

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Inhibin alpha chain in direct ELISAs. In sandwich immunoassays, this antibody captures the human Inhibin alpha chain and detects either human Inhibin A or human Inhibin B based on the detection antibody.                                                   |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 130408R                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from cell culture supernatant                                                                                                                                                                                                                       |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human Inhibin alpha chain<br>Accession # P05111                                                                                                                                                                     |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**ELISA** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Activin and Inhibin are members of the TGF- $\beta$  superfamily of cytokines and are involved in a wide range of biological processes including tissue morphogenesis and repair, fibrosis, inflammation, neural development, hematopoiesis, reproductive system function, and carcinogenesis (1-7). Activin and Inhibin are produced as precursor proteins. Their amino terminal propeptides are proteolytically cleaved and facilitate formation of disulfide-linked dimers of the bioactive proteins (8, 9). Activins are nonglycosylated homodimers or heterodimers of various  $\beta$  subunits ( $\beta$ A,  $\beta$ B,  $\beta$ C, and  $\beta$ E in mammals), while Inhibins are heterodimers of a unique  $\alpha$  subunit and one of the  $\beta$  subunits. Activin A is a widely expressed homodimer of two  $\beta$ A chains. The  $\beta$ A subunit can also heterodimerize with a  $\beta$ B or  $\beta$ C subunit to form Activin AB and Activin AC, respectively (10). The 14 kDa mature human  $\beta$ A chain shares 100% amino acid sequence identity with bovine, feline, mouse, porcine, and rat  $\beta$ A. Activin A exerts its biological activities by binding to the type 2 serine/threonine kinase Activin RIIA which then noncovalently associates with the type 1 serine/threonine kinase Activin RIB/ALK-4 (7, 11). Signaling through this receptor complex leads to Smad activation and regulation of activin-responsive gene transcription (7, 11). The bioactivity of Activin A is regulated by a variety of mechanisms (11). BAMBI, Betaglycan, and Cripto are cell-associated molecules that function as decoy receptors or limit the ability of Activin A to induce receptor complex assembly (12-14). The intracellular formation of Activin A can be prevented by the incorporation of the  $\beta$ A subunit into Activin AC or Inhibin A (3, 10). And the bioavailability of Activin A is restricted by its incorporation into inactive complexes with  $\alpha$ 2-Macroglobulin, Follistatin, and FLRG (15, 16).

## PRODUCT SPECIFIC NOTICES

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