Mouse Relaxin-1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6637

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Relaxin-1 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human Relaxin-1 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse Relaxin-1 Arg23-Arg54 with an N-terminal Met (B chain) & Glu161-Cys185 (A chain) Accession # NP_035402
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.

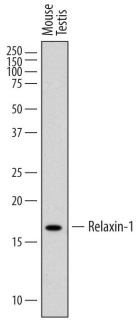
APPLICATIONS

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	See Below
Immunohistochemistry	5-15 µg/mL	See Below

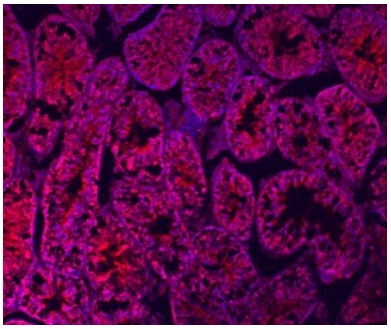
DATA

Western Blot



Detection of Mouse Relaxin-1 by Western Blot. Western blot shows lysates of mouse testis tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Mouse Relaxin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6637) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Prorelaxin-1 at approximately 16-17 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Relaxin-1 in Mouse Testis. Relaxin-1 was detected in immersion fixed frozen sections of adult mouse testis using Sheep Anti-Mouse Relaxin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6637) at 10 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red, upper panel; Catalog # NL010) and counterstained with DAPI (blue, lower panel). Specific staining was localized to the cytoplasm of spermatocytes. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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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BACKGROUND

Mouse Relaxin-1 (RLN1 or M1 relaxin) is the counterpart of human relaxin-2 (H2 relaxin) within the structurally related insulin/relaxin superfamily, while orthologs of the human relaxin-1 are found only in higher primates (1, 2). As with other insulin/relaxin superfamily members, RLN1 is synthesized as a preprohormone (1-3, 5). Processing of the 21 kDa preprorelaxin-1 and 16-17 kDa prorelaxin-1 includes removal of the signal sequence, formation of two disulfide bonds between A and B chains and removal of the intervening C-chain by a prohormone convertase. The resulting mature protein is an unglycosylated 6 kDa dimer of disulfide-linked A and B chains that binds the leucine-rich G-protein coupled receptor RXFP1, previously called LGR7 (1-4). Mouse RLN1 shares only 67%, 39%, 36% and 42% amino acid (aa) identity with rat, equine and feline RLN1 and human Relaxin-2, respectively, and its activity shows partial species specificity. For example, a unique amino acid near the end of the A chain in mice, Tyr184, lowers its affinity for RXFP1 compared to other species (5). Mouse RLN1 is prominently expressed in the prostate and ovary, with lower levels in the brain, heart and other organs (1-3). In the prostate, RLN1 is anti-apoptotic and contributes to development and maintenance of male fertility (6). In the female mouse, circulating RLN1 produced by the corpus luteum during pregnancy is essential for growth and softening of the cervix and vagina in preparation for delivery. It also promotes development of the mouse mammary apparatus, regulates plasma osmolality, and increases cardiac output and glomerular filtration rate in pregnancy (1, 2). Many RLN1 effects on reproductive tissues are augmented by estrogen (1-3, 7). In non-reproductive tissues, RLN1 mediates collagen turnover (7). RLN1-deficient mice develop age-related fibrosis and smooth muscle hypertrophy in organs such as lung, heart, kidney and liver (7-10).

References:

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