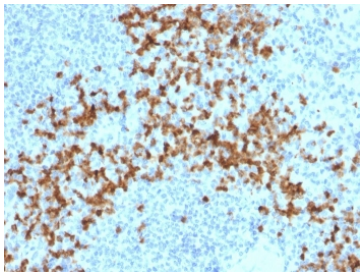
Matrix metalloproteinase 9 Antibody / MMP9 [clone 2C3] (V7961)

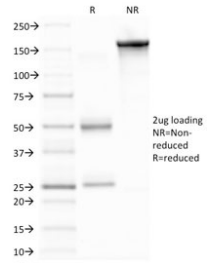
Catalog No.	Formulation	Size
V7961-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7961-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7961SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	2C3
Purity	Protein G affinity chromatography
UniProt	P14780
Localization	Cytoplasmic, nuclear, secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Matrix metalloproteinase 9 antibody is available for research use only.



Immunohistochemistry analysis of MMP9 / Matrix metalloproteinase 9 antibody (clone 2C3) in human spleen tissue. FFPE human spleen section shows prominent cytoplasmic brown chromogenic staining in scattered immune cells within the splenic parenchyma, consistent with MMP9 expression, while surrounding lymphoid cells display minimal staining and nuclei appear blue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



SDS-PAGE analysis of purified, BSA-free Matrix metalloproteinase 9 antibody (clone 2C3) as confirmation of integrity and purity.

Description

Matrix metalloproteinase 9 antibody targets Matrix metalloproteinase 9, a secreted zinc-dependent endopeptidase encoded by the human MMP9 gene and a key member of the matrix metalloproteinase family. Matrix metalloproteinase 9, also widely known as MMP9 and MMP-9, and historically referred to as gelatinase B, is primarily localized to the extracellular space where it degrades structural components of the extracellular matrix. Matrix metalloproteinase 9 antibody is commonly used in studies of inflammation, tumor invasion, angiogenesis, and tissue remodeling due to the enzyme's central role in extracellular matrix turnover.

MMP9 is synthesized as a latent proenzyme that undergoes proteolytic activation to generate the catalytically active form. It efficiently cleaves type IV collagen, gelatin, elastin, and additional basement membrane substrates, facilitating cell migration and extracellular matrix reorganization. Gelatinase B activity is tightly controlled by tissue inhibitors of metalloproteinases, particularly TIMP1, which regulate protease activity during normal tissue repair. Dysregulated Matrix metalloproteinase 9 expression has been implicated in cancer metastasis, chronic inflammatory diseases, cardiovascular remodeling, and blood-brain barrier disruption, making Matrix metalloproteinase 9 antibody valuable for studying protease-driven pathology.

MMP9 is highly expressed in neutrophils, macrophages, activated endothelial cells, and certain tumor cells, especially under inflammatory stimulation. Elevated MMP-9 levels often correlate with increased tumor aggressiveness and poor clinical outcome in multiple malignancies. Beyond oncology, Matrix metalloproteinase 9 participates in wound healing, immune cell trafficking, and vascular remodeling processes.

Structurally, Matrix metalloproteinase 9 contains a signal peptide, propeptide region, catalytic zinc-binding domain, fibronectin type II repeats that enhance gelatin binding, and a C-terminal hemopexin-like domain that contributes to substrate specificity and protein interactions. A Matrix metalloproteinase 9 antibody is suitable for detecting MMP9 expression in extracellular matrix remodeling, inflammatory signaling, and tumor progression research applications.

Application Notes

Optimal dilution of the Matrix metalloproteinase 9 antibody should be determined by the researcher.

Immunogen

Amino acids 603-614 were used as the immunogen for the Matrix metalloproteinase 9 antibody.

Storage

Store the Matrix metalloproteinase 9 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).