

Rabbit Anti-MMP-2/APC Conjugated antibody

SL4599R-APC

Product Name	Anti-MMP-2/APC
Chinese Name	APC 标记的基质金属蛋白酶 2 抗体
Alias	MMP2; MMP 2; 72 kDa gelatinase; 72kD type IV collagenase; CLG 4; CLG 4A; CLG4; CLG4A; Collagenase Type 4 alpha; Collagenase type IV A; Gelatinase A; Gelatinase alpha; Gelatinase neutrophil; Matrix metalloproteinase 2 gelatinase A 72kDa gelatinase 72kDa type IV collagenase; Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase); Matrix Metalloproteinase 2; Matrix metalloproteinase II; MMP 2; MMP II; MONA; Neutrophil gelatinase; TBE 1.
Research Area	Tumour immunology Neurobiology Synthesis and Degradation
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human(predicted:Mouse,Rat,Pig,Cow,Horse,Rabbit,Sheep) Flow-Cyt=1µg/Test,IF=1:100-500,ICC/IF=1:100-500
Applications	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	62kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human MMP-2
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Storage	
Product Detail	background: This gene is a member of the matrix metalloproteinase (MMP) gene family, that are zinc-dependent enzymes capable of cleaving components of the

extracellular matrix and molecules involved in signal transduction. The protein encoded by this gene is a gelatinase A, type IV collagenase, that contains three fibronectin type II repeats in its catalytic site that allow binding of denatured type IV and V collagen and elastin. Unlike most MMP family members, activation of this protein can occur on the cell membrane. This enzyme can be activated extracellularly by proteases, or, intracellularly by its S-glutathiolation with no requirement for proteolytical removal of the pro-domain. This protein is thought to be involved in multiple pathways including roles in the nervous system, endometrial menstrual breakdown, regulation of vascularization, and metastasis. Mutations in this gene have been associated with Winchester syndrome and Nodulosis-Arthropathy-Osteolysis (NAO) syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Oct 2014]

Function:

Ubiquitous metalloproteinase that is involved in diverse functions such as remodeling of the vasculature, angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. As well as degrading extracellular matrix proteins, can also act on several nonmatrix proteins such as big endothelial 1 and beta-type CGRP promoting vasoconstriction. Also cleaves KISS at a Gly-|-Leu bond. Appears to have a role in myocardial cell death pathways. Contributes to myocardial oxidative stress by regulating the activity of GSK3beta. Cleaves GSK3beta in vitro. Involved in the formation of the fibrovascular tissues in association with MMP14.

PEX, the C-terminal non-catalytic fragment of MMP2, possesses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrin α /beta3 on the surface of blood vessels.

Isoform 2: Mediates the proteolysis of CHUK/IKKA and initiates a primary innate immune response by inducing mitochondrial-nuclear stress signaling with activation of the pro-inflammatory NF-kappaB, NFAT and IRF transcriptional pathways.

Subunit:

Interacts (via the C-terminal hemopexin-like domains-containing region) with the integrin alpha-V/beta-3; the interaction promotes vascular invasion in angiogenic vessels and melanoma cells. Interacts (via the C-terminal PEX domain) with TIMP2 (via the C-terminal); the interaction inhibits the degradation activity. Interacts with GSK3B.

Subcellular Location:

Isoform 1: Secreted, extracellular space, extracellular matrix. Membrane. Nucleus. Note=Colocalizes with integrin alphaV/beta3 at the membrane surface in angiogenic blood vessels and melanomas. Found in mitochondria,

along microfibrils, and in nuclei of cardiomyocytes.

Isoform 2: Cytoplasm. Mitochondrion.

Tissue Specificity:

Produced by normal skin fibroblasts. PEX is expressed in a number of tumors including gliomas, breast and prostate.

Post-translational modifications:

Phosphorylation on multiple sites modulates enzymatic activity.

Phosphorylated by PKC in vitro.

The propeptide is processed by MMP14 (MT-MMP1) and MMP16 (MT-MMP3). Autocatalytic cleavage in the C-terminal produces the anti-angiogenic peptide, PEX. This processing appears to be facilitated by binding integrin α /beta3.

DISEASE:

Multicentric osteolysis, nodulosis, and arthropathy (MONA) [MIM:259600]:

An autosomal recessive syndrome characterized by severe multicentric osteolysis with predominant involvement of the hands and feet. Additional features include coarse face, corneal opacities, patches of thickened, hyperpigmented skin, hypertrichosis and gum hypertrophy.

{ECO:0000269|PubMed:11431697, disease is caused by mutations affecting the gene represented in this entry.

Similarity:

Belongs to the peptidase M10A family. {ECO:0000305}.

Contains 3 fibronectin type-II domains.

Contains 4 hemopexin repeats.

Database links:

[Entrez Gene: 4313](#) Human

[Entrez Gene: 17390](#) Mouse

[Entrez Gene: 81686](#) Rat

[Omir: 120360](#) Human

[SwissProt: P08253](#) Human

[SwissProt: P33434](#) Mouse

[SwissProt: P33436](#) Rat

[Unigene: 513617](#) Human

[Unigene: 29564](#) Mouse

[Unigene: 6422](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

基质金属蛋白酶(matrix metalloproteinases, MMPs)MMP2 是一族依赖锌离子而降解各种 Extracellular matrix 的蛋白酶，亦称 IV 型胶原酶或称明胶酶 A，其主要功能为降解 IV 型胶原，因而它在 Tumour 细胞突破基底膜屏障和浸润转移中起重要作用。目前主要用于各种恶性 Tumour(如乳腺癌、胃肠道癌、卵巢癌、膀胱癌等)中的基底膜检测与转移浸润的研究。