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Anti-Angiotensin-(1-7) Mas Receptor

Mas1 proto-oncogene, receptor Mas



Antigen included Shipped at room temp. QC tested

Cat #: AAR-013 | **Size:** 25 µl, 50 µl, 0.2 ml | **Source:** Rabbit | **Type:** Polyclonal

Application: IH, WB

Reactivity: H, M, R

May also work in: IC, IFC, IP

Application key: CBE- Cell-based ELISA, FC- Flow cytometry, IC- Immunocytochemistry, IE- Indirect ELISA, IFC- Indirect flow cytometry, IH- Immunohistochemistry, IP- Immunoprecipitation, LCI- Live cell imaging, N- Neutralization, WB- Western blot
Species reactivity key: H- Human, M- Mouse, R- Rat

Control antigen included

Lyophilized powder

General information

Alomone Labs is pleased to offer a highly specific antibody directed against an epitope rat Ang-(1-7) Mas receptor. **Anti-Angiotensin-(1-7) Mas Receptor** antibody (#AAR-013) can be used in western blot and immunohistochemical applications. It has been designed to recognize Ang-(1-7) Mas receptor from rat, mouse and human samples.

Related products for control experiments:

Control peptide antigen (supplied with the antibody free of charge).

Anti-Angiotensin-(1-7) Mas Receptor antibody (#AAR-013) in the literature:

Western blot analysis (WB):

- Rat kidney lysate (see Zimmerman, M.A. *et al.* (2014) in Product Citations).
- Mouse kidney lysate (1:4000) (See Munoz, M.C. *et al.* (2014) in Product Citations).
- Mouse skeletal muscle lysate (1:7500) (see Sabharawal, R. *et al.* (2014) in Product Citations).
- Rat brain lysate (1:2000) (see Du, D. *et al.* (2013) in Product Citations).
- Mouse penis lysate (1:200) (see Fraga Silva, R.A. *et al.* (2013) in Product Citations).
- Rat heart lysate (1:5000) (see Wang, H. *et al.* (2013) in Product Citations).
- Mouse lung lysate (1:500) (see Rodriguez-Machado, M.G. *et al.* (2013) in Product Citations).
- Sheep brain medulla lysate (1:250) (see Marshall, A.C. *et al.* (2013) in Product Citations).

Immunohistochemistry (IH):

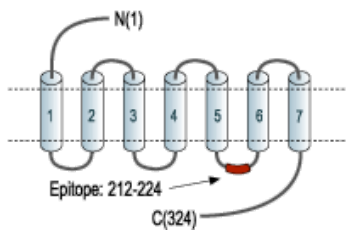
- Mouse kidney sections (1:100) (see Munoz, M.C. *et al.* (2014) in Product Citations).
- Mouse skeletal muscle sections (1:200) (see Sabharawal, R. *et al.* (2014) in Product Citations).
- Rat brain sections (see Freund, M. *et al.* (2014) in Product Citations).
- Rat striatum (see Regenhardt, R.W. *et al.* (2014) in Product Citations).

If you know of a relevant citation for this product **please let us know**.

Specifications

Immunogen

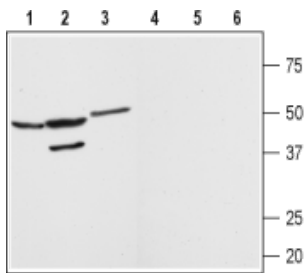
Peptide (C)KIRKNTWASHSSK, corresponding to amino acid residues 212-224 of the rat Angiotensin-(1-7) Mas receptor (Accession [P12526](#)). 3rd intracellular loop.



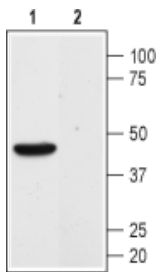
Homology	Mouse, human - identical.
Purity	Affinity purified on immobilized antigen.
Formulation	Lyophilized powder. Reconstituted antibody contains phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Standard quality control of each lot	Western blot analysis.

Applications

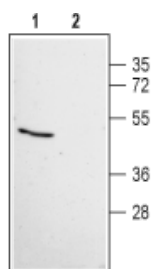
Western blot



Western blot analysis of rat brain (lanes 1 and 4) kidney (lanes 2 and 5) and heart (lanes 3 and 6) membranes:
1-3. **Anti-Angiotensin-(1-7) Mas Receptor** antibody (AAR-013), (1:200).
4-6. Anti-Angiotensin-(1-7) Mas Receptor, preincubated with the control peptide antigen.



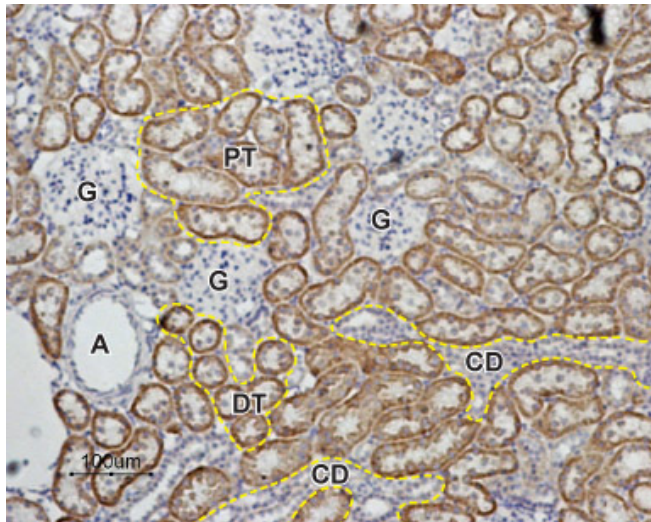
Western blot analysis of mouse kidney membranes:
1. **Anti-Angiotensin-(1-7) Mas Receptor** antibody (AAR-013), (1:200).
2. Anti-Angiotensin-(1-7) Mas Receptor, preincubated with the control peptide antigen.



