

**1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

RiaRSR™ VGCC Ab  
Catalogue no: LEM/25 (25 tube)

**1.2 Relevant identified uses and uses advised against (if any):**

Detection of autoantibodies to P-type voltage-gated calcium channels (VGCC) in human serum

**1.3 Details of the supplier of the safety data sheet:**

RSR Limited  
Avenue Park, Pentwyn, Cardiff, UK  
CF23 8HE  
Phone: +4429 2073 2076 (Office hours only)  
Fax: +4429 2073 2704  
Email: [info@rsrltd.com](mailto:info@rsrltd.com)

**1.4 Emergency telephone number:**

+4420 3080 7080

**2. Hazards identification****2.1 Classification of mixture**

The RiaRSR™ VGCC Ab Kit is not considered hazardous in accordance with Regulation (EC) No. 1272/2008.

**2.2 Label elements**

This product does not require a hazard warning label according to EC directives.

**2.3 Other Hazards**

No single component of the kit contains a hazardous ingredient in a concentration which qualifies the product as hazardous according to Regulation (EC) No. 1272/2008. However, ingestion or exposure to large amounts from improper handling can be potentially hazardous.

This kit contains both animal and human proteins and should be treated as a potential biohazard. All animal and human sera have been tested to ensure the absence of infectious agents but all materials should be handled as though capable of transmitting infectious disease and disposed of accordingly.

This kit contains <sup>125</sup>Iodine, a radioisotope with a half-life of approximately 60 days which emits gamma radiation with a maximum energy of 35 keV. Evidence exists of mutagenic, teratogenic and carcinogenic effects by ionising radiation.

The following precautionary phrases should be taken into consideration:  
P233, P270, P281, P301 + P330, P302 + P352, P304 + P340, P305 + P351 + P338 (see section 16 for full text)

**3. Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

All kit components contain animal proteins and/or human proteins and should be treated as potential biohazards.

<sup>125</sup>I-labelled VGCC tracers are radioactive, ~6 kBq per vial (~0.162μCi).

The following kit components contain ingredients which are considered hazardous but are not present in high enough concentrations to be classified under Regulation (EC) No. 1272/2008.

Kit Component	Ingredient(s)	Concentration
<sup>125</sup> I VGCC (LT/NS tracers)	ω-Conotoxin MVIIC Digitonin Sodium azide	<1.0% 0.036% 0.011%
Dilution Buffer	Digitonin Sodium azide	0.1% w/v 0.013% w/v
Anti-human IgG	Digitonin Sodium azide	0.067% w/v 0.025% w/v
Wash Solution	Sodium azide Triton™ X-100	0.5% w/v 0.01% w/v
Negative Control	Sodium azide	0.05% w/v
Positive Control	Digitonin Sodium azide	0.09% w/v 0.016% w/v

Ingredient	CAS No.	EC No.	Classification GHS/CLP
ω-Conotoxin MVIIC	147794-23-8	N/A	Acute Tox. 4, Eye Irrit. 2, Skin Irrit. 2, STOT SE 3; <i>H302, H312, H315, H319, H332, H335</i>
Digitonin	11024-24-1	234-255-6	Acute Tox. 2, Acute Tox 3; <i>H301, H311, H330</i>
Sodium Azide	26628-22-8	247-852-1	Acute Tox. 2, Aquatic Acute 1, Aquatic Chronic 1; <i>H300, H400, H410, EUH032</i>
Triton™ X-100	9002-93-1	N/A	Acute Tox. 4, Eye Irrit. 2, Aquatic Chronic 2; <i>H302, H319, H411</i>

The full text for the hazard statements can be found in section 16.

**4. First aid measures****4.1 Description of first aid measures****After skin contact**

Wash off skin thoroughly with water for at least 15 minutes. Remove contaminated clothing. In severe cases or if skin is broken, OBTAIN MEDICAL ATTENTION.

**After eye contact**

Separate eyelids with fingers and flush eye with copious amounts of water for at least 15 minutes. OBTAIN MEDICAL ATTENTION.

**After Inhalation**

Remove from exposure, rest and keep warm. If breathing becomes difficult, OBTAIN MEDICAL ATTENTION.

**After Ingestion**

If patient is conscious, wash out mouth with water and give plenty of water to drink. OBTAIN MEDICAL ATTENTION.

**4.2 Most important symptoms and effects, both acute and delayed**

Not available.

**4.3 Indication of any immediate medical attention and special treatment needed**

Not available.

**5. Fire-fighting measures****5.1 Suitable extinguishing media**

Use water, dry powder or foam as appropriate to supporting fire.

