00 Japan time)

2. HAZARDS IDENTIFICATION

② Pretreatment solution

GHS classification

Health Hazard:

Serious eye damage/eye irritation ; Category 2A

Reproductive toxicity ; Additional category: effects on or via lactation

Specific target organ toxicity - single exposure ; Category 2 Central nervous system

Hazardous to the environment:

Hazardous to the aquatic environment - acute ; Category 2

Pictograms:



Signal word:

Warning

Hazard Statements:

H319 Causes serious eye irritation

H362 May cause harm to breast-fed children

H371 May cause damage to central nervous system

H401 Toxic to aquatic life

Precautionary statements:

Prevention Obtain special instructions before use. Do not breathe mist/fume/spray. Avoid contact during pregnancy and while nursing.

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. If exposed or concerned: Call a POISON CENTER/doctor. If exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container to an approved waste disposal plant.

⑦ Stop Solution

GHS classification

Health Hazard

Skin corrosion/irritation ; Category 1A
Serious eye damage/eye irritation ; Category 1
Specific target organ toxicity -Single exposure ; Category 2 respiratory system
Specific target organ toxicity - Repeated exposure ; Category 2 respiratory system

Pictograms:



Signal word: Danger

Hazard Statements

H314 Causes severe skin burns and eye damage
H371 May cause damage to respiratory system
H373 May cause damage to respiratory system through prolonged or repeated exposure

Precautionary statements:

Prevention Do not breathe mist/fume/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Call a POISON CENTER/doctor. Get medical advice/attention if you feel unwell.

Storage Store locked up.

Disposal Dispose of contents/container to an approved waste disposal plant.

Other reagents in the kit component mentioned above are classified "Not applicable" or "Classification not possible".

Other hazards Not available

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Single Substance or Mixture Mixture

Kit component	Chemical Name	CAS No.	Weight-%
Pretreatment Solution	Ethylenediaminetetraacetic acid	60-00-4	< 1%
	Lithium hydroxide monohydrate	1310-66-3	0.3%
Assay Buffer	Sodium azide	26628-22-8	< 1%
The 2nd Ab-POD Conjugate	—		—
Substrate Solution	Hydrogen peroxide	7722-84-1	< 1%
Wash Agent	—		—
Stop Solution	Sulfuric acid	7664-93-9	4.9%
Standard Diluent (0ng/mL)	Sodium azide	26628-22-8	< 1%
L-FABP Standard (400ng/mL)	Sodium azide	26628-22-8	< 1%

4. FIRST-AID MEASURES

Inhalation: Remove immediately person to fresh air and wrap person in a blanket. Get medical advice/attention.

⑦: Remove person to fresh air and keep comfortable for breathing.

Skin contact: Rinse skin with plenty of water. Get medical advice/attention, if necessary.

⑦: Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.

Eye contact: Rinse immediately eyes with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

②, ⑦: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

②: If eye irritation persists: Get medical advice/attention.

Ingestion: Rinse mouth with water. Get medical advice/attention immediately.

⑦: Rinse mouth. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed: Not available

Indication of any immediate medical attention and special treatment needed : Not available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, carbon dioxide, powder, water spray, chemical foam

Unsuitable extinguishing media: Do not use water jet. Direct water jet may spread the fire.

Specific hazards arising from the chemical: May give off noxious and toxic fumes in a fire. Corrosive fumes of lithium oxide and/or lithium hydroxide are also released.

Special protective equipment and precautions for fire-fighters: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Evacuate if necessary. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear protective equipment (e.g. gloves, mask, clothing, goggles) to prevent exposure. If exposed or concerned: Call a doctor. Get medical advice/attention.

Environmental precautions: Avoid release to the environment.

Methods and materials for contaminant and cleaning up: Sweep dust by non-flammable absorbent to collect it into a container. Clean contaminated objects and areas with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Provide adequate ventilation when using the material and follow the principle of good occupational hygiene to control personal exposure. Avoid contact with eyes, skin or clothing. Use suitable protective equipment as required. After handling, wash hands and face thoroughly. Handle reagents

carefully. Some reagents contain component of animal blood. Stop Solution is a strong acid substance. Keep your skin and clothes away from Stop Solution.

- ②, ⑦: Wear suitable protective gloves, protective clothing, eye protection or face protection.
After handling, wash hands thoroughly. Do not eat, drink or smoke when using this product. Do not breathe mist, vapours or spray.

Conditions for safe storage, including any incompatibilities

Keep only in original packaging. Keep in a well ventilated place.

