SunLong Biotech Co.,LTD
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Rabbit Anti-MMP2 antibody

SL0412R

Product Name	MMP2
Chinese Name	基质金属蛋白酶 2 抗体
Alias	MMP-2; 72 kDa gelatinase; 72kD type IV collagenase; CLG 4; CLG 4A; CLG4; CLG4A; Collag alpha; Collagenase type IV A; Gelatinase A; Gelatinase alpha; Gelatinase neutrophil; Matrix me 2 gelatinase A 72kDa gelatinase 72kDa type IV collagenase; Matrix metalloproteinase 2 (gelatin gelatinase, 72kDa type IV collagenase); Matrix Metalloproteinase 2; Matrix metalloproteinase II MMP II; MONA; Neutrophil gelatinase; TBE 1; MMP2_HUMAN.
Research Area	Tumour Cardiovascular Cell biology Neurobiology Cytoskeleton Extracellular matrix
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Chicken, Pig, Cow, Rabbit, Sheep,)
Applications	WB=1:1000-5000,IHC-P=1:200-800,IHC-F=1:200-800,ICC/IF=1:100-500,IF=1:200-800,Flow-（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	72kDa
Cellular localization	The nucleus cytoplasmic The cell membrane Extracellular matrix Secretory protein
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human MMP2: 31-109/476
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or d

applications.

PubMed

PubMed

Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracel
normal physiological processes, such as embryonic development, reproduction, and tissue remod
as in disease processes, such as arthritis and metastasis. Most MMP's are secreted as inactive prop
are activated when cleaved by extracellular proteinases. This gene encodes an enzyme which deg
collagen, the major structural component of basement membranes. The enzyme plays a role in en
menstrual breakdown, regulation of vascularization and the inflammatory response. Mutations in
been associated with Winchester syndrome and Nodulosis-Arthropathy-Osteolysis (NAO) syndr
transcript variants encoding different isoforms have been found for this gene. [provided by RefS

Product Detail

Function:
Ubiquitinous metalloproteinase that is involved in diverse functions such as remodeling of the va
angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. As
degrading extracellular matrix proteins, can also act on several nonmatrix proteins such as big end
beta-type CGRP promoting vasoconstriction. Also cleaves KISS at a Gly-|-Leu bond. Appears to
myocardial cell death pathways. Contributes to myocardial oxidative stress by regulating the act
GSK3beta. Cleaves GSK3beta in vitro.
PEX, the C-terminal non-catalytic fragment of MMP2, posseses anti-angiogenic and anti-tumor
inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrinv/beta3 on
blood vessels.
Isoform 2: Mediates the proteolysis of CHUK/IKKA and initiates a primary innate immune resp
inducing mitochondrial-nuclear stress signaling with activation of the pro-inflammatory NF-kap
and IRF transcriptional pathways.

Subunit:
Interacts (via the C-terminal hemopexin-like domains-containing region) with the integrin alpha-
interaction promotes vascular invasion in angiogenic vessels and melamoma cells. Interacts (via t
PEX domain) with TIMP2 (via the C-terminal); the interaction inhibits the degradation activity.
GSK3B.

Subcellular Location:
Isoform 1: Secreted, extracellular space, extracellular matrix. Membrane. Nucleus. Note=Coloca
integrin alphaV/beta3 at the membrane surface in angiogenic blood vessels and melanomas. Fou
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
prostate.

Post-translational modifications:
Phosphorylation on multiple sites modulates enzymatic activity. Phosphorylated by PKC in vitro

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

DISEASE:
Defects in MMP2 are the cause of Torg-Winchester syndrome (TWS) [MIM:259600]; also know
multicentric osteolysis nodulosis and arthropathy (MONA). TWS is an autosomal recessive oste
syndrome. It is severe with generalized osteolysis and osteopenia. Subcutaneous nodules are usu
Torg-Winchester syndrome has been associated with a number of additional features including c
corneal opacities, patches of thickened, hyperpigmented skin, hypertrichosis and gum hypertrop
these features are not always present and have occasionally been observed in other osteolysis sy

Similarity:
Belongs to the peptidase M10A family.
Contains 3 fibronectin type-II domains.
Contains 4 hemopexin-like domains.

