

Recombinant Human HtrA Serine Peptidase 1, His-tagged

Cat. No. HTRA1-2015H Lot. No. (See product label)

SPECIFICATION

Product Overview

Recombinant human HtrA1 is expressed in insect cells with a C-terminal His-tag and purified from *insect cell* culture supernatants.

Species

Human

Source

Insect Cells

Description

Secreted human HtrA1 serine protease is supposed to form oligomers of identical protein chains as revealed by X-ray analysis for the bacterial HtrA protein DegP. Polypeptide chains of human HtrA1 consist of several domains: An N-terminal insulin-like growth factor domain is followed by a Kazal-type serine protease inhibitor domain, a linker region, a trypsin-like protease domain and a PDZ domain. The function of HtrA1 appears closely linked to signaling by proteins of the TGF β family [3]. During mouse embryo development HtrA1 is localized in specific areas where signaling by TGF β family proteins occurs. HtrA1 binds TGF β , BMP4, Gdf5 and activin. It inhibits signaling by these factors. For inhibition serine protease activity of HtrA1 is essential. HtrA1 is upregulated in osteoarthritic cartilage. Increased cartilage HtrA1 may possibly aggravate osteoarthritis by antagonizing TGF β and thereby promoting terminal differentiation of articular chondrocytes. In later stages of tumor progression HtrA1 is downregulated.

Purity

Recombinant HtrA1 appears as a major protein of about 53 kDa in SDS-PAGE (> 80 % of total protein). Minor bands of HtrA1 fragments may be visible in the enzyme preparation.

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Molecular Form	The calculated Mr of secreted HtrA1 is 50 kDa. HtrA1 is solublized in 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 5 mM CaCl ₂ , 0.05 % Brij-35.
Enzymatic Activity	Proteolytic activity of recombinant human HtrA1 is documented by digestion of β -casein. 0.5 mg β -casein/ml are completely digested by 5 Bg/ml HtrA1 within 3 hours at 37°C.
Applications	Recombinant HtrA1 allows detailed studies of the structure and function of this protease. The enzyme is used to screen for inhibitors and to characterise inhibitor actions. Recombinant HtrA1 can also serve as standard in enzymatic and immunochemical assays.
Stability And Storage	Recombinant human HtrA1 is stable until the expiry date given on the label when stored at -70 °C. Repeated freezing and thawing should be avoided.

GENE INFORMATION

Gene Name	HTRA1 HtrA serine peptidase 1 [Homo sapiens]
Synonyms	HtrA serine peptidase 1; L56; HtrA; ARMD7; ORF480; PRSS11; HTRA1; serine protease HTRA1; IGFBP5-protease; protease, serine, 11 (IGF binding); HTRA; Serine protease 11; EC 3.4.21.-
Gene ID	5654
mRNA Refseq	NM_002775
Protein Refseq	NP_002766
MIM	602194

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UniProt ID	Q92743
Chromosome Location	10q26.3
Function	insulin-like growth factor binding; peptidase activity; serine-type endopeptidase activity

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