

Polyserase-1 (A-15): sc-83001

BACKGROUND

Polyserase-1, also known as TMPRSS9 (transmembrane protease, serine 9), is a 1,059 amino acid single-pass type II membrane protein that contains one LDL-receptor class A domain and 3 peptidase S₁ domains. Expressed in both fetal and human brain, kidney, liver and lung, Polyserase-1 exists as a precursor that is cleaved into three functional chains, designated Serase-1, Serase-2 and Serase-3, the first two of which function as serine proteases that hydrolyze specific peptide residues. Although the three chains may exist independently, they may also be linked via disulfide bonds and are subject to functional inhibition by PMSF and 4-(2-aminoethyl)benzenesulfonyl fluoride, both of which are serine protease inhibitors. Human Polyserase-1 shares 80% sequence identity with its mouse counterpart, suggesting a conserved role between species.

REFERENCES

1. Del Rosso, M., Fibbi, G., Pucci, M., D'Alessio, S., Del Rosso, A., Magnelli, L. and Chiarugi, V. 2002. Multiple pathways of cell invasion are regulated by multiple families of serine proteases. *Clin. Exp. Metastasis* 19: 193-207.
2. Cal, S., Quesada, V., Garabaya, C. and Lopez-Otin, C. 2003. Polyserase-1, a human polyprotease with the ability to generate independent serine protease domains from a single translation product. *Proc. Natl. Acad. Sci. USA* 100: 9185-9190.
3. Okumura, Y., Hayama, M., Takahashi, E., Fujiuchi, M., Shimabukuro, A., Yano, M. and Kido, H. 2006. Serase-1B, a new splice variant of polyserase-1/TMPRSS9, activates urokinase-type plasminogen activator and the proteolytic activation is negatively regulated by glycosaminoglycans. *Biochem. J.* 400: 551-561.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610477. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Qiu, D., Owen, K., Gray, K., Bass, R. and Ellis, V. 2007. Roles and regulation of membrane-associated serine proteases. *Biochem. Soc. Trans.* 35: 583-587.

CHROMOSOMAL LOCATION

Genetic locus: TMPRSS9 (human) mapping to 19p13.3; Tmprss9 (mouse) mapping to 10 C1.

SOURCE

Polyserase-1 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Polyserase-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83001 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Polyserase-1 (A-15) is recommended for detection of Polyserase-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with family members Polyserase-2 or Polyserase-3.

Polyserase-1 (A-15) is also recommended for detection of Polyserase-1 in additional species, including canine.

Suitable for use as control antibody for Polyserase-1 siRNA (h): sc-76195, Polyserase-1 siRNA (m): sc-76196, Polyserase-1 shRNA Plasmid (h): sc-76195-SH, Polyserase-1 shRNA Plasmid (m): sc-76196-SH, Polyserase-1 shRNA (h) Lentiviral Particles: sc-76195-V and Polyserase-1 shRNA (m) Lentiviral Particles: sc-76196-V.

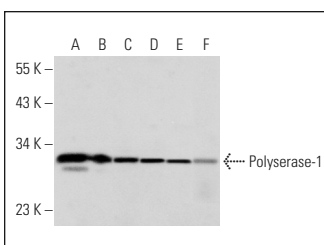
Molecular Weight of Polyserase-1 precursor: 115 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, CCRF-CEM cell lysate: sc-2225 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Polyserase-1 (A-15): sc-83001. Western blot analysis of Polyserase-1 expression in KNRK (A), WEHI-231 (B), CCRF-CEM (C), NTERA-2 cl.D1 (D) and Jurkat (E) whole cell lysates and human testis tissue extract (F).

STORAGE

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

RESEARCH USE

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