Human Nodal Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 784410

Catalog Number: FAB3218T

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Nodal in ELISAs. In direct ELISAs, 100% cross-reactivity with recombinant mouse Nodal is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 784410
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Nodal His238-Leu347 Accession # Q96S42
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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 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

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