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MATERIAL SAFETY DATA SHEET

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EMERGENCY # FOR US NATIONAL RESPONSE CENTER (800) 424-8802

Product Name: **Human Resistin ELISA Kit**
Catalog #(s): K1003-1

1. Substance/preparation

Characteristics: Human Resistin ELISA Kit

Use of substance/preparation: Determination of human resistin concentration in biological samples and human serum or plasma for research use

2. Information on product/preparation composition

The product contains the following hazardous substances and those with the following highest permissible concentrations in the working environment:

2.1 Microtiter strips (96 wells, coated with rabbit polyclonal antibody, sealed)

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: None EC (EINECS): None Merck Index: None	None		

2.2 Biotin labelled antibody (rabbit anti-resistin antibody, biotin conjugate)

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 0026172-54-3 EC (EINECS): None Merck Index: None	Methylisothiazolone	0.02 %	R22-34-43
CAS: 0030007-47-7 EC (EINECS): None Merck Index: None	Bromonitrodioxane	0.02 %	R21/22
CAS: None EC (EINECS): None Merck Index: None	Procline™ 300	0.02 %	R34-43, S24/25

2.3 Streptavidin-HRP Conjugate (streptavidin, horse radish peroxidase conjugate)

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 0026172-54-3 EC (EINECS): None Merck Index: None	Methylisothiazolone	0.02 %	R22-34-43
CAS: 0030007-47-7 EC (EINECS): None Merck Index: None	Bromonitrodioxane	0.02 %	R21/22

CAS: None	Procline™ 300	0.02 %	R34-43, S24/25
EC (EINECS): None			
Merck Index: None			

2.6 Resistin Master Calibrator (lyophilized human resistin standard from stabilizing solution)

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 54-64-8 EC (EINECS): 200-210-4 Merck Index: 12,9451	Thimerosal	< 0.05 %	T+, R26/27/28-33, S13-28.1-36-45
CAS: 60-32-2 EC (EINECS): 200-4693 Merck Index: 13,431	6-aminohexanoic acid	< 0.03 %	R36/37/38 S26-36

2.6 Quality controls (stabilized human serum with determined human resistin concentration)

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 54-64-8 EC (EINECS): 200-210-4 Merck Index: 12,9451	Thimerosal	< 0.095 %	T+, R26/27/28-33, S13-28.1-36-45
CAS: 60-32-2 EC (EINECS): 200-4693 Merck Index: 13,431	6-aminohexanoic acid	< 0.03 %	R36/37/38 S26-36

2.7 Dilution buffer

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 54-64-8 EC (EINECS): 200-210-4 Merck Index: 12,9451	Thimerosal	< 0.095 %	T+, R26/27/28-33, S13-28.1-36-45
CAS: 60-32-2 EC (EINECS): 200-4693 Merck Index: 13,431	6-aminohexanoic acid	< 0.03 %	R36/37/38 S26-36

2.8 Substrate (TMB) solution

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 54827-17-7 EC (EINECS): 259-364-6 Merck Index: -	3,3',5,5'-Tetramethylbenzidin	< 0.036 %	R20/21/22-36/37/38-40, S26-36/37
CAS: 6381-92-6 EC (EINECS): - Merck Index: -	Ethylendiamintetraacetat	0.093 %	R22-36/37/38
CAS: 26172-55-4 EC (EINECS): - Merck Index: -	5-Chloro-2-methyl-4-isothiazol-3-on	0.00009 %	R22-34-43
CAS: 2682-20-4 EC (EINECS): - Merck Index: -	2-Methyl-4-isothiazol-3-on	0.00003 %	R22-34-43

2.9 Stop solution

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 7664-93-9 EC (EINECS): 231-639-5 Merck Index: 12,9147	Sulfuric acid	1.96 %	S26-30-45

2.10 Wash solution concentrate

Identification numbers	Chemical name of substance	Concentrations	Risk and safety statements
CAS: 54-64-8 EC (EINECS): 200-210-4 Merck Index: 12,9451	Thimerosal	< 0.05 %	T+, R26/27/28-33, S13-28.1-36-45

Risk symbols

T+	Very toxic
Xi	Irritating
Xn	Harmful

Risk phrases

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R21/22	Harmful in contact with skin and if swallowed
R22	Harmful if swallowed
R26/27/28	Very Toxic by inhalation, in contact with skin and if swallowed
R28	Very Toxic if swallowed
R32	Releases very toxic gas in contact with acids
R33	Danger of cumulative effects
R34	Causes burns
R36/37/38	Irritating to eyes, respiratory system and skin
R40	Possible risk of irreversible effects
R43	May cause sensitization by skin contact

Safety phrases

S13	Keep away from food, drink and animal feeding stuffs
S23	Do not breath spray
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S28.1	After contact with skin, wash immediately with plenty of water
S30	Never add water to this product
S36	Wear suitable protective clothing
S36/37	Wear suitable protective clothing and gloves
S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

3. Substance/preparation hazards data

When used, the most adverse impacts of the substance/preparation on human health include:

The followed components can damage health if ingested and/or can irritate eyes and skin: Stop solution, Biotin labelled antibody, Streptavidin-HRP conjugate, Substrate (TMB) solution, Resistin master calibrator, Quality control, Wash solution concentrate. The Stop solution contains sulfuric acid in total concentration < 5% and is not classified as "Corrosive" or "Irritating". The Quality control is based on HIV-1, HIV-2 and HbsAg negative human sera and must be handled as potentially infectious material. The Biotin labelled antibody, HRP-conjugate solution, Quality Controls and Wash solution concentrate contain thimerosal in total concentration < 0.05 % and are classified as "Harmful".