Storage temperature: Store at 2-8 °C (avoid freezing).

Incompatible materials: Acids, Strong oxidizing agents, metal compounds, combustible materials

②, ⑦: Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters e.g. occupational exposure limit values or biological limit values

1) Ethylenediaminetetraacetic acid

Control limits: N/A

Exposure Limits:

JSOH (Japan): N/A

ACGIH: N/A

2) Lithium hydroxide monohydrate

Control limits: N/A

Exposure Limits:

JSOH (Japan): N/A

ACGIH: N/A

3) Sodium azide

Control limits: N/A

Exposure Limits:

JSOH (Japan): N/A

ACGIH: 0.29 ppm

4) Hydrogen peroxide:

Control limits: N/A

Exposure Limits:

JSOH (Japan): N/A

ACGIH: 1 ppm

5) Sulfuric acid

Control limits: N/A

Exposure Limits:

JSOH (Japan): 1 mg/m³

ACGIH: 0.2 mg/m³

Appropriate engineering controls

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Individual protection measures, such as personal protective equipment

Eye protective: Wear protective eye glasses or goggles.

Skin protection: Wear impervious gloves and appropriate chemical resistant clothing
(long-sleeved work clothes).

Respiratory protection: Wear suitable respiratory protective equipment.

Thermal Hazard: Not Applicable

9. PHYSICAL AND CHEMICAL PROPERTIES

① L-FABP Antibody Coated Microplate

Appearance	Solid (molded product)
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Decomposition temperature	Not available
pH	Not available
Solubility	Not available
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	Not available
Particle characteristics	Not available

② Pretreatment Solution

Appearance	Colorless and transparent liquid
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Odour	Not available
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	Not available
Kinematic viscosity	Not available
Solubility	Not available
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	Not available
Relative vapour density	Not available

③ Assay Buffer

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	7.5
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	Not available
Relative vapour density	Not available

④ The 2nd Ab-POD Conjugate

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available

Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	7.2
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	Not available
Relative vapour density	Not available

⑤ Substrate Solution

Appearance	Pale yellow liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	3.35-3.75
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	1.01
Relative vapour density	Not available

⑥ Wash Agent

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available

Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	7.5
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	1.01
Relative vapour density	Not available

⑦ Stop Solution

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	7.5
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	1.01
Relative vapour density	Not available

⑧ Standard Diluent (0ng/mL)

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available

Decomposition temperature	Not available
pH	7.4
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	1.01
Relative vapour density	Not available

⑨ L-FABP Standard (400ng/mL)

Appearance	Colorless and transparent liquid
Odour	Odourless
Melting point/freezing point and boiling range	Not available
Flammability	Not available
Lower and upper explosion limit/flammability limit	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	7.4
Kinematic viscosity	Not available
Solubility	Soluble
Partition coefficient: n-octanol/water(log value)	Not available
Vapour pressure	Not available
Density and/or relative density	1.01
Relative vapour density	Not available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	When sodium azide contacts with metal surfaces, explosive metallic azide are formed. May give off noxious and toxic fumes in a fire. Corrosive fumes of lithium oxide and/or lithium hydroxide are also released.
Conditions to avoid	Avoid prolonged storage at elevated temperature. Keep from

	direct sunlight.
Incompatible materials	Acids, Strong oxidising agents, metal compounds, Combustible materials.
Hazardous decomposition	Not available

11. TOXICOLOGICAL INFORMATION

Ethylenediaminetetraacetic acid

Acute toxicity (oral)	: LD50(rat): 2580 mg/kg
Acute toxicity (skin)	: No data available
Acute toxicity (inhalation vapor)	: Not expected to be an acute toxicity (rat 8 hours)
Acute toxicity (inhalation mist)	: Classification not possible
Skin corrosion/irritation	: Not expected to be an skin corrosion/ irritation (rat)
Serious eye damage/irritation	: Based on the description in the report on rabbit eye irritation tests (CERI-NITE Hazard Assessment No.14 (2004)): Edema, reddening and corneal opacity are observed, each of which disappears after eight days of exposure or earlier.
Respiratory or skin sensitization	: No data available
Skin sensitization	: No data available
Germ cell mutagenicity	: Based on the absence of data on germ cell multi-generation mutagenicity tests in vivo/ mutagenicity tests, somatic cell mutagenicity tests in vivo (Some chromosome aberration tests show positive, which, however, is not reliable enough for use in classification), and germ cell genotoxicity tests in vivo, described in CERI-NITE Hazard Assessment No.14 (2004). Dominant lethal tests show negative and germ in vivo/somatic cell micronucleus tests show both positive and negative, according to EDTA-2Na (CAS: 6381-92-6).
Carcinogenicity	: No data available
Reproductive toxicity	: Maternal toxicity was observed in a teratogenicity study (rat).

