bs-1854R **[Primary Antibody]**

MMP12 Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 4321 **SWISS:** P39900

Target: MMP12

Immunogen: KLH conjugated synthetic peptide derived from human MMP12: 201-300/477.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis, metastasis, and atherosclerosis. Most MMP's are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases.
MMP12 was first described in murine macrophages, later in human macrophages, and more recently in other cell types. Also known as metalloelastase, MMP12 is able to degrade elastin, entactin, laminin 1, fibronectin, type IV collagen as well as insulin B-chain and casein. MMP12 is often confused with the Serine proteinase, Leukocyte elastase (EC 3.4.21.37) because of similar nomenclature. MMP12 is structurally similar to the classical MMPs (MMP1, MMP3); it contains a propeptide with autoinhibitory cysteine switch site, a well-conserved zinc site, hinge region and hemopexin domain. MMP12 lacks a transmembrane domain and furin cleavage site. The zymogen for MMP-12 is about 54 kD, and is quickly activated to the 45 kD form; and this breaks down to cascade of active forms, ending with the common 22 kD form. Stimulated macrophages produce MMP12; it has also been found in osteosarcoma cells, synovial fibroblasts and lung fibroblasts.

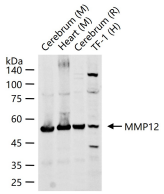
Applications: **WB** (1:500-2000)
IHC-P (1:100-500)
IHC-F (1:100-500)
IF (1:100-500)

Reactivity: Human, Mouse, Rat

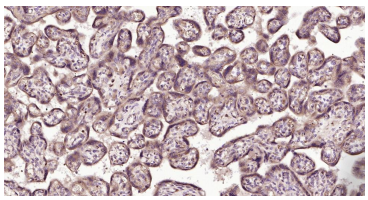
Predicted MW.: 42/52 kDa

Subcellular Location: Secreted ,Extracellular matrix

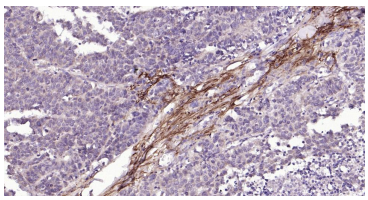
VALIDATION IMAGES



25 ug total protein per lane of various lysates (see on figure) probed with MMP12 polyclonal antibody, unconjugated (bs-1854R) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.



Paraformaldehyde-fixed, paraffin embedded Human Placenta; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with MMP12 Polyclonal Antibody, Unconjugated (bs-1854R) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.



Paraformaldehyde-fixed, paraffin embedded Human Esophageal Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with MMP12 Polyclonal Antibody, Unconjugated (bs-1854R) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.

SELECTED CITATIONS

- **[IF=7.419]** Hirona Kugo. et al. Tricaprin can prevent the development of AAA by attenuating aortic degeneration. BIOMED PHARMACOTHER. 2023 Apr;160:114299 IHC ;Rat. 36724640
- **[IF=6.656]** Mingzhu Xiao. et al. Nuciferine attenuates atherosclerosis by regulating the proliferation and migration of VSMCs through the Calm4/MMP12/AKT pathway in ApoE(-/-) mice fed with High-Fat-Diet. PHYTOMEDICINE. 2023 Jan;108:154536 WB ;Mouse. 36395561
- **[IF=6.2]** Xiaolan Guo. et al. Involvement of M2 macrophages polarization in PM2.5-induced COPD by upregulating MMP12 via IL4/STAT6 pathway. ECOTOX ENVIRON SAFE. 2024 Sep;283:116793 IF ;Mouse. 39094453
- **[IF=3.751]** Papakonstantinou et al. Acute exacerbations of COPD are associated with significant activation of matrix metalloproteinase 9 irrespectively of airway obstruction, emphysema and infection. (2015) Respir.Res. 16:78 ELISA ;Human. 26126526
- **[IF=4.162]** Wenwen Chen. et al. Identification of Active Compounds and Mechanism of Huangtu Decoction for the Treatment of Ulcerative Colitis by Network Pharmacology Combined with Experimental Verification. Drug Des Dev Ther. 2021; 15: 4125–4140 IHC ;mouse. 34616145