Human HAI-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1048

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human HAI-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant mouse HAI-1 is observed and less than 1% cross-reactivity with recombinant human HAI-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human HAI-1 Pro37-Glu449 Accession # NP_003701
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.

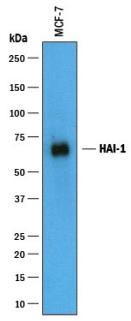
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

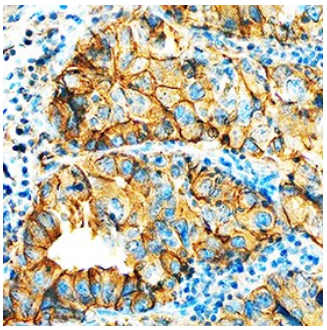
DATA

Western Blot



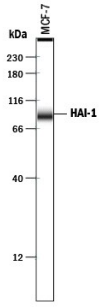
Detection of Human HAI-1 by Western Blot. Western blot shows lysates of MCF-7 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human HAI-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1048) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for HAI-1 at approximately 70 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



HAI-1 in Human Lung Cancer Tissue. HAI-1 was detected in immersion fixed paraffin-embedded sections of human lung cancer tissue using Goat Anti-Human HAI-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1048) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membrane in epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Human HAI-1 by Simple Western™. Simple Western lane view shows lysates of MCF-7 human breast cancer cell line, loaded at 0.2 mg/mL. A specific band was detected for HAI-1 at approximately 88 kDa (as indicated) using 10 µg/mL of Goat Anti-Human HAI-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1048) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system. Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

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BACKGROUND

HAI-1 is a Kunitz-type serine protease inhibitor, identified as a strong inhibitor of HGF activator (HGFA) and matriptase (1). The membrane-anchored HAI-1 consists of two Kunitz domains, a LDL-receptor-like domain, and a C-terminal transmembrane domain (2). Two soluble forms are generated by ectodomain shedding, one with a single Kunitz domain and the other with two Kunitz domains. HAI-1 is not only an inhibitor but also a specific receptor of active HGFA, acting as a reservoir of this enzyme on the cell surface (3). The shedding of HAI-1 and HGFA/HAI-1 complex is enhanced by treatment with phorbol 12-myristate 13-acetate or IL-1β. The regulated shedding is completely inhibited by a synthetic zinc metalloprotease inhibitor (3).

References:

1. Denda, K. *et al.* (2002) J. Biol. Chem. **277**:14053.
2. Shimomura, T. *et al.* (1997) J. Biol. Chem. **272**:6370.
3. Kataoka, H. *et al.* (2000) J. Biol. Chem. **275**:40453.

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