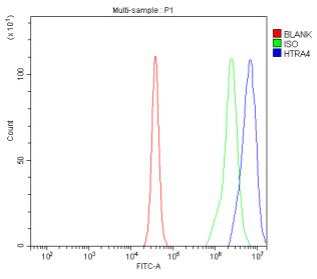
HTRA4 Antibody / Serine protease HTRA4 (FY13227)

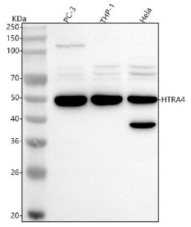
Catalog No.	Formulation	Size
FY13227	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P83105
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This HTRA4 antibody is available for research use only.



Flow Cytometry analysis of Daudi cells using anti-HTRA4 antibody. Overlay histogram showing Daudi cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-HTRA4 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of HTRA4 using anti-HTRA4 antibody. Lane 1: human PC-3 whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human Hela whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-HTRA4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The expected molecular weight of HTRA4 is ~51 kDa.

Description

HTRA4 antibody detects Serine protease HTRA4, a member of the high-temperature requirement A (HTRA) family of serine proteases involved in protein quality control, stress response, and apoptosis. The UniProt recommended name is Serine protease HTRA4 (HTRA4). This enzyme participates in proteolytic degradation of misfolded or damaged proteins and contributes to cellular stress adaptation, particularly in placental and cardiovascular tissues.

Functionally, HTRA4 antibody identifies a 476-amino-acid secreted and intracellular protease that possesses both trypsin-like catalytic activity and PDZ domain-mediated substrate recognition. HTRA4 cleaves misfolded or aggregated proteins to maintain proteostasis and prevent cellular toxicity. It is expressed primarily in the placenta, where it regulates trophoblast differentiation and contributes to placental remodeling. Additionally, HTRA4 can influence mitochondrial homeostasis and apoptosis by degrading components of the mitochondrial protein import machinery during stress conditions.

The HTRA4 gene is located on chromosome 8p13.3 and is highly expressed in placental trophoblasts, heart, and lung. Its expression increases during pregnancy and hypoxia, reflecting roles in stress response and tissue remodeling. Like other HTRA proteases, HTRA4 combines chaperone-like and proteolytic activities to ensure proper protein folding and clearance.

Pathologically, elevated HTRA4 levels have been linked to preeclampsia, where excessive proteolytic activity contributes to endothelial dysfunction and vascular injury. Dysregulation may also play a role in cardiac remodeling, pulmonary hypertension, and neurodegenerative disease by altering extracellular matrix integrity and stress signaling. Research using HTRA4 antibody supports studies in placental biology, protease function, and oxidative stress response.

HTRA4 antibody is validated for western blotting, immunohistochemistry, and ELISA to detect serine proteases involved in protein homeostasis. NSJ Bioreagents provides HTRA4 antibody reagents optimized for studies in stress regulation, apoptosis, and proteostasis pathways.

Structurally, Serine protease HTRA4 contains an N-terminal signal peptide, a trypsin-like catalytic domain with the conserved serine-histidine-aspartate triad, and a C-terminal PDZ domain that mediates substrate recognition and oligomerization. These structural features enable substrate-specific proteolysis and regulated activation under stress. This antibody facilitates analysis of HTRA4's function in proteostasis, placental health, and cardiovascular pathology.

Application Notes

Optimal dilution of the HTRA4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human HTRA4 recombinant protein (Position: A31-D464) was used as the immunogen for the HTRA4 antibody.

Storage

After reconstitution, the HTRA4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.