

Adrenergic Receptor (α_{1b}) Polyclonal Antibody

Product Specifications

Catalog Number:	905-785-100						
Host:	Rabbit						
Species Reactivity:	Rat (predicted to react with human and mouse based on epitope sequence identity) Other species not tested						
Applications:	WB: Yes Membrane ELISA*: Yes Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i> <i>*Under certain conditions, this antibody has been shown to display activation-state specificity². The dilution required to achieve activation-state specificity will vary, and should be optimized by the researcher.</i>						
Predicted M.W.:	Predicted ~56 kDa. Higher m.w. species also observed which reflect post-translational modification of the receptor ⁷ .						
Concentration:	See product label						
Purification:	Peptide Affinity						
Format:	PBS, 50% glycerol, 0.01% sodium azide						
Storage:	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>						
Immunogen:	Synthetic peptide derived from sequence near the amino-terminus of rat Adrenergic Receptor (α_{1b})						
Related Products:	<table border="0"> <tr> <td>SAB-300</td> <td>Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate</td> </tr> <tr> <td>905-742-100</td> <td>Adrenergic Receptor (β_2) Polyclonal Antibody</td> </tr> <tr> <td>900-066</td> <td>cyclic AMP (direct) EIA Kit</td> </tr> </table>	SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate	905-742-100	Adrenergic Receptor (β_2) Polyclonal Antibody	900-066	cyclic AMP (direct) EIA Kit
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Background:

Adrenergic receptors mediate the hormone and neurotransmitter functions of adrenaline and noradrenaline. Adrenoreceptors function in peripheral tissues and the central nervous system to regulate numerous vascular, metabolic, and neurological functions, and are the target for many therapeutically relevant drugs including those for the treatment of hypertension, asthma, benign prostatic hypertrophy, and depression¹. Adrenoreceptors are classified by three types (α_1 , α_2 , and β) and multiple subclasses based on pharmacological and molecular characteristics. The α_1 family consists of three receptor subtypes (α_{1a} , α_{1b} , α_{1d}) which primarily signal via $G_{q/11}$ alpha subunits to stimulate Phospholipase C and increase intracellular calcium^{2,3}. In contrast, the three α_2 family receptor subtypes (α_{2a} , α_{2b} , α_{2c}) signal via $G_{i/o}$ alpha subunits to inhibit adenylyl cyclase activity, increase potassium transport, inhibit calcium conductance, and stimulate phospholipase A2^{4,5}. α_{1b} adrenergic receptor mRNA expression in human tissues is highest in the spleen, kidney, and fetal brain⁶. The α_{2a} receptor is most highly expressed in human brain, spleen, and kidney, and is a species orthologue of the α_{2d} receptor expressed similarly in rat, mouse, and cow^{1,7}.

References:

- Guimaraes, S. and Moura, D. (2001) *Pharmacol Rev.* **53**, 319-356.
- Michelotti, G.A., et al. (2000) *Pharmacol & Ther.* **88**, 281-309.
- Hague, C., et al. (2003) *Life Sci.* **74**, 411-418.
- Jones, S.B., Halenda, S.P., Bylund, D.B. (1991) *Mol Pharmacol.* **39**, 239-245.
- Brown, A.M. (1990) *Am J Physiol.* **259**, H1621-H1628.
- Price, D.T., et al. (1994) *Mol Pharmacol.* **45**, 171-175.
- Perala, M., et al. (1992) *Mol Brain Res.* **16**, 57-63.
- Gupta, A., et al. (2007) *J Biol Chem.* **282**, 5116-5124.



Visit the Scientific Resources section of our website for ELISA, IHC, and WB protocols.

Generally reagents are good for one year from the date of receipt, except for conjugates which are good for six months and reagents with an expiration date indicated on the label or other supporting document.

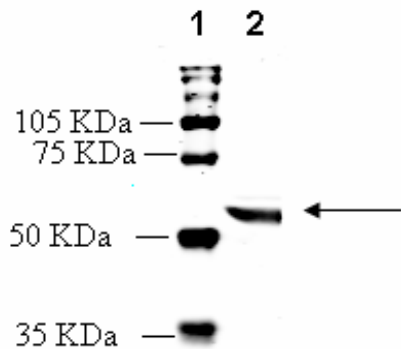
Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antibody is required throughout a study.

(OVER)

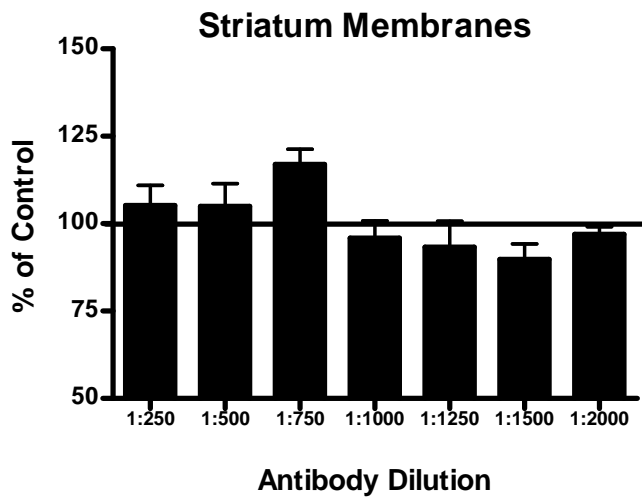
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Last Revised: 9-26-2008



Western Blot Analysis: MW marker (1) and 20 µg rat brain extract (2) probed with Adrenergic Receptor (α_{1b}) Polyclonal Antibody at 5.9 µg/mL.



Membrane ELISA: Lewis rat striatum membranes (5 µg/well) were treated with 1 µM concentrations of agonist (UK14304) and probed with Adrenergic Receptor (α_{1b}) Polyclonal Antibody (1:250 to 1:2000 of a 1 µg/µL stock solution) by ELISA. Data from vehicle treated cells were taken as 100%. Results are the mean ± SEM (n=4).