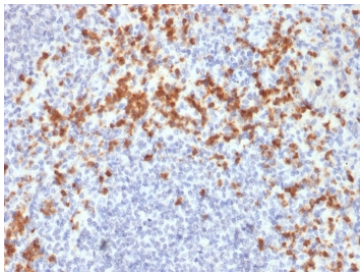
MMP9 Antibody / Matrix metalloproteinase-9 [clone SPM425] (V8238)

Catalog No.	Formulation	Size
V8238-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8238-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8238SAF-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 IgG2b, kappa
Clone Name	SPM425
Purity	Protein G affinity chromatography
UniProt	P14780
Localization	Cytoplasmic, nuclear, secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This MMP9 antibody is available for research use only.



Immunohistochemistry analysis of MMP9 / Matrix metalloproteinase-9 antibody (clone SPM425) in human spleen tissue FFPE human spleen section shows cytoplasmic brown chromogenic staining in scattered immune cells 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.

Description

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

MMP9 is synthesized as a proenzyme that requires proteolytic activation to become catalytically active. It efficiently cleaves type IV collagen, gelatin, elastin, and other basement membrane components, thereby facilitating cell migration and tissue restructuring. Gelatinase B activity is tightly regulated by tissue inhibitors of metalloproteinases, particularly TIMP1, to maintain extracellular matrix balance. Dysregulated MMP9 expression has been implicated in cancer metastasis, chronic inflammatory diseases, cardiovascular remodeling, and neurological disorders. MMP9 antibody is therefore valuable for evaluating proteolytic activity in both physiological and pathological contexts.

MMP9 is expressed in neutrophils, macrophages, endothelial cells, and various tumor cells, especially under inflammatory stimulation. In oncology research, elevated Matrix metalloproteinase-9 levels are associated with increased tumor invasiveness and poor prognosis in multiple cancer types. Beyond cancer biology, MMP-9 also contributes to wound healing, blood-brain barrier permeability, and immune cell trafficking.

Structurally, Matrix metalloproteinase-9 contains a signal peptide, a propeptide domain, a catalytic zinc-binding domain, fibronectin type II repeats that enhance gelatin binding, and a hemopexin-like domain involved in substrate specificity. An MMP9 antibody is suitable for detecting Matrix metalloproteinase-9 expression in inflammation, extracellular matrix remodeling, and tumor progression research applications.

Application Notes

Optimal dilution of the MMP9 antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 22-166) was used as the immunogen for this MMP9 antibody.

Storage

Store the MMP9 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).