Human Relaxin-3 Antibody

Monoclonal Mouse IgG_{2B} Clone # 332105

Catalog Number: MAB31071

DESCRIPTION

Species Reactivity	Human
Specificity	Recognizes the pro and mature forms of human Relaxin-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with the pro forms of recombinant human (rh) Relaxin-1 or rhRelaxin-2 is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 332105
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Relaxin-3 Arg26-Cys142 Accession # Q8WXF3
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS and NaCl 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.

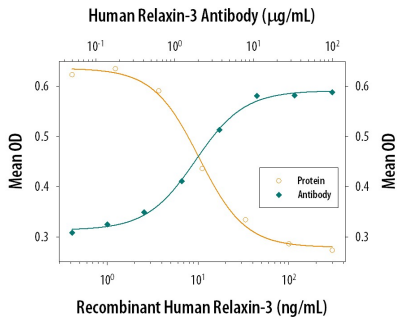
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human Relaxin-3 (Catalog # 3107-RN) under non-reducing conditions only
Neutralization	Measured by its ability to neutralize Relaxin-3-induced cAMP production in the THP-1 human acute monocytic leukemia cell line. Parsell, D. A. *et al*. (1996) J. Biol. Chem. **271**:27936. The Neutralization Dose (ND_{50}) is typically 1-5 µg/mL in the presence of 25 ng/mL Recombinant Human Relaxin-3.	

DATA

Neutralization



cAMP production induced by Relaxin-3 and Neutralization by Human Relaxin-3 Antibody. Recombinant Human Relaxin-3 (Catalog # 3107-RN) induces cAMP production in the THP-1 human acute monocytic leukemia cell line in a dose-dependent manner (orange line), as measured by cAMP Parameter Assay Kit (Catalog # KGE002B). cAMP production elicited by Recombinant Human Relaxin-3 (25 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human Relaxin-3 Monoclonal Antibody (Catalog # MAB31071). The ND_{50} is typically 1-5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
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Catalog Number: MAB31071

BACKGROUND

Human Relaxin-3 (H3 relaxin, INSL7) is one of seven relaxin-like peptides belonging to the insulin superfamily (1-4). Unlike human relaxins 1 and 2, it does not play a role in reproduction but appears to be a neuropeptide involved in stress response in the brain stem (3-5). The single-chain human Prorelaxin-3 shares 83% and 80% amino acid (aa) sequence identity with mouse and rat prorelaxin-3, respectively.The 142 aa Relaxin-3 pre-proprotein is processed to remove a 25 aa signal peptide and a connecting peptide (aa 53-118). The resulting mature Relaxin-3 is a 5.5 kDa, 51 aa secreted heterodimer of A (aa 119-142) and B (aa 26-52) peptides connected by two intermolecular disulfide bonds (1). Mature human Relaxin-3 is 96%, 94%, and 92% aa identical to porcine, canine, and mouse Relaxin-3, respectively. This is much higher identity between species than that seen for other relaxins. Relaxin-3 is thus suggested to be the ancestral relaxin family member (2). Relaxin-3 is the only known ligand for the G-protein-coupled receptor GPCR135, designated RXFP3 (4, 6). In rodents, GPCR135 is expressed primarily in the supraoptic and paraventricular nucleus (6). This region has connections to the dorsal tegmental region of the pons (also called the nucleus incertus), where expression of Relaxin-3 is highest (5). Relaxin-3 also binds the more widely-expressed LGR7 (RXFP1) receptor, but with lower affinity than that of Relaxin-2 (1, 7). Although binding of Relaxin-3 to LGR7 increases intracellular cAMP, binding to GPCR135 inhibits cAMP accumulation, indicating coupling to Gi, Go or Gz by this receptor (1, 5). Relaxin-3 expression does not overlap well with its other receptor, GPCR142, which instead appears to be the primary receptor for INSL5 (3, 8).

References:

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