

## Monoclonal antibody S22.2

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### Antibody specifications

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<b>Immunogen</b>	Recombinant human MMP-9, purified by gelatin-affinity chromatography.
<b>Isotype</b>	IgG1 subclass
<b>Species reactivity</b>	Reacts with human MMP-9, also reacts with rabbit and mouse MMP-9.
<b>Cross reactivity</b>	No cross reactivity was observed with human MMP-1, -2, -3, -8, TIMP-1, TIMP-2.
<b>Intended use</b>	ELISA Capture Ab (1), Western blot, Immuno histo chemistry.
<b>Formulation</b>	Each vial contains 100 microgram mAb S22.2 in PBS containing 0.1% w/v BSA. Bulk delivery in other formulations on request.
<b>Clone nr</b>	S22.2
<b>Product nr</b>	QZBMMP9S22.2

### MMP-9 Background

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Matrix metalloproteinases (MMPs) are a family of enzymes that function in the remodeling of extracellular matrix proteins. They are essential for various normal physiological processes such as embryonic development, morphogenesis, reproduction tissue resorption and tissue remodeling. They also play a role in a number of pathological processes such as inflammation, arthritis, cardiovascular diseases, fibrosis and cancer. Regulation of MMPs occurs at various levels. Expression of latent MMPs is regulated at the level of transcription, whereas the proteolytic activity is controlled by specific activation of proMMPs, and by MMP-specific inhibitors, the tissue inhibitors of metalloproteinases (TIMPs), or general circulatory inhibitors, such as  $\alpha$ 2macroglobulin.

The MMPs can be grouped according to their domain structure into collagenases, gelatinases, stromelysins, membrane type MMPs and matrilysins. MMP-9 (also known as type neutrophil gelatinase, IV collagenase, Gelatinase B; EC 3.4.24.35) has a broad range of substrate specificity for denatured collagens (gelatins), native collagens (types IV, V and XI), as well as elastin.

Human MMP-9 has a Mw of 92 kDa (pro-form) and 82 kDa (active form). The activity is dependent on  $Zn^{2+}$  and  $Ca^{2+}$ . MMP-9 is secreted as proMMP-9, and can be activated in vitro by organo mercurial compounds such as p-aminophenyl mercuric acetate (APMA).

MMP-9 is produced by a variety of cell types including monocytes, macrophages, fibroblasts, neutrophils, osteoclasts, chondrocytes, keratinocytes, endothelial and epithelial cells.

#### References:

1. R. Hanemaaijer, H. Visser, Y.T. Konttinen, P. Koolwijk, J.H. Verheijen. Matrix Biology 17: 657-665 (1998)

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