**Human/Mouse/Rat Relaxin R1 Antibody**

**Monoclonal Mouse IgG1 Clone # 933344**

**Catalog Number: MAB8898**

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**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 IgG1 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

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

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**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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>2 µg/mL</td>
</tr>
<tr>
<td>Flow Cytometry</td>
<td>0.25 µg/10^6 cells</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>1-25 µg/mL</td>
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**CyTOF-ready** Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.

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**DATA**

**Western Blot**

Detection of Human, Mouse, and Rat Relaxin R1 by Western Blot. Western blot shows lysates of LNCaP human prostate cancer cell line, SH-SY5Y human neuroblastoma cell line, human heart tissue, mouse heart tissue, and rat heart tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Relaxin R1 Monoclonal Antibody (Catalog # MAB8898) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Relaxin R1 at approximately 75 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**

Relaxin R1 in Mouse Brain. Relaxin R1 was detected in immersion fixed frozen sections of mouse brain (medulla) using Mouse Anti-Human Relaxin R1 Monoclonal Antibody (Catalog # MAB8898) at 2 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to neurons. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.
Immunohistochemistry

Relaxin R1 in Human Prostate.
Relaxin R1 was detected in immersion fixed paraffin-embedded sections of human prostate using Mouse Anti-Human/Mouse/Rat Relaxin R1 Monoclonal Antibody (Catalog # MAB8898) at 1 µg/ml, for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagents-Basic (Catalog # CT5013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to epithelial cells in prostate glands. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Flow Cytometry

Detection of Relaxin R1 in SH-SY5Y Human Cell line by Flow Cytometry. SH-SY5Y human neuroblastoma cell line was stained with Mouse Anti-Human Relaxin R1 Monoclonal Antibody (Catalog # MAB8898, filled histogram) or isotype control antibody (Catalog # MA9602, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).

PREPARATION AND STORAGE

Reconstitution
Reconstitute at 0.5 mg/mL in sterile PBS.

Shipment
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

*Small pack size (~SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

Stability & Storage
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 LGFRs, 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 1-1398) 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 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

References: