SANTA CRUZ BIOTECHNOLOGY, INC.

HtrA2 (E-3): sc-365594

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 a 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

1. Zumbrunn, J. and Trueb, B. 1996. Primary structure of a putative serine protease specific for IGF-binding proteins. FEBS Lett. 398: 187-192.
2. 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.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: HTRA2 (human) mapping to 2p13.1.

SOURCE

HtrA2 (E-3) is a mouse monoclonal antibody raised against amino acids 341-400 of HtrA2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HtrA2 (E-3) is available conjugated to agarose (sc-365594 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365594 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365594 PE), fluorescein (sc-365594 FITC), Alexa Fluor® 488 (sc-365594 AF488), Alexa Fluor® 546 (sc-365594 AF546), Alexa Fluor® 594 (sc-365594 AF594) or Alexa Fluor® 647 (sc-365594 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365594 AF680) or Alexa Fluor® 790 (sc-365594 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

HtrA2 (E-3) is recommended for detection of HtrA2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of HtrA2 precursor: 50 kDa.

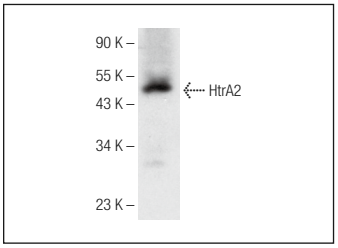
Molecular Weight of HtrA2 processed forms: 38/40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or COLO 320DM cell lysate: sc-2226.

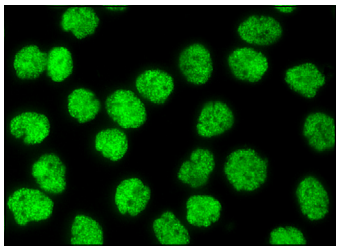
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HtrA2 (E-3): sc-365594. Western blot analysis of HtrA2 expression in Jurkat whole cell lysate.



HtrA2 (E-3): sc-365594. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Chen, Q., et al. 2023. Cathepsin H knockdown reverses radioresistance of hepatocellular carcinoma via metabolic switch followed by apoptosis. Int. J. Mol. Sci. 24: 5257.

STORAGE

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