

## Recombinant Mouse Nodal

**Cat. No.** NODAL-28M    **Lot. No.** (See product label)

### SPECIFICATION

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>        | Recombinant Mouse Nodal(His245Leu354) fused with an Nterminal Met, was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Species</b>                 | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source</b>                  | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description</b>             | <p>Nodal is a secreted protein that is a member of the Transforming Growth Factor<math>\beta</math> (TGF<math>\beta</math>) 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 anteriorposterior and leftright axis formation during vertebrate development. Members of the Nodal gene family include mouse Nodal, chick cNR1, frog Xnr14, 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<math>\beta</math>related molecules. Mouse Nodal is 34-39% homologous in the conserved region to other TGF<math>\beta</math> 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.</p> |
| <b>Endotoxin</b>               | <1.0 EU per 1 $\mu$ g of the protein by the LAL method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Predicted MolecularMass</b> | 13 kDa (monomer)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                             |                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------|
| <b>Predicted N terminal</b> | Met                                                                                      |
| <b>Formulation</b>          | Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA.                     |
| <b>Purity</b>               | >97%, by SDSPAGE under reducing conditions and visualized by silver stain.               |
| <b>Storage</b>              | 1 year from date of receipt, 20 to 70 °C as supplied. Avoid repeated Freeze/thaw cycles. |
| <b>OfficialSymbol</b>       | Nodal                                                                                    |

## GENE INFORMATION

|                            |                                                                          |
|----------------------------|--------------------------------------------------------------------------|
| <b>Gene Name</b>           | <a href="#">Nodal nodal [ Mus musculus ]</a>                             |
| <b>Synonyms</b>            | Tg.413d; nodal; transgenic lethal 413.d; early embryo mesoderm formation |
| <b>Gene ID</b>             | <a href="#">18119</a>                                                    |
| <b>mRNA Refseq</b>         | <a href="#">NM_013611</a>                                                |
| <b>Protein Refseq</b>      | <a href="#">NP_038639</a>                                                |
| <b>MIM</b>                 | <a href="#">97359</a>                                                    |
| <b>UniProt ID</b>          | <a href="#">P43021</a>                                                   |
| <b>Chromosome Location</b> | 10 B4                                                                    |
| <b>Pathway</b>             | Developmental Biology; PluriNetWork; Regulation of Signaling by NODAL    |

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**Function**

cytokine activity; growth factor activity; protein binding; receptor agonist activity; type I activin receptor binding

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