SWISS:
P08253

Gene ID:
4313

Database links:

Entrez Gene: 4313 Human

Entrez Gene: 17390 Mouse

Entrez Gene: 81686 Rat

Omim: 120360 Human

SwissProt: P08253 Human

SwissProt: P33434 Mouse

SwissProt: P33436 Rat

Unigene: 513617 Human

Unigene: 29564 Mouse

Unigene: 6422 Rat

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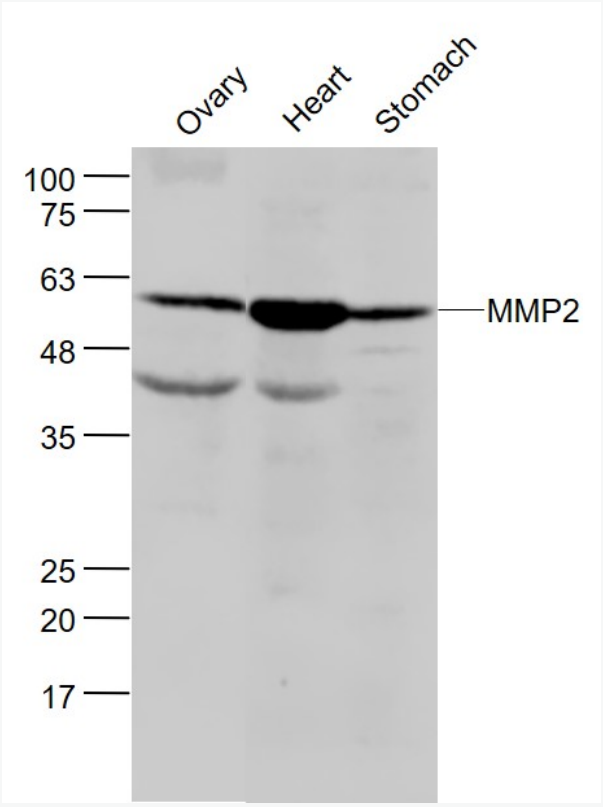
Synthesis and Degradation（Synthesis and Degradation） 基质金属蛋白酶(matrix metalloprot
MMPs)MMP2 是一族依赖锌离子而降解各种 Extracellular matrix 的蛋白酶，亦称 IV 型胶原
酶 A，其主要功能为降解 IV 型胶原，因而它在 Tumour 细胞突破基底膜屏障和浸润转移中
目前主要用于各种恶性 Tumour(如乳腺癌、胃肠道癌、卵巢癌、膀胱癌等)中的基底膜检测
的研究。

Product Picture



Sample:

Ovary (Mouse) Lysate at 40 ug

Heart (Mouse) Lysate at 40 ug

Stomach (Mouse) Lysate at 40 ug

Primary: Anti-MMP2 (SL0412R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 72'62 kD

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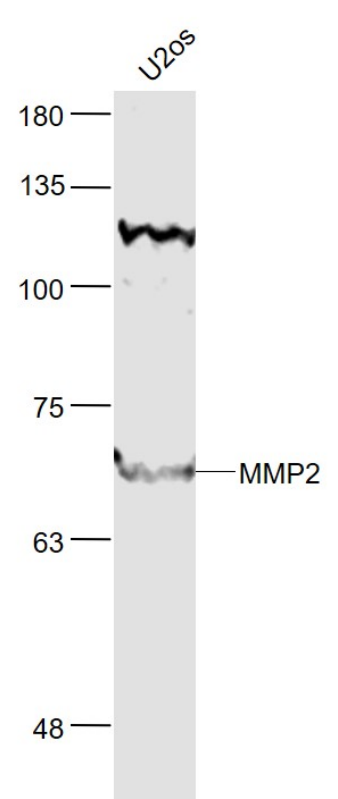
Observed band size: 62 kD



Sample:

