

## gamma3 Calcium Channel. Rabbit Polyclonal Antibody, Human, Mouse, Rat

### BACKGROUND

Voltage-dependent calcium channels (VDCCs) are large (>400 kDa) heteromers which contain, minimally, three core subunits  $\alpha_1$ ,  $\alpha_2$ , and  $\alpha_3$  in a 1:1:1 stoichiometry<sup>1</sup>. Expression of VDCC gene products in *Xenopus* oocytes, or transfected cells shows that the  $\alpha_1$  subunits contain the ion channel pore while the auxiliary  $\alpha_2$  and  $\alpha_3$  subunits confer optimal cell surface expression and channel kinetics<sup>1</sup>. Until recently, the only exception to the above paradigm was the skeletal muscle VDCC, which, in addition to the  $\alpha_1$ ,  $\alpha_2$ , and  $\alpha_3$  core motif, also has an additional tightly associated integral membrane glycoprotein subunit termed  $\beta$ . Upon co-expression with the  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$ , and  $\beta$  subunits of the skeletal muscle VDCC, subunits alter the peak currents, and the kinetics of channel activation and inactivation with the overall effect being a normalisation of currents to those resembling the endogenous channel<sup>2</sup>. Together, these results suggest that  $\alpha$  subunits modulate skeletal muscle VDCCs by stabilising their conformation. The  $\alpha_3$  subunit is specifically localized in the brain, with the  $\alpha_2$  and  $\alpha_4$  subunits. It shares >60% sequence homology with the  $\alpha_2$  and  $\alpha_4$  subunits and ~25% sequence homology with the  $\alpha_1$  and  $\alpha_5$  subunits.

### ORDERING INFORMATION

**CATALOG NUMBER**  
X1519P

**SIZE**  
100  $\mu$ g

**FORM**  
Purified

**HOST/CLONE**  
Rabbit

**FORMULATION**  
Provided as solution in phosphate buffered saline with 0.08% sodium azide

**CONCENTRATION**  
1 mg/ml

**ISOTYPE**  
Polyclonal

**APPLICATIONS**  
Western Blotting

### IMMUNOGEN

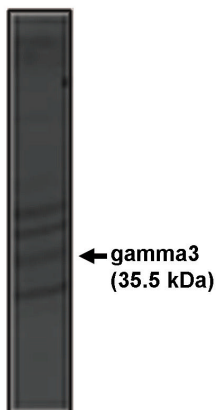
Synthetic peptide derived from the rat calcium channel gamma3 subunit conjugated to KLH

### SPECIES REACTIVITY

Human, Mouse, Rat

### Legend:

Western blot analysis using gamma3 antibody on rat brain lysate



For research use only. Not for use in human diagnostics or therapeutics.

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Page 1 of 2  
Cat. No. X1519P

**POSITIVE CONTROL**

Rat brain lysate

**COMMENTS**

This antibody can be used for Western blotting at 5-10 µg/ml. Optimal concentration should be evaluated by serial dilutions.

**SHIP CONDITIONS**

Ship at ambient temperature, freeze upon arrival

**STORAGE CUSTOMER**

Product should be stored at -20 degrees C. Aliquot to avoid freeze/thaw cycles

**STABILITY**

Antibodies are stable for one year from purchase if stored frozen

**REFERENCES**

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4. Kang, M.G., et al. *J. Biol. Chem.* 2001, 276: 32917-24
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6. Steinlein OK, Noebels JL *Curr Opin Genet Dev* 2000,10:286-91
7. Chen, L., et al. "Stargazin regulates synaptic targeting of AMPA receptors by two distinct mechanisms." *Nature* 2000, 408: 936-943.

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