Human MMP-1 Antibody

Recombinant Monoclonal Goat IgG Clone # 40013F
Catalog Number: MAB9011

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MMP-1 in direct ELISAs and Western blots.
Source	Recombinant Monoclonal Goat IgG Clone # 40013F
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MMP-1 Phe20-Asn469 Accession # P03956
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

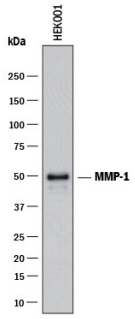
APPLICATIONS

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	5 µg/mL	See Below
Knockout Validated	MMP-1 is specifically detected in PC-3 human prostate cancer parental cell line but is not detectable in MMP-1 knockout PC-3 cell line.	

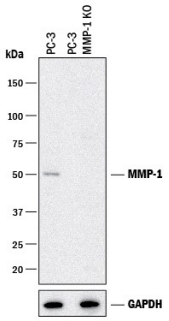
DATA

Western Blot



Detection of Human MMP-1 by Western Blot. Western blot shows lysates of HEK001 human epidermal keratinocyte cell line. PVDF membrane was probed with 5 µg/mL of Goat Anti-Human MMP-1 Monoclonal Antibody (Catalog # MAB9011) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for MMP-1 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Knockout Validated



Western Blot Shows Human MMP-1 Specificity by Using Knockout Cell Line. Western blot shows lysates of PC-3 human prostate cancer parental cell line and MMP-1 knockout PC-3 cell line (KO). PVDF membrane was probed with 5 µg/mL of Goat Anti-Human MMP-1 Monoclonal Antibody (Catalog # MAB9011) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for MMP-1 at approximately 50 kDa (as indicated) in the parental PC-3 cell line, but is not detectable in knockout PC-3 cell line. GAPDH (Catalog # AF5718) is shown as a loading control.This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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, IGFBP-3, IGFBP-5, 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.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449