**5.2 Special hazards arising from the substance or mixture**

May evolve toxic fumes in fire. Hazardous combustion products are not known for kit components but combustion products for the ingredients listed in subsection 3.2 can be found in the following table:

<b>Ingredient</b>	<b>Hazardous combustion product(s)</b>
ω-Conotoxin MVIIC	Carbon oxide, carbon dioxide, nitrogen oxides and sulphur oxides
Digitonin	Carbon oxides
Sodium Azide	Sodium oxides
Triton™ X-100	Carbon oxides

**5.3 Advice for fire-fighters**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**6. Accidental release measures****6.1 Personal precautions**

Wear appropriate protective clothing as described in subsection 8.2. Ventilate area and avoid breathing vapours, mist or gas.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent any reagents from entering drains.

**6.3 Methods and material for containment and cleaning up**

Radioactive spills should be dealt with immediately in accordance with the current local and national regulations and guidelines.

Wipe up liquid spills with absorbent paper. For solid spills, sweep up without raising dust. Once pick up is complete, wash site with detergent and water and decontaminate with a suitable disinfectant solution. Any surfaces contaminated with <sup>125</sup>Iodine should be washed with a suitable detergent to remove all traces of radioactivity. Dispose of radioactive waste via an authorised route.

**6.4 Reference to other sections**

See sections 8 and 13.

**7. Handling and storage****7.1 Precautions for safe handling**

Users should make themselves aware of, and observe any national and local legislation and codes of practice governing the use, storage, transportation and disposal of radioactive materials. Material of human origin has been tested and found non-reactive for HIV 1 and 2 and HCV antibodies and HBsAg. All animal sourced material has been obtained from animals certified as healthy and free from disease. However all potentially biohazardous components should be considered as potentially infectious. Level II containment should be applied.

Do not eat, drink or smoke in the laboratory. Do not pipette by mouth. Avoid skin and eye contact. Wear appropriate protective clothing as described in subsection 8.2. Avoid the use of needles or other sharp implements. Avoid prolonged or repeated exposure.

Radioactive materials should only be used by authorised personnel and in designated areas. Wash hands thoroughly after handling. Monitor hands and clothing before leaving the designated area. Report contamination to the responsible person and take remedial action.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep containers tightly closed. Store in a dry place in the box supplied at a temperature between +2 and +8°C.

**7.3 Specific end use(s)**

The RiaRSR™ VGCC Ab Kit is intended for professional use only and to be used solely for the purpose as specified in subsection 1.2. Refer to kit instructions for details.

**8. Exposure controls/personal protection****8.1 Control parameters**

No occupational exposure limits exist for any kit components. However, the following limits apply to component ingredients: sodium azide (see subsection 3.2 for components containing these substances):

Value	Control Parameters	Basis
<b>Sodium Azide</b>		
STEL	0.3 mg/m <sup>3</sup>	UK: EH40/2005 Workplace Exposure Limits (WEL) Europe: Commission Directive 2000/39/EC
TWA	0.1 mg/m <sup>3</sup>	UK: EH40/2005 Workplace Exposure Limits (WEL) Europe: Commission Directive 2000/39/EC
REL	0.3 mg/m <sup>3</sup> 0.1 ppm	USA: NIOSH Recommended Exposure Limits (REL)
TLV	0.29 mg/m <sup>3</sup> 0.11 ppm	USA: ACGIH Threshold Limit Values (TLV)

**8.2 Exposure controls**

The following controls should be followed as appropriate to the situation and the quantities handled.

**General protective measures**

Avoid contact with skin or eyes. Wash hands after use.

**Hygiene measures**

General laboratory practice (see section 7).

**Respiratory protection**

Local exhaust.

**Eye/face protection**

Chemical safety glasses or goggles conforming to appropriate government standards such as EN166 (EU) or NIOSH (US).

**Skin and body protection**

Chemical resistant gloves to be used in accordance with standard EN374 derived from EU Directive 89/686/EEC. Latex or vinyl gloves will provide sufficient protection. Inspect gloves for damage prior to use and change if any sign of degradation.

**Other equipment**

Eye bath and safety shower

**9. Physical and chemical properties****9.1 Information on the basic physical and chemical properties**

Kit component	Appearance	Odour	pH	Solubility
LT and NS Tracer	White solid	None	N/A	In water

Kit component	Appearance	Odour	pH	Solubility
Dilution Buffer	Colourless liquid	None	~7.4	N/A
Anti-Human IgG	Pale brown liquid	None	N/A	N/A
Wash Solution	Colourless liquid	None	~7.6	N/A
Negative Control	Pale brown liquid	None	N/A	N/A
Positive Control	Pale yellow to colourless liquid	None	N/A	N/A

There is no information available for the following categories: odour threshold, melting/freezing point, initial boiling point/boiling range, flash point, evaporation rate, flammability (solid, gas), upper/lower flammability or explosive limits, vapour pressure, vapour density, relative density, partition coefficient, autoignition temperature, decomposition temperature, viscosity, explosive properties or oxidising properties.