4. First aid instructions

General instructions: Immediately rinse with soap and plenty of water. Use personal protective working aids.

If inhaled: Transport the affected person into the open air. When there are respiratory complaints, oxygen must be administered. When irritation persists, seek medical advice.

In case of skin contact: The contaminated clothing and footwear must be taken off, the affected skin must be rinsed with plenty of water. Use soap to completely remove the substance. When irritation persists, seek medical advice.

In case of contact with eyes: Remove contact lenses. Rinse with a stream of water for at least 15 minutes. Thorough rinsing must be ensured by opening the eyelids using sterile (clean) fingers. When irritation persists, seek medical advice.

If ingested: Rinse the mouth, administer a big amount of water to dilute the substance. In the case of unconsciousness, never administer anything orally. Seek medical advice.

5. Extinguishing measures:

Suitable fire-extinguishing media: Carbon dioxide, dry powder, foam, water.

Thermal decomposition: No thermal decomposition degradation products are expected.

Special hazards: None.

Special protective means for firemen: None.

6. Incidental leakage measures:

Safety measures to protect humans: Avoid contact with skin and eyes.

Environmental safety measures: Avoid penetration into sewerage systems, surface and ground water. Avoid soil pollution.

Recommended cleaning and disposal methods: Cover with suitable absorbing material. After removing the substance, rinse the spot of spilling thoroughly with water and soap.

7. Handling and storage instructions:

Handling instructions: Avoid contact with skin, eyes and clothing. Use suitable protective means to work with the substance.

Storage instructions: Store at temperatures between + 2 and + 8°C in a dry and dark place.

8. Exposition checking and protection of persons:

Technical measures: Do not eat, drink and smoke when working with the kit. Use the kit only in rooms enabling good ventilation. Local exhaustion is necessary, general (forced) exhaustion is recommended.

Personal protective means – protection of respiratory organs: None

Personal protective means – eye protection: Protective glasses

Personal protective means – hand protection: Protective gloves (wash your hands before and after work)

Personal protective means – body protection: Protective clothing

9. Physical/chemical properties

State (at 20°C): liquids

Color: Essentially colorless

Smell (odor): Odorless

pH value (at 25°C): Stop solution: < 1
Others: 6.8 - 7.4

Melting temperature (temperature range) (°C): No data available.

Boiling temperature (temperature range) (°C): No data available.

Flash point (°C): No data available.

Inflammability: No data available.

Vapor tension (°C): No data available.

Water solubility: Soluble.

Partition coefficient n-octanol/water: No data available.

10. Stability and reactivity:

Conditions to be avoided: Heat

Substances and materials with which the product is not allowed to get in touch: Acids

Hazardous decomposition products: Not known

Other data: No hazardous polymerization

11. Toxicological information:

Toxicological information

The product contains thimerosal in total concentration < 0.05%.

Acute toxicity-LD50 orally, rat (mg/kg): 98mg of thimerosal / kg

Acute toxicity-LD50 dermally, rat or rabbit (mg/kg): Not known

Acute gingivostomatitis LD50: Not known

Acute toxicity-LD50 inspiration: Not known

Irritability: No data available

Mutagenicity: No data available

Reproduction toxicity: No data available

Tests on animals: No data available

Other data: Mason et al., Clin. Toxicol. 4, 185(1971)

12. Environmental information

Water hazard class: 2 (water-damaging substances)

Biological effect:

Fish: toxicity L. macrochirus organismus: Not known

Acute toxicity for cold-blooded animals: Not known

13. Disposal Information

The manner of disposing the substance/preparation:

Mix or dissolve the material in a combustible solvent and burn up in a facility whose equipment matches all regulations in effect. Every waste disposal must be carried out in coincidence with national and local legislation or administrative regulations respectively.

Packages:

In coincidence with local legislation, or administrative regulations respectively.

14. Transportation information

Overland transportation (ADR/RID): As a mixture, the substance is subject to no limitations.

Transatlantic transportation (IMDG): As a mixture, the substance is subject to no limitations.

Air transportation (ICAO/IATA): As a mixture, the substance is subject to no limitations.

15. Information on legal regulations

According to the Act No. 157/1998 Coll. on chemical substances and chemical preparations and on amendments in some other laws and acts, components contained in the Human Resistin ELISA are non-hazardous substances in said concentrations.

Human Resistin ELISA is subject to special marking regulations according to the EC regulations (28/10/1999).

Human Resistin ELISA:

R20/21/22-21/22-22-26/27/28-28-32-33-34-36/37/38-40-43

S13-23-24/25-26-28.1-30-36-36/37-45

16. Additional information

The material safety data sheet contains data necessary to ensure safety and health and environmental protection in working with chemical substances. The above-stated data match the contemporary state of knowledge and experience and are in coincidence with legal regulations currently in effect. This product is a chemical substance and can be solely used by persons with chemical education at their own risk.

Human Resistin ELISA is designed for biomedical research. The manufacturer has no responsibility for damage caused by unsuitable use and by disrespecting the enclosed working instructions.

The above-stated information cannot be considered as complete and must be understood to be only a methodical instruction.