

## DESCRIPTION

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived human Jagged 1 protein		
	Human Jagged 1 (Ser32-Ile335) Accession # P78504	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence</b>	Ser32		
<b>Analysis</b>			
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	61 kDa		

## SPECIFICATIONS

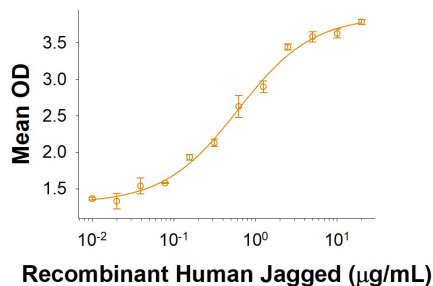
<b>SDS-PAGE</b>	72-80 kDa, reducing conditions
<b>Activity</b>	Measured by the ability of the immobilized protein to enhance BMP-2 induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. Nobta, M. <i>et al.</i> (2005) J. Biol. Chem. <b>280</b> :15842. The ED <sub>50</sub> for this effect is 0.3-1.8 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 1 mg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

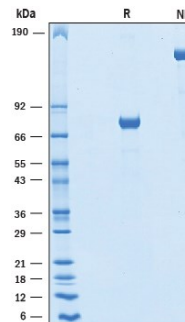
## DATA

### Bioactivity



Immobilized Recombinant Human Jagged 1 N-Terminal Fc Chimera (Catalog # 10111-JG) enhances Recombinant Human/Mouse/Rat BMP-2 (Catalog # 355-BM) induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. The ED<sub>50</sub> for this effect is 0.3-1.8 µg/mL.

### SDS-PAGE



2 µg/lane of Recombinant Human Jagged 1 N-Terminal Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 72-80 kDa and 140-160 kDa, respectively.

## BACKGROUND

Jagged 1 is a 180 kDa type I transmembrane glycoprotein and member of the Delta-Serrate-Lag-2 (DSL) family of ligands that activate LIN12/Notch proteins. Human Jagged 1 is synthesized as a 1218 amino acid (aa) precursor that contains a 33 aa signal sequence, a 1034 aa extracellular domain (ECD), a 26 aa transmembrane segment, and a 125 aa cytoplasmic region. The ECD contains a DSL domain (aa 185-229), a cysteine-rich region, 15 EGF-like repeats, of which many bind calcium, and nine potential sites for N-linked glycosylation. This product is an N-terminal ECD fragment that includes DSL domain and the first 3 EGF-like domains. Mature human Jagged 1 is 97% and 96% aa identical to mature mouse and rat Jagged 1, respectively. Jagged 1 is widely expressed in adult and fetal tissues. Jagged-Notch signaling specifies cell fate, regulates pattern formation, defines boundaries between different cell types, and modulates cell proliferation and differentiation, especially during hematopoiesis, myogenesis, neurogenesis, and development of vasculature (1-8). Mutations in human Jagged 1 are the cause of Alagille syndrome, an autosomal-dominant disorder characterized by intrahepatic cholestasis and abnormalities of heart, eye, vertebrae, as well as characteristic facial appearance (9, 10).

## References:

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