**9.2 Other information**

All liquid components are miscible with water in all proportions

**10. Stability and reactivity****10.1 Reactivity**

Data not available.

**10.2 Chemical stability**

All components of the RiaRSR™ VGCC Ab Kit have been found stable for stated shelf life when stored under the recommended conditions.

**10.3 Possibility of hazardous reactions**

No hazardous reactions known for kit components although, hazardous reactions occur for the following substances listed in subsection 3.2:

Ingredient	Hazardous Reaction
Sodium Azide	Risk of explosion with acids, heavy metals and metallic salts which may result in the formation of toxic vapours.

**10.4 Conditions to avoid**

Proteins and sodium azide are heat sensitive and storage or use at the improper temperature may compromise the integrity of the kit.

**10.5 Incompatible materials**

No data is known for kit components but the following data is known for components listed in subsection 3.2:

Ingredient	Incompatible materials
ω-Conotoxin MVIIC	Reacts with strong oxidising agents.
Digitonin	Reacts with strong oxidising agents and strong acids.
Triton™ X-100	Reacts with strong acids, strong bases and strong oxidising agents.

Ingredient	Incompatible materials
Sodium Azide	Forms toxic vapours with water/carbon dioxide and with acids. Sodium azide forms explosive mixtures with heavy metals and metallic salts. Prolonged contact with copper or lead in the drainage system can result in the formation of explosive azides.
<b>10.6 Hazardous decomposition products</b> No decomposition products are formed if kit is stored and used under the specified storage and handling conditions. May evolve toxic fumes in fire. Thermal decomposition products are not known for the kit components but hazardous combustion products of the ingredients listed in subsection 3.2 can be found in subsection 5.2	
<b>11. Toxicological information</b>	
<b>11.1 Information on toxicological effects</b> No toxicological information is known regarding the kit components. The concentrations of ingredients listed in subsection 3.2 are below the acceptable limit for hazardous substances; the toxicological risk is minimal.	
<b>12. Ecological information</b>	
<b>12.1 Toxicity</b> No data available.	
<b>12.2 Persistence and degradability</b> No data available.	
<b>12.3 Bioaccumulative potential</b> No data available.	
<b>12.4 Mobility in soil</b> No data available.	
<b>12.5 Results of PBT and vPvB assessment</b> No data available.	
<b>12.6 Other adverse effects</b> No ecological information exists for kit components. The concentrations of ingredients listed in subsection 3.2 are below the acceptable limit for hazardous substances; the ecological risk is minimal. However, it is recommended that reagents do not enter drains in large quantities.	
<b>13. Disposal considerations</b>	
<b>13.1 Waste treatment methods</b> Chemical and biological residues are classified as special waste and as such, are covered by regulations which may vary according to location. Contact your local waste disposal authority for advice or pass to a licensed disposal company. Observe all national and local environmental regulations. Contaminated packaging should be disposed of using the same routes.	

**14. Transport information**

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Transport of this product can be carried out at ambient temperature but in the event of delays store at 2 – 8°C with all reagents contained within the packaging provided.

**14.1 UN number**

UN2910 for excepted quantity of radioactive materials

**14.2 UN proper shipping name**

Not applicable.

**14.3 Transport hazard class(es)**

Not applicable.

**14.4 Packing group**

Not applicable.

**14.5 Environmental hazards**

Not applicable.

**14.6 Special precautions for user**

See sections 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**

Not applicable.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**

None known.

**15.2 Chemical safety assessment**

Not applicable.

**16. Other information**

This SDS has been compiled in accordance with Commission Regulation (EU) No. 453/2010.

Full text of precautionary phrases (listed in subsection 2.3) according to Regulation (EC) No. 1272/2008:

P233: Keep container tightly closed.

P270: Do not eat, drink or smoke when using this product.

P281: Use personal protective equipment as required.

P301 + P330: IF SWALLOWED rinse mouth.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

Full text of hazard statements (listed in subsection 3.2) according to Regulation (EC)

No. 1272/2008:

H300: Fatal if swallowed.

H301: Toxic if swallowed

H302: Harmful if swallowed.

H311: Toxic in contact with skin.

H312: Harmful in contact with skin.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H330: Fatal if inhaled.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

EUH032: Contact with acids liberates toxic gas.

The above information is believed to be correct but does not purport to be all-inclusive and is provided for guidance only. RSR Limited shall not be held liable for any damage or injury resulting from handling or from contact with the above product and assumes no responsibility to the accuracy or completeness of the data contained herein. It is the responsibility of the purchaser to ensure that laboratory workers who use this product are aware of its hazards and take all necessary precautions to prevent contact, ingestion, inhalation or any other mode of exposure.