



Qty: 100 µg/200 µL

Mouse anti-MMP-2

Catalog No.: 436000

Mouse anti-MMP-2

FORM

This affinity-purified mouse monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

Clone: 101

Isotype: IgG1

IMMUNOGEN

Recombinant protein derived from the N-terminus of human MMP-2 protein (accession # P08253, NP_004521), which is identical to Rhesus monkey and chimpanzee and 98% similar to rat and rabbit and 97% to mouse.

SPECIFICITY

This antibody is specific for human MMP-2 (Matrix metalloproteinase-2, 72 kDa type IV collagenase [precursor], 72 kDa gelatinase, Gelatinase A, TBE-1) protein. On Western blots of human CCD 1070 culture supernatant, it identifies the target band at ~72 kDa.

REACTIVITY

Reactivity has been confirmed with supernatant from human CCD 1070 cells and lysates as well as supernatant from PMA activated human HT 1080 cells, using Western blotting. This antibody detects both proenzyme MMP-2 (~72 kDa) and the cleaved active MMP-2 (~64 kDa) by Western blotting with human A431 cell lysates. The reactivity has also been confirmed with human CCD 1070 supernatant using immunoprecipitation. Based on amino acid sequence homology, reactivity with Rhesus monkey, chimpanzee, rat, rabbit and mouse, is also expected.

Sample	Western Blotting	Immunoprecipitation
Human	+++	+++
Monkey (Rhesus)	ND	ND
Chimpanzee	ND	ND
Rat	ND	ND
Rabbit	ND	ND
Mouse	ND	ND

(Excellent +++, Good ++, Poor +, No reactivity 0, Not applicable N/A, Not determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 2 µg/mL

Immunoprecipitation: 5 µg/IP reaction

(cont')

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STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

BACKGROUND

MMP-2, also known as gelatinase A or 72 kDa type IV collagenase is a member of the matrix metalloproteinase (MMP) family, composed of at least 25 secreted and membrane-bound zinc-dependent endopeptidases.¹ Although precise physiological activators of MMPs are unknown, a variety of Serine proteinases and other MMPs in the extracellular environment execute the initial propeptide cleavage events. Loss of negative growth regulation and high invasive potential are neoplastic traits often associated with abnormal expression of MMPs.^{1,2}

MMP-2 plays an important role in processes mediating the degradation of the extracellular matrix (ECM), inflammation, tissue repair, bone elongation, embryo development, tumor invasion and metastasis. Besides a catalytic domain, MMP-2 and the closely related MMP-9 (gelatinase B, 92 kDa type IV collagenase) contain a hemopexin-like domain and – unique among the metalloproteinases– three in-tandem fibronectin type II (FII) modules which are inserted in their catalytic domain in the vicinity of the active site.^{3,4}

The exposure of multiple independent binding sites is expected to facilitate MMP-2 to “crawl” through the dense extracellular environment, as the concomitant action of three weakly interactive FII modules should guarantee that MMP-2 preserves the requisite diffusional mobility while remaining in close proximity to its tissue targets.⁴

REFERENCES

1. Ellerbroek SM et al. *J Biol Chem* 276(27):24833-42, 2001.
2. Briknarova K et al. *J Biol Chem* 276(29):27613-21, 2001.
3. Muir D *Clin Exp Metastasis* 13 (4): 303-314,1995.
4. Dive V et al. *Int J Cancer* 113 (5):775-781,2004.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

Conjugate	Goat anti-rabbit IgG (H+L)	Goat anti-mouse IgG (H+L)	Ex/Em*	Fluorescence similar to--
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

*Excitation/emission (nm); **Not applicable

For additional secondary antibody conjugates, visit www.invitrogen.com/antibodies

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