STOT-single exposure	: No data available
STOT-repeated exposure	: Suspected renal tubular dysfunction
Aspiration hazard	: No data available

Lithium hydroxide monohydrate

Acute toxicity (oral)	: Classification not possible
Acute toxicity (skin)	: Classification not possible
Acute toxicity (inhalation vapor)	: Not expected to be acute toxicity (inhalation vapor)
Acute toxicity (inhalation mist)	: Inhalation LC ₅₀ Rat 0.96 mg/kg
Skin corrosion/irritation	: Causes severe skin burn by contact with anhydrous form of this substance.
Serious eye damage/irritation	: No data available The following is the information about anhydrous form of this substance (CAS: 7580-67-8). Low exposure causes eye irritation. High exposure to eyes causes an irreversible damage.
Respiratory or skin sensitization	: Classification not possible
Skin sensitization	: Classification not possible
Germ cell mutagenicity	: Classification not possible
Carcinogenicity	: Classification not possible
Reproductive toxicity	: No data available The following is the information about Lithium. Lithium was contraindications for the woman with possible pregnancy. Breastfeeding mothers should be avoided due to a breast milk transfer, and breastfeeding should be stopped if a patient has no choice but to receive this substance.
STOT-single exposure	: Cause respiratory tract irritation and corrosion of human. Inhalation exposure by rats: sloughing of the bronchiolar mucosa and pulmonary emphysema change caused by persistent cough and sneeze.
STOT-repeated exposure	: No data available However, it is likely that this substance has same toxic effect caused by lithium ion as Water-soluble lithium salts. It was classified to as Category 1 (nervous system, respiratory, cardiovascular system, kidney, thyroid gland,

digestive tract).
Aspiration hazard : Classification not possible

Sodium azide

Acute toxicity (oral) : LD₅₀ Rat 45 mg/kg
(DFGOT vol.20(2003))
Acute toxicity (skin) : LD₅₀ Rabbit 20mg/kg
Acute toxicity (inhalation) : Inhalation vapor LC₅₀ Rat 37 mg/m³
Skin corrosion/irritation : Based on a report that application to rabbit skin
caused corrosion after 4-hour.
Serious eye damage/irritation : Since the substance is classified into Category 1 for
skin corrosion, Category 1 was also applied for the
eyes.
Respiratory or skin sensitization : No data available
Germ cell mutagenicity : No data available
Carcinogenicity : No data available
Reproductive toxicity : Classification not possible
STOT-single exposure : Causes damage to circulatory system
STOT-repeated exposure : Cause damage to organs through prolonged or
repeated exposure (circulatory system, liver)
Aspiration hazard : No data available

Hydrogen peroxide

Acute toxicity (oral) : LD₅₀ Rat 311 mg/kg
Acute toxicity (skin) : Toxic in contact with skin
Acute toxicity (inhalation) : Toxic if inhaled
Skin corrosion/irritation : Causes severe skin burns
Serious eye damage/irritation : Causes serious eye damage
Respiratory or skin sensitization : No data available
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Suspected of damaging fertility or the unborn child
STOT-single exposure : Causes damage to organs (respiratory system, central
nervous system).
STOT-repeated exposure : Cause damage to organs through prolonged or repeated
exposure (lung). May cause damage to organs through

Aspiration hazard : prolonged or repeated exposure (blood).
: No data available

Sulfuric acid

Acute toxicity (oral) : LD₅₀ Rat 2140 mg/kg
Acute toxicity (skin) : No data available
Acute toxicity (inhalation) : Inhalation mist LC₅₀ 0.375 mg/m³
Skin corrosion/irritation : Corrosive substances (GHS classification)
Serious eye damage/irritation : Example of accident in human: the critical ; damage to the eye accompanied by solutions of anterior chamber of eye.
The eye of Rabbit: moderate irritation with 5% liquid and severe irritation with 10% liquid.
Respiratory or skin sensitization : No data available
Germ cell mutagenicity : Classification not possible
Carcinogenicity : Classification not possible
Reproductive toxicity : Not classified
STOT-single exposure : Based on the descriptions that in the inhalation exposure of low concentration by humans, airway irritation such as cough and breath shortness is identified (DFGOT, 2001), and at high exposure levels, acute effects such as cough, breath shortness and hemoptysis shedding etc., and permanent effects such as functional depression of lungs, fibrosis and emphysema were identified (ATSDR, 1998), and that hemorrhage in lungs and dysfunction were identified by 8-hour inhalation exposure in guinea pigs (ATSDR, 1998).
STOT-repeated exposure : In the 28-day inhalation exposure test using rat, cell proliferation in laryngeal mucosa is acknowledged in guidance value of Category 1 (SIDS (2001)), and in the 14 to 139-day repetition inhalation exposure test using the guinea pigs of the concentration of guidance value within the limits of Category 1, respiratory and lung disorder, such as nasal-septum dropsy, pulmonary emphysema, atelectasis, hyperemia, dropsy, bleeding and thrombosis of bronchioles are recognized

