

MMP-23 (D-14): sc-27048

BACKGROUND

Matrix metalloproteinases (MMPs) are highly homologous Zn²⁺ endopeptidases involved in extracellular matrix breakdown. MMP mediated extracellular remodeling occurs in normal physiological processes, such as embryonic development, reproduction and tissue remodeling, and disease processes, including arthritis and metastasis. MMP-23 exhibits sequence similarity with most MMPs, but displays a difference in domain structure. The MMP-23 protein contains prepro-, catalytic, cysteine-rich, Interleukin-1 receptor-related and proline-rich domains. Lacking a recognizable signal sequence, MMP-23 has a short prodomain. In addition, MMP-23 contains a single cysteine residue that can be part of the cysteine-switch mechanism operation for maintaining enzyme latency. MMP-23 is a membrane-anchored glycoprotein with type II topology. Subcellular localization is predominantly perinuclear. A dramatic switch in MMP-23 mRNA localization from granulosa cells to theca-externa/fibroblasts and ovarian surface epithelium occurs during follicular development. MMP-23 is expressed in ovary, testis and prostate, suggesting that MMP-23 plays a specialized role in the reproductive processes. The human MMP-23 gene maps to chromosome 1p36.33.

REFERENCES

- Birkedal-Hansen, H., Moore, W.G., Bodden, M.K., Windsor, L.J., Birkedal-Hansen, B., DeCarlo, A. and Engler, J.A. 1993. Matrix metalloproteinases: a review. *Crit. Rev. Oral. Biol. Med.* 2: 197-250.
- Gururajan R., Grenet, J., Lahti, J.M. and Kidd, V.J. 1998. Isolation and characterization of two novel metalloproteinase genes linked to the Cdc2L locus on human chromosome 1p36.3. *Genomics* 1: 101-106.
- Velasco, G., Pendas, A.M., Fueyo, A., Knauper, V., Murphy, G. and Lopez-Otin, C. 1999. Cloning and characterization of human MMP-23, a new matrix metalloproteinase predominantly expressed in reproductive tissues and lacking conserved domains in other family members. *J. Biol. Chem.* 8: 4570-4576.
- Ohnishi, J., Ohnishi, E., Jin, M., Hirano, W., Nakane, D., Matsui, H., Kimura, A., Sawa, H., Nakayama, K., Shibuya, H., Nagashima, K. and Takahashi, T. 2001. Cloning and characterization of a rat ortholog of MMP-23 (matrix metalloproteinase-23), a unique type of membrane-anchored matrix metalloproteinase and conditioned switching of its expression during the ovarian follicular development. *Mol. Endocrinol.* 5: 747-764.
- LocusID: 118856. <http://www.ncbi.nlm.nih.gov/LocusLink>

CHROMOSOMAL LOCATION

Genetic locus: MMP23B (human) mapping to 1p36.33; Mmp23 (mouse) mapping to 4 E2.

SOURCE

MMP-23 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MMP-23 of human origin.

STORAGE

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

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-27048 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MMP-23 (D-14) is recommended for detection of MMP-23 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MMP-23 (D-14) is also recommended for detection of MMP-23 in additional species, including canine, bovine and porcine.

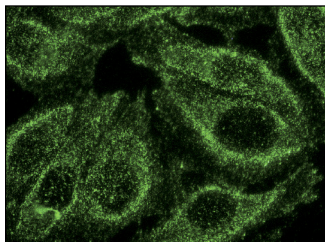
Suitable for use as control antibody for MMP-23 siRNA (h): sc-41563, MMP-23 siRNA (m): sc-41564, MMP-23 shRNA Plasmid (h): sc-41563-SH, MMP-23 shRNA Plasmid (m): sc-41564-SH, MMP-23 shRNA (h) Lentiviral Particles: sc-41563-V and MMP-23 shRNA (m) Lentiviral Particles: sc-41564-V.

Positive Controls: A-375 cell lysate: sc-3811.

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.

DATA



MMP-23 (D-14): sc-27048. Immunofluorescence staining of methanol-fixed A-375 cells showing cytoplasmic localization.

RESEARCH USE

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