

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Nodal in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Nodal His245-Leu354 Accession # P43021
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.

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

Nodal is a secreted protein that is a member of the Transforming Growth Factor- β (TGF- β) superfamily. Nodal was named for its localized expression in the mouse node during gastrulation, and is first detected in the early primitive streak during mesoderm formation. Expression of the Nodal gene occurs asymmetrically in the left, but not right, lateral plate during somitogenesis. Nodal proteins play crucial roles in mesoderm formation and both anterior-posterior and left-right axis formation during vertebrate development. Members of the Nodal gene family include mouse Nodal, chick cNR-1, frog Xnr1-4, and zebrafish cyclops. Biologically active Nodal is a disulfide-linked homodimer and contains all seven of the cysteine residues necessary for formation of the "cysteine knot" characteristic of TGF- β -related molecules. Mouse Nodal is 34 - 39% homologous in the conserved region to other TGF- β superfamily members. Nodal has been shown to signal through a mechanism related to the Activin pathway, and signaling is mediated through both Smad2 and 3. Nodal signaling utilizes type II Activin receptors, together with ALK4/ActRIB, or the orphan type I receptor ALK7. Nodal interacts extracellularly with members of other protein families, including Cerberus, Lefty, and EGF-CFC ligands, such as Cripto. While the Cerberus and Lefty families act as Nodal antagonists, the EGF-CFC molecules act as co-receptors to facilitate Nodal signaling. The resulting concert of regulated Nodal activity allows for the precise control of mesoderm formation, neural patterning, and axis positioning and patterning during early vertebrate development.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.