

## g4Calcium Channel. Rabbit Polyclonal Antibody , Human

### BACKGROUND

Voltage-dependent calcium channels (VDCCs) are large (>400 kDa) heteromers which contain, minimally, three core subunits  $\alpha_1$ ,  $\alpha_2/\delta$ ,  $\beta$  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  $\alpha_2/\delta$  and  $\beta$  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  $\alpha_1$ ,  $\alpha_2/\delta$ ,  $\beta$  core motif, also has an additional tightly associated integral membrane glycoprotein subunit termed  $\gamma^1$ . Upon co-expression with the  $\alpha_{1.1}$ ,  $\alpha_2/\delta_1$ ,  $\beta_{1a}$  subunits of the skeletal muscle VDCC,  $\gamma$  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  $\gamma$  subunits modulate skeletal muscle VDCCs by stabilising their conformation.

The  $\gamma_4$  subunit is specifically localized in the brain, with the  $\gamma_2$  and  $\gamma_3$  subunits. It shares >60% sequence homology with the  $\gamma_2$  and  $\gamma_3$  subunits and ~25% sequence homology with the  $\gamma_1$  and  $\gamma_5$  subunits.

### ORDERING INFORMATION

**CATALOG NUMBER**  
X1520P

**SIZE**  
100  $\mu$ g

**FORM**  
Unconjugated

**HOST/CLONE**  
Rabbit

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

**CONCENTRATION**  
1 mg/ml

**ISOTYPE**  
IgG

**APPLICATIONS**  
Western Blot

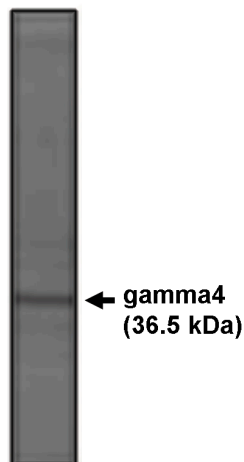
### IMMUNOGEN

Synthetic peptide derived from the rat calcium channel gamma4 subunit conjugated to KLH

### SPECIES REACTIVITY

Human

Western blot analysis using  $\gamma_4$  antibody on rat brain lysate at 5  $\mu$ g/ml.



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

**POSITIVE CONTROL/TISSUE EXPRESSION**

Rat brain lysate

**COMMENTS**

This antibody can be used for Western blotting at 5-10  $\mu\text{g/ml}$ . Optimal concentration should be evaluated by serial dilutions.

**SHIP CONDITIONS**

Ship at ambient temperature, freeze upon arrival

**STORAGE CUSTOMER**

Product should be stored at  $-20^{\circ}\text{C}$ . Aliquot to avoid freeze/thaw cycles

**STABILITY**

Products are stable for one year from purchase when stored properly

**REFERENCES**

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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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