

# Human Lefty2 / Lefty A Protein (Fc Tag)

Catalog Number: 10248-H01H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

EBAF; LEFTA; LEFTYA; TGFB4

### Protein Construction:

A DNA sequence encoding the mature form of human LeftyA (NP\_003231.2) (Phe 78-Pro 366) was fused with the Fc region of human IgG1 at the N-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to inhibit recombinant human BMP4 induced alkaline phosphatase production by MC3T3-E1 cells. The ED<sub>50</sub> for this effect is typically 4-16 µg/mL in the presence of 50 ng/mL of recombinant human BMP4.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Glu 20

### Molecular Mass:

The recombinant human LeftyA/Fc is a disulfide-linked homodimer. The reduced monomer consists of 526 amino acids and has a predicted molecular mass of 58.8 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh LeftyA/Fc monomer is approximately 70 kDa due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

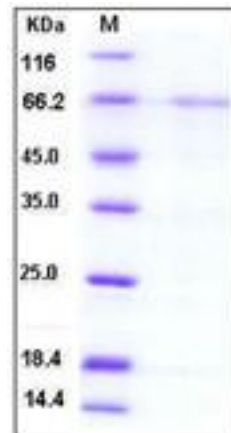
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

left-right determination factor 2 (Lefty2), also known as Left-right determination factor A (Lefty A), endometrial bleeding associated factor (left-right determination, factor A transforming growth factor beta superfamily), and Transforming growth factor beta-4, is a member of the TGF-beta family of proteins. This protein is secreted and plays a role in left-right asymmetry determination of organ systems during development. Lefty2/Lefty A may also play a role in endometrial bleeding. Mutations in Lefty2/Lefty A have been associated with left-right axis malformations, particularly in the heart and lungs. Some types of infertility have been associated with dysregulated expression of this gene in the endometrium. Alternative processing of this protein can yield three different products. Depletion of both Lefty1 and Lefty2 causes unchecked Nodal signaling, expansion of mesendoderm, and loss of ectoderm. The expansion of mesendoderm correlates with an extended period of rapid cellular internalization and a failure of deep-cell epiboly. The gastrulation defects of embryos depleted of Lefty1 and Lefty2 result from the deregulation of Squint signaling.

## References

1. Feldman B, *et al.* (2002) Lefty antagonism of Squint is essential for normal gastrulation. *Curr Biol.* 12(24): 2129-35.
2. Meno C, *et al.* (1999) Mouse Lefty2 and zebrafish antivin are feedback inhibitors of nodal signaling during vertebrate gastrulation. *Mol Cell.* 4(3): 287-98.
3. Meno C, *et al.* (2001) Diffusion of nodal signaling activity in the absence of the feedback inhibitor Lefty2. *Dev Cell.* 1(1): 127-38.

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