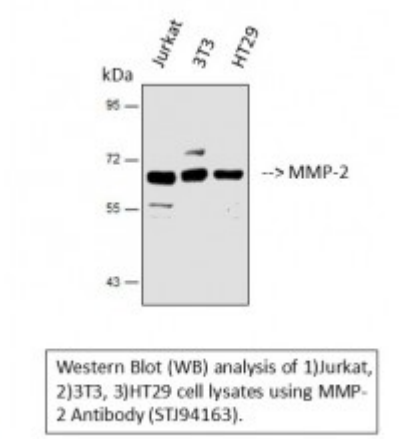
# Anti-MMP-2 antibody




Western Blot (WB) analysis of 1)Jurkat, 2)3T3, 3)HT29 cell lysates using MMP-2 Antibody (STJ94163).

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| **Description** | MMP-2 is a protein encoded by the MMP2 gene which is approximately 73,8 kDa. MMP-2 isoform 1 is secreted into the extracellular space and isoform 2 is localised to the cytoplasm and mitochondrion. It is involved in matrix metalloproteinases, degradation of the extracellular matrix, blood-brain barrier and immune cell transmigration and the integrin pathway. This protein falls under the matrix metalloproteinase gene family. It is a zinc-dependent enzyme capable of cleaving components of the extracellular matrix and molecules involved in signal transduction. It plays a role in diverse functions such as remodelling of the vasculature, angiogenesis, tissue repair, tumour invasion, inflammation and atherosclerotic plaque rupture. MMP-2 is expressed in skin fibroblasts. Mutations in the MMP2 gene may result in Winchester syndrome and Arthropathy. STJ94163 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of MMP-2 protein. |

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| **Model** | STJ94163 |
| **Host** | Rabbit |
| **Reactivity** | Human, Mouse, Rat, Simian |
| **Applications** | ELISA, IF, IHC, WB |
| **Immunogen** | Synthesized peptide derived from human MMP-2 |
| **Immunogen Region** | 580-660 aa, C-terminal |
| **Gene ID** | 4313 |
| **Gene Symbol** | MMP2 |
| **Dilution range** | WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:20000 |

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| **Specificity** | MMP-2 Polyclonal Antibody detects endogenous levels of MMP-2 protein. |
| **Tissue Specificity** | Produced by normal skin fibroblasts. PEX is expressed in a number of tumors including gliomas, breast and prostate. |
| **Purification** | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. |
| **Note** | For Research Use Only (RUO). |
| **Protein Name** | 72 kDa type IV collagenase 72 kDa gelatinase Gelatinase A Matrix metalloproteinase-2 MMP-2 TBE-1 PEX |
| **Molecular Weight** | 75 kDa |
| **Clonality** | Polyclonal |
| **Conjugation** | Unconjugated |
| **Isotype** | IgG |
| **Formulation** | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide. |
| **Concentration** | 1 mg/ml |
| **Storage Instruction** | Store at -20°C, and avoid repeat freeze-thaw cycles. |
| **Database Links** | HGNC:7166OMIM:120360 |
| **Alternative Names** | 72 kDa type IV collagenase 72 kDa gelatinase Gelatinase A Matrix metalloproteinase-2 MMP-2 TBE-1 PEX |
| **Function** | Ubiquitinous 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, posseses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrinv/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. |
| **Sequence and Domain Family** | The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme. |
| **Cellular Localization** | Isoform 1: Secreted, extracellular space, extracellular matrix. Membrane. Nucleus. 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. |
| **Post-translational** | Phosphorylation on multiple sites modulates enzymatic activity. |

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| **Modifications** | 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 integrinv/beta3. |