U2os(Human) Cell Lysate at 30 ug

Primary: Anti- MMP2 (SL0412R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 72 kD

Observed band size: 70 kD

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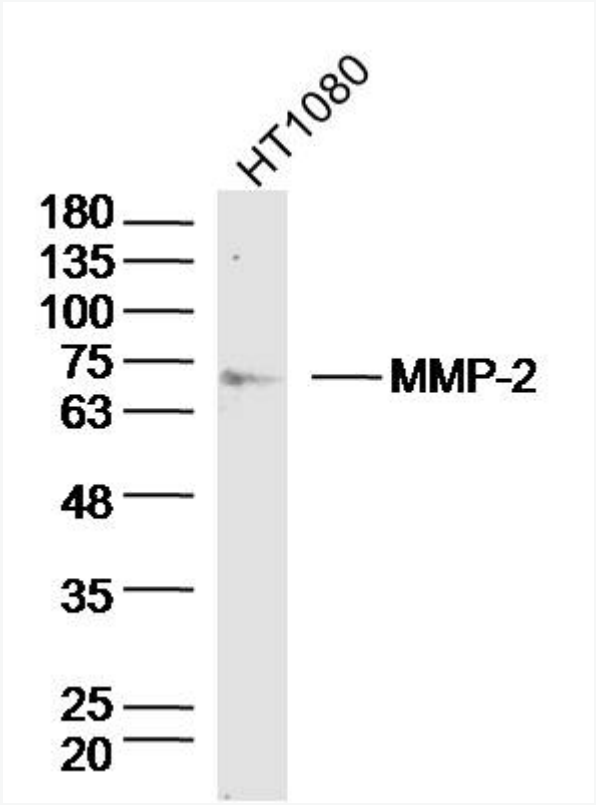

Sample: HT1080 Cell (Human) Lysate at 40 ug

Primary: Anti-MMP2 (SL0412R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 72 kD

Observed band size: 72 kD

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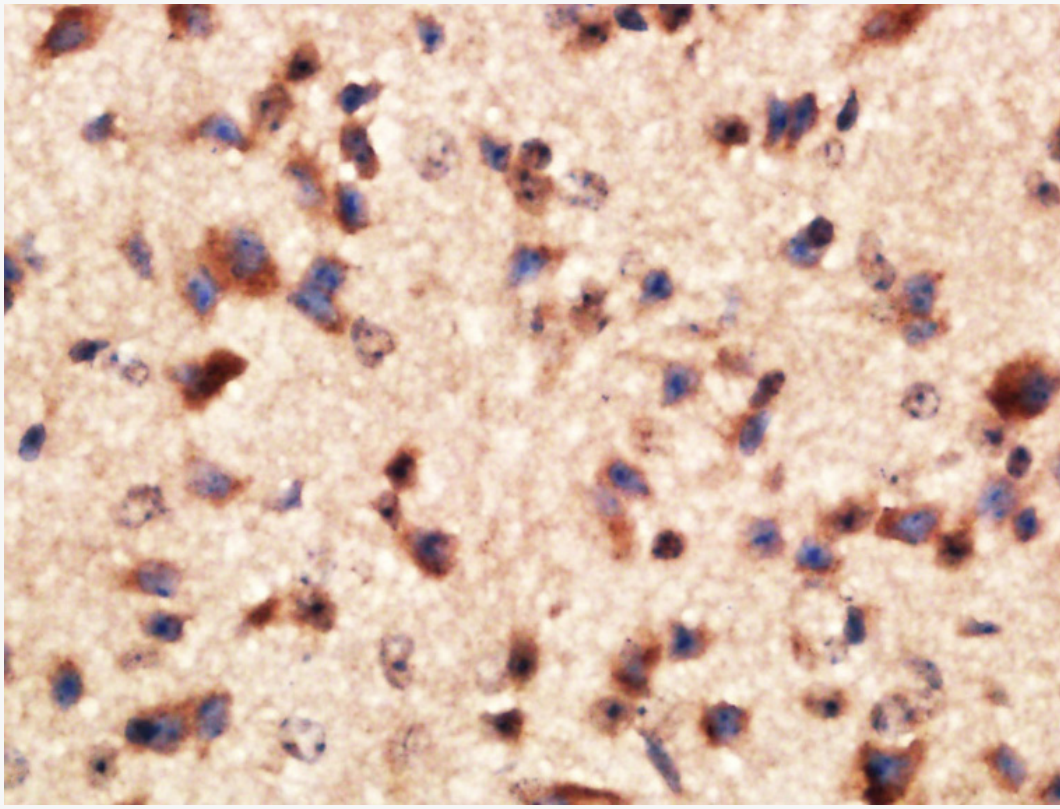

Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in so buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MMP2) P Antibody, Unconjugated (SL0412R) at 1:400 overnight at 4°C, followed by operating accordi Kit(Rabbit) (sp-0023) instructions and DAB staining.

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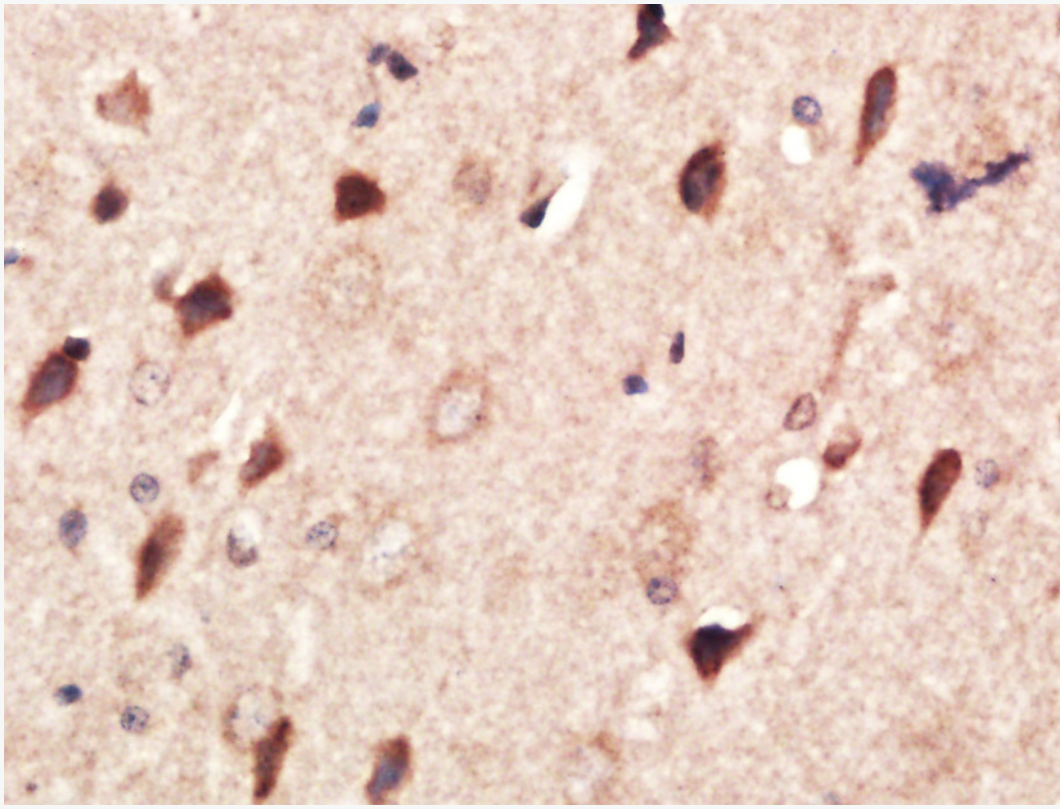

Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodiu buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MMP2) P Antibody, Unconjugated (SL0412R) at 1:400 overnight at 4°C, followed by operating accordi Kit(Rabbit) (sp-0023) instructions and DAB staining.

