Human MMP-7 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF907

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MMP-7 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse MMP-7 is observed, and less than 1% cross-reactivity with recombinant human (rh) MMP-8 and rhMMP-12 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MMP-7 Leu18-Lys267 Accession # P09237
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
Dual RNAscope ISH-IHC Compatible	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human pancreas
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human MMP-7 (Catalog # 907-MP), see our available Western blot detection antibodies
Simple Western	10 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Recombinant Human MMP-7 (0.2 µg/mL, Catalog # 907-MP) cleavage of the fluorogenic peptide substrate Mca-PLGL-Dpa-AR-NH_2 (10 µM, Catalog # ES001). The Neutralization Dose (ND_{50}) is typically 2 µg/mL.	

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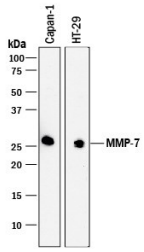
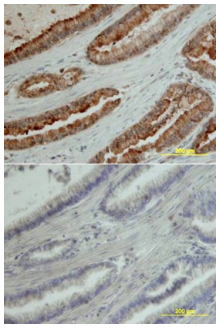
DATA

Western Blot



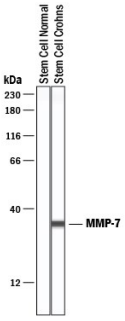
Detection of Human MMP-7 by Western Blot. Western blot shows lysates of Capan-1 human pancreatic adenocarcinoma cell line and HT-29 human colon adenocarcinoma cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human MMP-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF907) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF017). A specific band was detected for MMP-7 at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



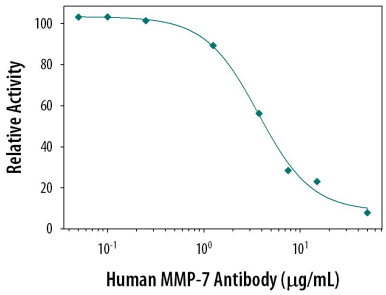
MMP-7 in Human Pancreas. MMP-7 was detected in immersion fixed paraffin-embedded sections of human pancreas array using Goat Anti-Human MMP-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF907) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



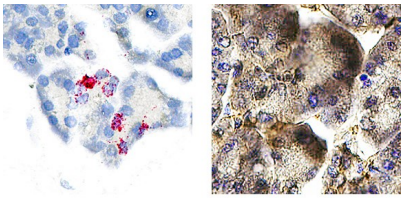
Detection of Human MMP-7 by Simple Western™. Simple Western lane view shows lysates of normal stem cells (negative control) and Crohn's stem cells, loaded at 0.2 mg/mL. A specific band was detected for MMP-7 at approximately 10 kDa (as indicated) using 10 µg/mL of Goat Anti-Human MMP-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF907) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Neutralization



Neutralization of MMP-7 Activity by Human MMP-7 Antibody. The cleavage of Mca-PLGL-Dpa-AR-NH_2(10 µM, Catalog # Catalog # ES001) by Recombinant Human MMP-7 (0.2 µg/mL, Catalog # Catalog # 907-MP) is measured after preincubation with increasing concentrations of Goat Anti-Human MMP-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF907). The ND_{50} is typically 2 µg/mL.

In-situ Hybridization



In Situ Hybridization (ISH) Immunohistochemistry (IHC)

Detection of MMP-7 in Human Pancreas. Formalin-fixed paraffin-embedded tissue sections of human pancreas were probed for MMP7 mRNA (ACD RNAScope Probe, catalog #488408; Fast Red chromogen, ACD catalog # 322750). Adjacent tissue section was processed for immunohistochemistry using goat anti-human MMP7 polyclonal antibody (R&D Systems catalog # Catalog # AF907) at 3ug/mL with overnight incubation at 4 degrees Celsius followed by incubation with anti-goat IgG VisUCyte HRP Polymer Antibody (Catalog # Catalog # VC004) and DAB chromogen (yellow-brown). Tissue was counterstained with hematoxylin (blue). Specific staining was localized to exocrine glands.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Matrix metalloproteinases (MMPs) are a family of zinc and calcium dependent endopeptidases with the combined ability to degrade all the components of the extracellular matrix. MMP-7 (matrilysin) is expressed in epithelial cells of normal and diseased tissues, and is capable of digesting a large series of proteins of the extracellular matrix including collagen IV and X, gelatin, casein, laminin, aggrecan, entactin, elastin and versican. MMP-7 is implicated in the activation of other proteinases such as plasminogen, MMP-1, MMP-2, and MMP-9. In addition to its roles in connective tissue remodeling and cancer, MMP-7 also regulates intestinal α-defensin activation in innate host defense, releases tumor necrosis factor-α in a model of herniated disc resorption, and cleaves FasL to generate a soluble form in a model of prostate involution. Structurally, MMP-7 is the smallest of the MMPs and consists of two domains: a pro-domain that is cleaved upon activation and a catalytic domain containing the zinc-binding site.

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