Endothelin Receptor (ET_A) Polyclonal Antibody

Product Specifications

Catalog Number:	905-790-100
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. *The optimal dilution for a specific application must be determined by the investigator.* **Under certain conditions, this antibody has been shown to display activation-state specificity[8]. The dilution required to achieve activation-state specificity will vary, and should be optimized by the researcher.*
Predicted M.W.:	~48 kDa and ~21 kDa (C-13 alternative splice variant) species are membrane integrated, with higher m.w. species observed due to postranslational modification or hetero-dimerization of the receptor[9,10].
Concentration:	See product label
Purification:	Peptide Affinity
Format:	PBS, 50% glycerol, 0.01% sodium azide
Storage:	Store at -20˚C *Shipping conditions may differ from the recommended storage temperature.*
Immunogen:	Synthetic peptide derived from sequence near the amino-terminus of rat Endothelin Receptor (ET_A)
Related Products:	
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate
900-020A	Endothelin-1 EIA Kit
900-020	Endothelin-1 EIA Kit
905-791-100	Endothelin Receptor (ET_B) Polyclonal Antibody

Background:

Endothelins are vasoactive peptides that exi st in three forms (ET-1, ET-2, and ET-3), and function in the maintenance of vascular tone via two identified seven transmembrane-spanning domain-containing G protein-coupled receptors, endothelin A (ET_A) and endothelin B (ET_B)[1]. The human ET_A receptor is primarily expressed in vascular smooth muscle cells, including those of the heart (also in myocytes), lung, and brain, and its stimulation generally results in vasoconstriction[2]. Activation of ET_A receptors can be stimulated by binding of ET-1 and ET-2, but not ET-3. triggering the release of vasorelaxive factors such as nitric oxide (NO) and prostanoids from endothelial cells[5]. Human ET_B receptors are primarily expressed in endothelial cells lining the vessel walls of the lungs, heart, and brain, and in contrast to ET_A receptors, stimulation generally results in transient vasodilation[3-5]. Activation of ET_B receptors can be stimulated by binding of all three endothelins, triggering the release of vasorelaxive factors such as nitric oxide (NO) and prostan oids from endothelial cells[5]. Both ET_A and ET_B receptors signal primarily via coupling to $G_{q/11}$ alpha subunits, although $G_{i/o}$ and G_s coupling are also established mechanisms of endothelin signaling, resulting in stimulation of phospholipases C, A_2, and D[6,7].

References:

1. Yanagisawa, M., *et al.* (1988) Nature **332**, 411-415.
2. Maguire, J.J. and Davenport, A.P. (1995) Br J Pharmacol. 115, 191-197.
3. Arai, H., *et al.* (1990) Nature **348**, 730-732.
4. Molenaar, P., *et al.* (1993) Circ Res. **72**, 526-538.
5. Sakurai, T., *et al*. (1990) Nature **348**, 732-735.
6. Warner, T.D., *et al.* (1989) Eur J Pharmacol. **159**, 325-326.
7. Takigawa, M., *et al*. (1995) Eur J Biochem. **228**, 102-108.
8. Gupta, A., *et al.* (2007) J Biol Chem. **282**, 5116-5124.
9. Hatae, N., *et al*. (2007) Mol Endocrinol. **21**, 1192-1204.
10. Florea, L., *et al*. (2005) Genome Res. **15**, 54-66.

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 specif ic lot number if an identical antibody is required throughout a study .

(OVER)

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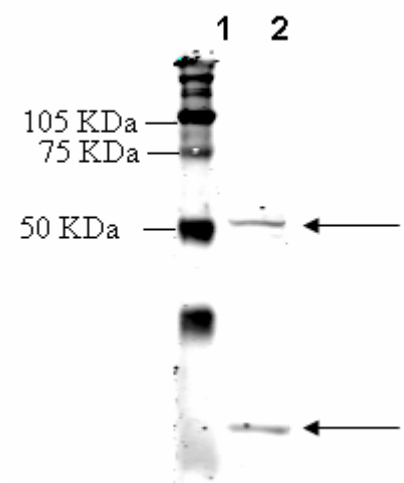
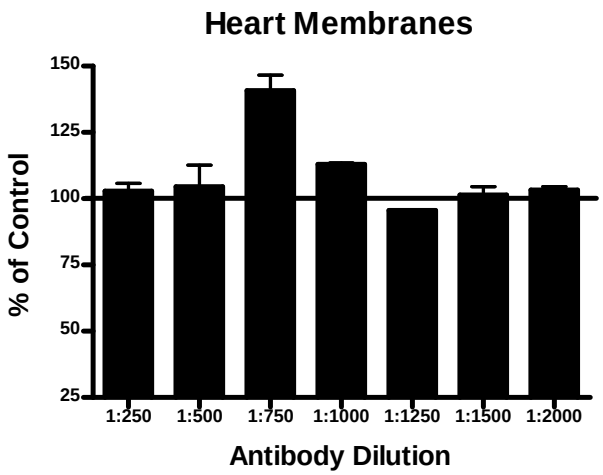
Last Revised: 9-26-2008



Western Blot Analysis: MW marker (1) and 50 µg of rat heart membrane extract (2) probed with Endothelin Receptor (ET_A) Polyclonal Antibody at 2.7 µg/mL



Membrane ELISA: Lewis rat heart membranes (5 µg/well) were treated with 1 µM concentrations of agonist (ET-1) and probed with receptor 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).

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