

Anti-GABA(B)R2 Catalog# SMC-402D

Size: 100µg

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

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Product	Mouse anti-GABA(B) R2 monoclonal
Clone	S81-2
Immunogen	Fusion protein amino acids 861-912 of rat GABA(B)R2
Host and Subclass	Mouse monoclonal, IgG ₁
Cited Applications	IHC, WB, ICC
Specificity	Detects ~105kDa. No cross-reactivity against GABA(B)R1
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
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

GABA (γ-aminobutyric acid) is the primary inhibitory neurotransmitter in the central nervous system and interacts with three different receptors: GABA(A), GABA(B) and GABA(C) receptor. The ionotropic GABA(A) and GABA(C) receptors are ligand-gated ion channels that produce fast inhibitory synaptic transmission. In contrast, the metabotropic GABA(B) receptor is coupled to G proteins that modulate slow inhibitory synaptic transmission (1). Functional GABA(B) receptors form heterodimers of GABA(B)R1 and GABA(B)R2 where GABA(B)R1 binds the ligand and GABA(B)R2 is the primary G protein contact site (2). Two isoforms of GABA(B)R1 have been cloned: GABA(B)R1a is a 130 kD protein and GABA(B)R1b is a 95 kD protein (3). G proteins subsequently inhibit adenylyl cyclase activity and modulate inositol phospholipid hydrolysis. GABA(B) receptors have both pre- and postsynaptic inhibitions: presynaptic GABA(B) receptors inhibit neurotransmitter release through suppression of high threshold calcium channels, while postsynaptic GABA(B) receptors inhibit through coupled activation of inwardly rectifying potassium channels. In addition to synaptic inhibition,

GABA(B) receptors may also be involved in hippocampal long-term potentiation, slow wave sleep and muscle relaxation (1).

Selected References

1. Jones K.A., *et al.* (2000) *Neuropsychopharmacology* 23: S41-9.
2. Duthey B. *et al.* (2002) *J Biol Chem.* 277: 3236-41.
3. Kaupmann K. *et al.* (1997) *Nature* 386: 239-46.

Certificate of Analysis

1µg/mL of SMC-402 was sufficient for detection of GABA(B)R2 in 20µg of rat brain membrane lysate and assayed by colorimetric immunoblot analysis using goat anti-mouse IgG:HRP as the secondary antibody.

Material Safety Data Sheet

Anti-GABA(B)R2 (Monoclonal Antibody) SMC-402

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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.