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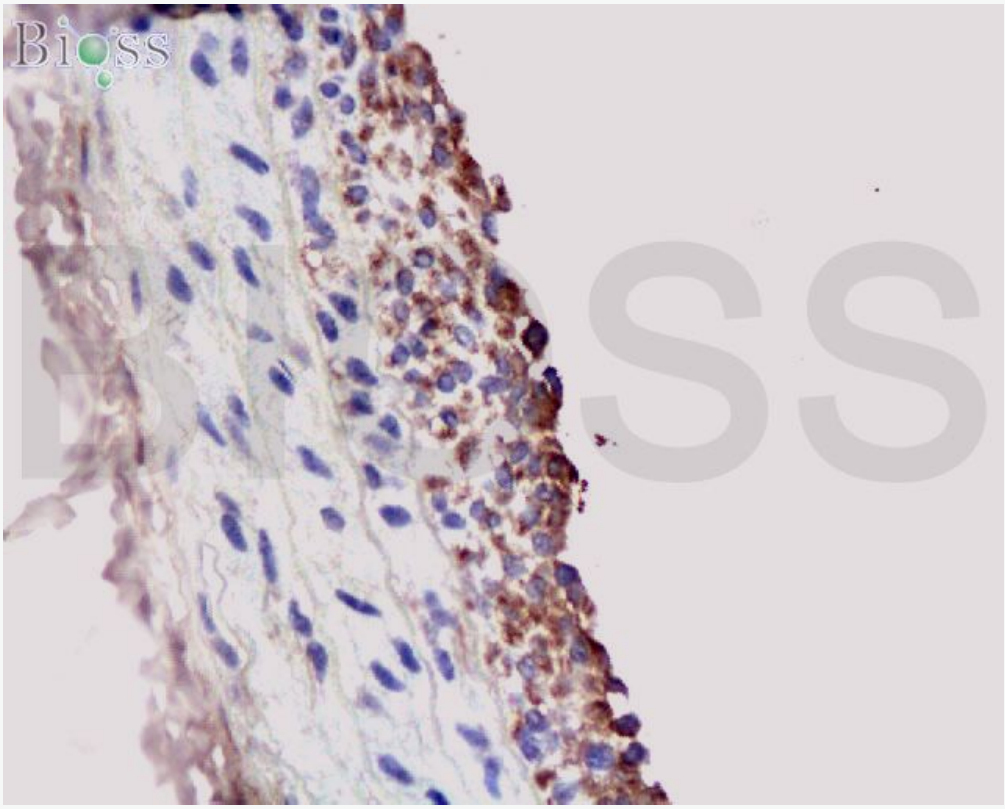


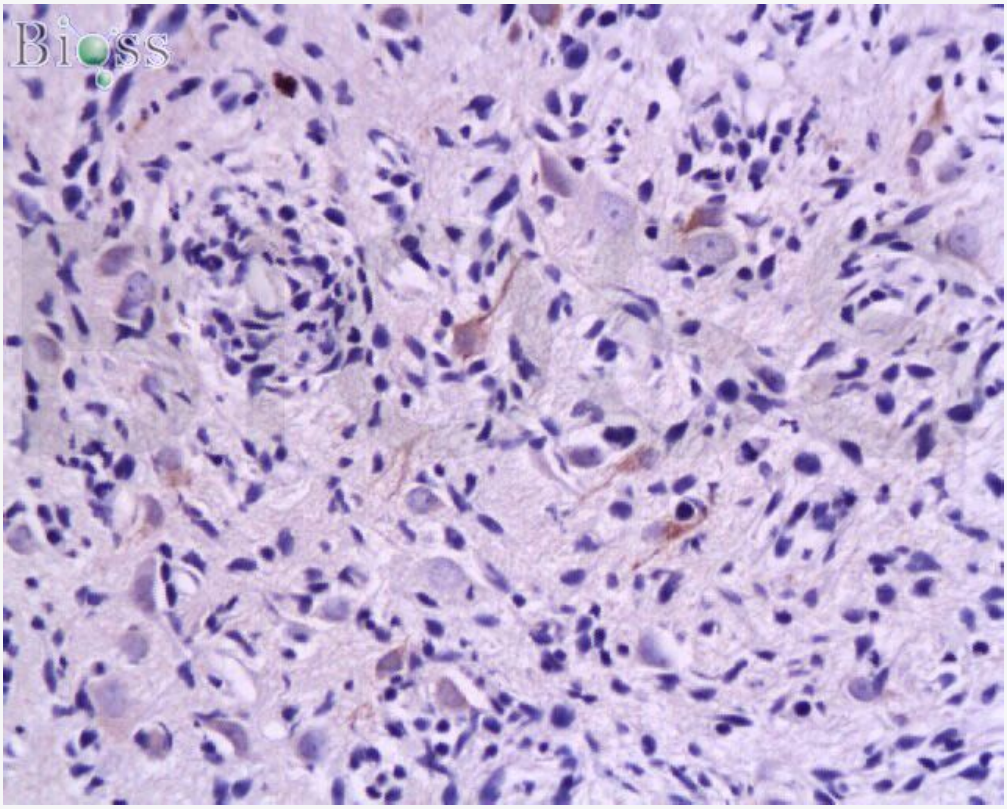
Tissue/cell: rat carotid artery; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous p

