

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human Relaxin R1 in direct ELISAs and detects human, mouse, and rat Relaxin R1 in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 933344
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Relaxin R1 Met1-Ser398 Accession # Q9HBX9
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	SH-SY5Y human neuroblastoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Relaxin R1 (Relaxin Receptor 1), also known as RXFP1 (Relaxin Family Peptide Receptor 1) or LGR7 (Leucine-rich G-protein-coupled Receptor 7) is a member of family C of the LGRs, and is one of four receptors for Relaxin family proteins. Relaxin R1 shows highest affinity for human Relaxins 1, 2 and 3, while RXFP2 binds Relaxin 2 and the related INSL3, and RXFP3 primarily binds Relaxin 3 (1, 2). The 757 amino acid (aa) human Relaxin R1 contains an N-terminal 409 aa extracellular domain (ECD) with a calcium-binding LDL R class A (LDLa) domain and 10 leucine-rich repeats (LRR) with several N-glycosylation sites. The C-terminus contains 12 transmembrane domains within aa 410-672. Human Relaxin R1 (aa 1-398) shares 84, 86, 85, 85 and 91% aa sequence identity with mouse, rat, equine, bovine and porcine Relaxin R1, respectively. Isoforms of 724 and 709 aa lack aa 63-96 and 300-348, respectively, while isoforms of 176, 189, 191 and 337 aa diverge after aa 154, 179, 181 and 324, respectively (3, 4). These forms may dimerize with full-length Relaxin R1 and reduce its expression on the cell surface (3, 4). Receptor activation and cAMP signaling depend on the LDLa domain, and Relaxin binding requires the LRR repeats, with a secondary binding site within transmembrane region exoloops (1, 2, 5). Of LGR family members, RXFP1 and RXFP2 are unique in that they are not internalized to down-regulate signaling, and their LDLa domains allow transmission of both G-protein-dependent and -independent signals (1, 2, 6, 7). Engagement of Relaxin R1 by Relaxin (mainly Relaxin 2 in humans) supports female reproduction by promoting uterine angiogenesis, ovarian follicle ripening, and endometrial, cervical and nipple development (8-10). In male reproduction, Relaxin R1 acts in the prostate to enhance sperm motility (11). It reduces fibrosis in the heart, skin, lungs, liver, kidney, and reproductive tissues by combating aberrant collagen buildup (12). In the vasculature, it mediates vasodilation and decreases blood pressure. Relaxin R1 is expressed on human leukocytes and promotes adhesion, migration, and osteoclast differentiation (13, 14). Additional effects on heart, lungs, kidney and brain are reported, some of which may be species-specific (1).

References:

1. van der Westhuizen, E.T. *et al.* (2008) *Drug Discov. Today* **13**:640.
2. Kong, R.C.K. *et al.* (2010) *Mol. Cell. Endocrinol.* **320**:1.
3. Muda, M. *et al.* (2005) *Mol. Hum. Reprod.* **11**:591.
4. Kern, A. *et al.* (2008) *Endocrinology* **149**:1227.
5. Hopkins, E.J. *et al.* (2007) *J. Biol. Chem.* **282**:4172.
6. Kern, A. and G.D. Bryant-Greenwood (2009) *Endocrinology* **150**:2419.
7. Halls, M.L. (2012) *Br. J. Pharmacol.* **165**:1644.
8. Kamat, A.A. *et al.* (2004) *Endocrinology* **145**:4712.
9. Krajnc-Franken, M.A. *et al.* (2004) *Mol. Cell. Biol.* **24**:687.
10. Yao, L. *et al.* (2008) *Endocrinology* **149**:2072.
11. Ferlin, A. *et al.* (2012) *J. Androl.* **33**:474.
12. Hossain, M.A. (2011) *Biochemistry* **50**:1368.
13. Ferlin, A. *et al.* (2010) *Bone* **46**:504.
14. Figueiredo, K.A. *et al.* (2006) *J. Biol. Chem.* **281**:3030.

Human/Mouse/Rat Relaxin R1 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG₁ Clone # 933344

Catalog Number: FAB8898T
100 µg

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