

# HtrA2 (1B3): sc-58371

## BACKGROUND

The human homolog of the *E. coli* htrA gene product, HtrA, is identified in osteoarthritic cartilage and is repressed in SV40-transformed fibroblast. The gene encoding HtrA protein is highly conserved among mammalian species and belongs to the serine protease family. The HtrA protein contains an IGF-binding domain and exhibits endoproteolytic activity, including autocatalytic cleavage. HtrA is a secreted protein that is expressed in heterologous systems. HtrA plays a role in the degradation of denatured proteins and cell growth regulation. Human HtrA2 (also designated Omi), a novel member of the HtrA serine protease family, is highly homologous to HtrA (also known as L56 and HtrA1). HtrA2 is an ubiquitously expressed nuclear protease that is capable of autoproteolysis. The HtrA2 protein exists as two polypeptides and as an alternatively spliced form called D-Omi, which is predominately expressed in the kidney, colon and thyroid. Due to a modified PDZ domain, D-Omi does not interact with the known partner of HtrA2, the Mxi2 protein. Like HtrA, HtrA2 is involved in the degradation aberrantly folded proteins during conditions of cellular stress, suggesting that it may possess a chaperone-like role under normal conditions.

## REFERENCES

- Zumbrunn, J. and Trueb, B. 1996. Primary structure of a putative serine protease specific for IGF-binding proteins. *FEBS Lett.* 398: 187-192.
- Hu, S.I., et al. 1998. Human HtrA, an evolutionarily conserved serine protease identified as a differentially expressed gene product in osteoarthritic cartilage. *J. Biol. Chem.* 273: 34406-34412.
- Gray, C.W., et al. 2000. Characterization of human HtrA2, a novel serine protease involved in the mammalian cellular stress response. *Eur. J. Biochem.* 267: 5699-5710.
- Faccio, L., et al. 2000. Tissue-specific splicing of Omi stress-regulated endoprotease leads to an inactive protease with a modified PDZ motif. *Genomics* 68: 343-347.
- Savopoulos, J.W., et al. 2000. Expression, purification, and functional analysis of the human serine protease HtrA2. *Protein Expr. Purif.* 19: 227-234.

## CHROMOSOMAL LOCATION

Genetic locus: HTRA2 (human) mapping to 2p13.1; Htra2 (mouse) mapping to 6 C3.

## SOURCE

HtrA2 (1B3) is a mouse monoclonal antibody raised against recombinant HtrA2 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

HtrA2 (1B3) is recommended for detection of HtrA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

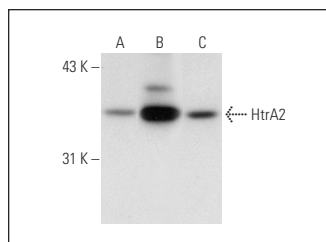
Suitable for use as control antibody for HtrA2 siRNA (h): sc-35615, HtrA2 siRNA (m): sc-35616, HtrA2 shRNA Plasmid (h): sc-35615-SH, HtrA2 shRNA Plasmid (m): sc-35616-SH, HtrA2 shRNA (h) Lentiviral Particles: sc-35615-V and HtrA2 shRNA (m) Lentiviral Particles: sc-35616-V.

Molecular Weight of HtrA2 precursor: 50 kDa.

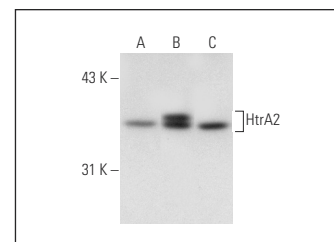
Molecular Weight of HtrA2 processed forms: 38/40 kDa.

Positive Controls: HtrA2 (h): 293T Lysate: sc-158627, MCF7 whole cell lysate: sc-2206 or HL-60 whole cell lysate: sc-2209.

## DATA



HtrA2 (1B3): sc-58371. Western blot analysis of HtrA2 expression in non-transfected 293T: sc-117752 (A), human HtrA2 transfected 293T: sc-158627 (B) and HL-60 (C) whole cell lysates.



HtrA2 (1B3): sc-58371. Western blot analysis of HtrA2 expression in non-transfected 293T: sc-117752 (A), human HtrA2 transfected 293T: sc-172855 (B) and HL-60 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Berges, C., et al. 2009. Proteasome inhibition activates the mitochondrial pathway of apoptosis in human CD4<sup>+</sup> T cells. *J. Cell. Biochem.* 108: 935-496.
- Iwaniuk, A., et al. 2015. Expression of selected proteins of the extrinsic and intrinsic pathways of apoptosis in human leukocytes exposed to N-nitrosodimethylamine. *Hum. Exp. Toxicol.* 34: 591-600.
- Liu, W., et al. 2018. Olfactomedin 4 contributes to hydrogen peroxide-induced NADPH oxidase activation and apoptosis in mouse neutrophils. *Am. J. Physiol. Cell Physiol.* 315: C494-C501.
- You, H., et al. 2020. Mitochondrial serine protease Omi/HtrA2 accentuates brain ischemia/reperfusion injury in rats and oxidative stress injury *in vitro* by modulating mitochondrial stress proteins CHOP and ClpP and physically interacting with mitochondrial fusion protein OPA1. *Bioengineered* 11: 1058-1070.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.