

Oma1 (P-19): sc-168844

BACKGROUND

Oma1 (OMA1 homolog, zinc metallopeptidase (*S. cerevisiae*)), also known as MPRP-1 or ZMPOMA1, is a 521 amino acid mitochondrial protease that belongs to the peptidase M48 family. Oma1 is an integral part of the inner membrane, and it functions to mediate the proteolytic breakdown of a misfolded derivative of the polytopic inner membrane protein OXA1. Oma1 is a novel component of the quality control system in the inner membrane of mitochondria. The gene encoding Oma1 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Hooper, N.M. 1994. Families of zinc metalloproteases. FEBS Lett. 354: 1-6.
2. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. Am. J. Hum. Genet. 69: 428-433.
3. Bao, Y.C., et al. 2003. Identification of a human cDNA sequence which encodes a novel membrane-associated protein containing a zinc metalloprotease motif. DNA Res. 10: 123-128.
4. Kaser, M., et al. 2003. Oma1, a novel membrane-bound metallopeptidase in mitochondria with activities overlapping with the m-AAA protease. J. Biol. Chem. 278: 46414-46423.

CHROMOSOMAL LOCATION

Genetic locus: OMA1 (human) mapping to 1p32.2; Oma1 (mouse) mapping to 4 C6.

SOURCE

Oma1 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Oma1 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-168844 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Oma1 (P-19) is recommended for detection of Oma1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Oma1 (P-19) is also recommended for detection of Oma1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Oma1 siRNA (h): sc-78998, Oma1 siRNA (m): sc-151297, Oma1 shRNA Plasmid (h): sc-78998-SH, Oma1 shRNA Plasmid (m): sc-151297-SH, Oma1 shRNA (h) Lentiviral Particles: sc-78998-V and Oma1 shRNA (m) Lentiviral Particles: sc-151297-V.

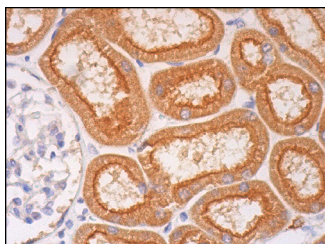
Molecular Weight of Oma1 precursor: 60 kDa.

Molecular Weight of cleaved Oma1: 40 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Oma1 (P-19): sc-168844. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

RESEARCH USE

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

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Try **Oma1 (H-11): sc-515788**, our highly recommended monoclonal alternative to Oma1 (P-19).