Human Pro MMP-1 Antibody

Monoclonal Mouse IgG_1 Clone # 36660

Catalog Number: MAB900

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Pro MMP-1 in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human (rh) active MMP-1, rhMMP-2, rhMMP-3, rhMMP-8, or rhMMP-9 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 36660
Purification	Protein A or G purified from ascites
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human MMP-1 Phe20-Asn469 (predicted) Accession # P03956
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS and Sodium Azide with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human MMP-1 Western Blot Standard (Catalog # WBC024)
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human MMP-1 (Catalog # 901-MP), see our available Western blot detection antibodies

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

BACKGROUND

Matrix metalloproteinases are a family of zinc and calcium dependent endopeptidases with the combined ability to degrade all the components of the extracellular matrix. MMP-1 (interstitial collagenase), can degrade a broad range of substrates including types I, II, III, VII, VIII, and X collagens as well as casein, gelatin, α-1 antitrypsin, myelin basic protein, L-Selectin, pro-TNF, IL-1β, IGF-BP3, IGF-BP5, pro MMP-2 and pro MMP-9. A significant role of MMP-1 is the degradation of fibrillar collagens in extracellular matrix remodeling, characterized by the cleavage of the interstitial collagen triple helix into ¾, ¼ fragments. However, as the list of substrates above illustrates, the role of MMP-1 is more diverse than originally envisaged, and may involve enzyme cascades, cytokine regulation and cell surface molecule modulation. MMP-1 is expressed by fibroblasts, keratinocytes, endothelial cells, monocytes and macrophages. Structurally, MMP-1 may be divided into several distinct domains; a pro-domain which is cleaved upon activation; a catalytic domain containing the zinc binding site; a short hinge region and a carboxyl terminal (hemopexin-like) domain.

References:

1. Cawston, T.E. (2004) in *Interstitial Collagenase.* Barrett, A.J. *et al.* (eds): Handbook of Proteolytic Enzymes, San Diego: Academic Press, p. 472.