(ATSDR(1998)), and further in the 78-week inhalation exposure test using a cynomolgus, histological change as hyperplasia of a cell, the wall thickening, etc. in bronchioles of lungs was acknowledged in the dosage (0.048 mg/L, 23.5 Hr/Day) of the range of the guidance value of Category 1, so it was classified to as Category 1 (respiratory systems).

Aspiration hazard : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity - Component Analysis

1) Ethylenediaminetetraacetic acid

Fish LC₅₀: Bluegill 41 mg/L 96h (EU-RAR, 2005)

Hazardous to the aquatic environment (Long-term):

Crustacea NOEC: Daphnia magna 5.5 mg/L 21d (aquatic toxicity tests of chemicals conducted by Ministry of the Environment in Japan, 2002)

Classified into Category 3 since its acute toxicity is Category 1 (LC₅₀: Bluegill 41 mg/L 96h) and it is not rapidly degradable (the decomposition by BOD: 0 % (Existing Chemical Safety Inspections Data)).

2) Sodium azide

Algae ErC₅₀: Pseudokirchneriella subcapitata 348 μ g/L 96h(AQUIRE, 2010)

Hazardous to the aquatic environment (Long-term):

Classified into Category 1 since its acute toxicity is Category 1 and it is not rapidly degradable (Degradation rate by direct measurement (HPLC): 1% (Biodegradation and Bioconcentration of Existing Chemical Substances under the Chemical Substances Control Law, 2000)).

3) Hydrogen peroxide

Crustacea ErC₅₀: Water flea 2.4 mg/L 48h

Hazardous to the aquatic environment (Long-term): Rapidly degrading in water

4) Sulfuric acid

Fish LC₅₀: Bluegill 16-28 mg/L 96h

Hazardous to the aquatic environment (Long-term): Toxicity factor is considered to be strong acid as aqueous solution, but toxic effect is eased by the buffer action in the environmental water.

Persistence and degradability

No information available for the product

Bioaccumulative potential

No information available for the product

Mobility in soil

No information available for the product

Other adverse effects

No information available for the product

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of contents/container to an approved waste disposal plant after wash with plenty of water.

Additional information

Stop Solution is a strong acid substance. Therefore, pay attention to in disposal of this material.

Assay Buffer, Standard Diluent and L-FABP Standard contain Sodium azide. Therefore, dispose these materials after diluting them with large quantity of water to avoid production of explosive metallic azide.

14. TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/CAO
UN number	UN 2796	UN 2796	UN 2796
UN proper shipping name	SULPHURIC ACID	SULPHURIC ACID	SULPHURIC ACID
Transport hazard class	8	8	8
Packing group	II	II	II
Environment hazards	Not applicable	Not applicable	Not applicable
Transport in bulk	No information available		
Special precautions for user	See Section 2		

15. REGULATORY INFORMATION

CSCL	Sodium azide
ISHA	Sulfuric acid Sodium azide (Not available, < 1%) Lithium hydroxide monohydrate (Not available, < 0.3%) Hydrogen peroxide (Not available, < 1%)
PDSCA	Lithium hydroxide monohydrate Sodium azide (Not applicable, < 0.1%) Hydrogen peroxide (Not applicable, < 6%) Sulfuric acid (Not applicable, < 10%)
PRTR Law	Sodium azide (Not applicable, < 1%) Ethylenediaminetetraacetic acid (Not applicable, < 1%)

16. OTHER INFORMATION

Key/Legend

NITE - National Institute of Technology and Evaluation (JAPAN)

<https://www.nite.go.jp/index.html>

CSCL: Chemical Substances Control Law

PRTR Law - Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof;

ISHA - Industrial Safety and Health Act;

PDSCA - Poisonous and Deleterious Substances Control Act

JSOH - Overview of the Japan Society for Occupational Health

Disclaimer

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.