Western blot analysis of human HeLa cervix adenocarcinoma cell line lysate:

1. **Anti-Angiotensin-(1-7) Mas Receptor** antibody (AAR-013),(1:200).
2. Anti-Angiotensin-(1-7) Mas Receptor, preincubated with the control peptide antigen.

Immunohistochemistry



Expression of Angiotensin-(1-7) Mas Receptor in rat kidney

Immunohistochemical staining of rat kidney paraffin embedded sections using **Anti-Angiotensin-(1-7) Mas Receptor** antibody (#AAR-013), (1:100). Angiotensin-(1-7) Mas receptor (brown staining) is detected in proximal tubules (PT) and distal tubules (DT) in the renal cortex. Collecting ducts (CD) are less stained and both *glomeruli* (G) and blood vessels (A) are negative. Hematoxylin is used as the counterstain.

Scientific background

Scientific background The angiotensin-(1-7) Mas receptor is the recently identified receptor of the biologically active heptapeptide angiotensin-(1-7).¹

Angiotensin (Ang)-(1-7) is a metabolite of the well known peptide hormone Angiotensin (Ang) II, a key component of the renin-angiotensin system (RAS) that has a central role in cardiovascular homeostasis.

Considerably interest in Ang-(1-7) and its receptor aroused in the last few years since it became apparent that it can counterbalance most of Ang II effects. Thus Ang-(1-7) has vasodilator and hypotensive effects as well as antiarrhythmic and cardioprotective roles.^{2, 3}

The Ang-(1-7) Mas receptor belongs to the 7-transmembrane domain, G protein-coupled receptor (GPCR) superfamily and was originally described as a protooncogene.

Signaling via the Ang-(1-7) Mas receptor is still poorly elucidated however, evidence indicates that the receptor is coupled to a $G_{q/11}$ protein that activates phospholipase C (PLC).^{2,3}

The Ang-(1-7) Mas receptor is expressed in several organs including heart, kidney, blood vessels, testis and brain. Studies with Ang-(1-7) Mas receptor knockout mice have demonstrated the key role of this receptor in cardiovascular regulation as well as in the regulation of learning and memory.²

References

1. Santos, R.A. *et al.* (2003) *Proc. Natl. Acad. Sci. U.S.A.* **100**, 8258.
2. Alenina, N. *et al.* (2008) *Exp. Physiol.* **93**, 528.
3. Santos, R.A. *et al.* (2008) *Exp. Physiol.* **93**, 519.

Product Citation**Publications using this product**

1. Freund, M. *et al.* (2014) *Eur. Neuropsychopharmacol.* **24**, 302.
2. Munoz, M.C. *et al.* (2014) *J. Endocrinol.* **221**, 215.
3. Regenhardt, R.W. *et al.* (2014) *Exp. Physiol.* **99**, 442.
4. Sabharawal, R. *et al.* (2014) *Clin. Sci.* **127**, 101.
5. Zimmerman, M.A. *et al.* (2014) *Am. J. Physiol.* **306**, F1136.
6. Du, D. *et al.* (2013) *PLoS ONE* **8**, e70976.
7. Fraga Silva, R.A. *et al.* (2013) *J. Sex. Med.* **10**, 2430.
8. Marshall, A.C. *et al.* (2013) *Peptides* **44**, 25.
9. Rodrigues-Machado, M.G. *et al.* (2013) *Br. J. Pharmacol.* **170**, 835.
10. Wang, H. *et al.* (2013) *PLoS ONE* **8**, 76992.
11. Freund, M. *et al.* (2012) *Cell Tissue Res.* **348**, 29.
12. Lakshmanan, A.P. *et al.* (2012) *Biochem. Pharmacol.* **83**, 653.
13. Muñoz, M.C. *et al.* (2012) *Regul. Pept.* **177**, 1.
14. Oh, Y.B. *et al.* (2012) *Peptides* **37**, 79.
15. Sukumaran, V. *et al.* (2012) *Life Sci.* **90**, 289.
16. Silva, D.M. *et al.* (2011) *J. Appl. Physiol.* **111**, 1272.
17. Sukumaran, V. *et al.* (2011) *Int. J. Biol. Sci.* **7**, 1077.
18. Yang, R.F. *et al.* (2011) *Am. J. Physiol.* **300**, C58.
19. Ferreira, A.J. *et al.* (2010) *Ther. Adv. Cardiovasc. Dis.* **4**, 83.
20. Gwathmey, T.M. *et al.* (2010) *Am. J. Physiol.* **299**, F983.
21. Gwathmey, T.M. *et al.* (2010) *Hypertension* **55**, 166.
22. Varagic, J. *et al.* (2010) *Am. J. Nephrol.* **32**, 557.

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