3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 2

Incubation: Anti-MMP-2 Polyclonal Antibody, Unconjugated(SL0412R) 1:200, overnight at 4

by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous p

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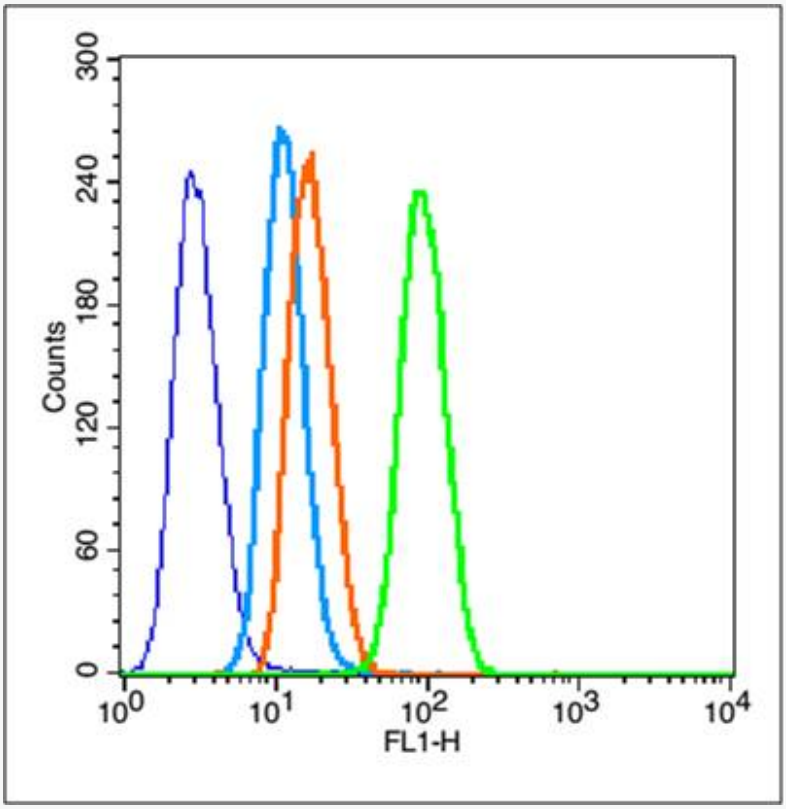

Blank control (blue line): Hela (blue).

Primary Antibody (green line): Rabbit Anti-MMP2 antibody (SL0412R)

Dilution: 1µg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC

Dilution: 1µg /test.

Protocol

The cells were fixed with 80% methanol (5 min at -20°C) and then permeabilized with 0.1% P

for 20 min at room temperature. Cells stained with Primary Antibody for 30 min at room temp

cells were then incubated in 1 X PBS/2%BSA/10% goat serum to block non-specific protein-p

interactions followed by the antibody for 15 min at room temperature. The secondary antibody

min at room temperature. Acquisition of 20,000 events was performed.