Rat MIS RII Alexa Fluor® 350-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1618U
100 µg

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat MIS RII in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) TGF-β RII, rhTGF-β RIII, recombinant mouse (rm) TGF-β RI, and rmTGF-β RII is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant rat MIS RII Pro19-Pro144 Accession # Q62893
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Blockade of Receptor-ligand Interaction	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Müllerian inhibiting substance (MIS), also named anti-Müllerian hormone (AMH) is a tissue-specific TGF-β superfamily growth factor. Its expression is restricted to fetal testis, plus postnatal testis and ovary (1). MIS induces Mullerian duct (female reproductive tract) regression during sexual differentiation in the male embryo and has been shown to have a regulatory role in gonads postnatally (1). Like other TGF-β superfamily members, MIS signals via a heteromeric receptor complex consisting of a type I and a type II receptor serine/threonine kinase. Depending on the cell context, different type I receptors (including Act RIA/ALK2, BMP RIA/ALK3, and BMP RIB/ALK6) that are shared by other TGF-β superfamily members, can be utilized for MIS signaling (1). In contrast, the type II MIS receptor (MIS RII) is unique and does not bind other TGF-β superfamily members (1, 2). Upon ligand binding, MIS RII recruits the non-ligand binding type I receptor into the complex, resulting in phosphorylation the BMP-like signaling pathway effector proteins Smad1, Smad5 and Smad8 (1).

The gene for rat MIS RII was isolated separately by two groups working from Sertoli cell and fetal ovary cDNA libraries (3, 4). MIS RII comprises a 557 amino acid (aa) residue type I transmembrane protein with a putative 17 aa signal peptide. Mature MIS RII has a 127 aa cysteine-rich extracellular domain containing 2 potential N-glycosylation sites, a 21 aa transmembrane domain, and a 392 aa cytoplasmic region with a serine/threonine kinase domain (3, 4). Rat MIS RII shares 95% and 82% aa sequence identity with the mouse and human homologues, respectively (5). MIS RII is expressed in the mesenchymal cells surrounding the Mullerian ducts during embryonic development. Postnatally, it is expressed in uterine tissues and rodent Leydig cells, and coexpressed with MIS in the testicular Sertoli and ovarian granulosa cells (1, 6). The expression of MIS RII in the Mullerian mesenchyme is regulated by Wnt7a signaling from nearby epithelium through the canonical Wnt pathway. Wnt7a mutant mice do not express MIS RII, and do not experience Mullerian duct regression (7).

PRODUCT SPECIFIC NOTICES

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