

Anti-KCC2

Catalog# SMC-392D

Size: 100µg

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Victoria, BC, V8N 4G0, Canada

This product is for *in vitro* research use only and is not intended for use in humans or animals

StressMarq

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Product	Mouse anti-KCC2 (K+/CL-Cotransporter) monoclonal
Clone	S1-12
Immunogen	Fusion protein amino acids 932-1043 corresponding to rat KCC2.
Host and Subclass	Mouse monoclonal, IgG _{2A}
Cited Applications	IHC, WB, IP
Specificity	~140kDa.
Species cross-reactivity	Human, Mouse, Rat.
Format	Protein G Purified. In PBS pH7.4, 50% glycerol and 0.09% sodium azide.
Concentration and working dilution	1mg/mL; 1:300 (IHC)
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Selected References

1. Lee L.H., Walker J.A., Williams J.R., Goodier R.J., Payne J.A., Moss S.J. (2007) *J Biol Chem.* 282(41): 29777-29784.
2. Watanabe M., Wake H., Moorhouse A.J., Nabekura J. (2009) *J Biol Chem.* 284(41): 27980-27988.
3. Gulyas A.I., Sik A., Payne J.A., Kaila K., Freund T.F. (2001) *Eur J Neurosci.* 13(12): 2205-2217.
4. Vinay L., Jean-Xavier C. (2008) *Brain Res Rev.* 57(1): 103-110.

Certificate of Analysis

A 1:300 dilution of SMC-392 was sufficient for detection of KCC2 in 10µg of rat brain lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Scientific Background

KCC2 is a member of the cation-chloride cotransporter gene family (1). It acts as a K-Cl cotransporter. KCCs normally lower intracellular chloride concentrations below the electrochemical equilibrium potential and depending on the chemical concentration gradients of potassium and chloride, KCC2 can operate as a net efflux or influx pathway. It is proposed to act as the main chloride extruder to promote fast hyperpolarizing postsynaptic inhibition in the brain (2, 3). KCC2 is expressed at high levels in neurons throughout the nervous system and immunofluorescence shows that the protein is localized at inhibitory synapses of the spinal cord (4). Studies in mice have shown that KCC2 reduces GABA's inhibitory signaling, resulting in motor defects, epilepsy, and anxiety-like behavior.

Material Safety Data Sheet

Anti-KCC2 (Monoclonal Antibody) SMC-392

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Physical Data

This product consists of mouse immunoglobulin in PBS containing 0.09% azide in 50% glycerol, shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.