Human EMMPRIN/CD147 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF972

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human EMMPRIN/CD147 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant mouse EMMPRIN is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EMMPRIN/CD147 Thr25-His205 Accession # Q54A51
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 as a 0.2 μm filtered solution in PBS.

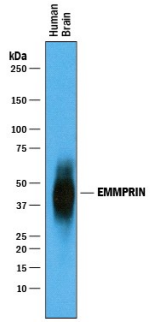
APPLICATIONS

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

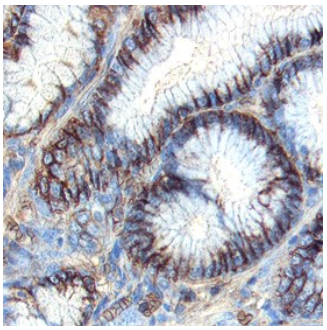
DATA

Western Blot



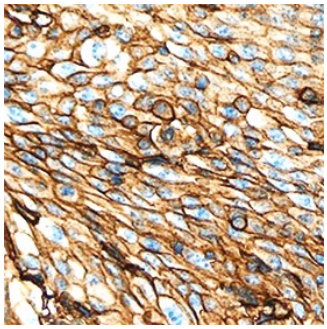
Detection of Human EMMPRIN/CD147 by Western Blot. Western blot shows lysates of human brain tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human EMMPRIN/CD147 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF972) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for EMMPRIN/CD147 at approximately 38-50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



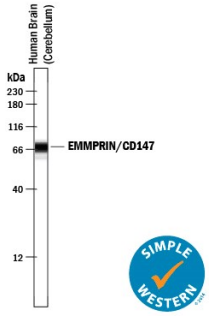
EMMPRIN/CD147 in Human Stomach Cancer Tissue. EMMPRIN/CD147 was detected in immersion fixed paraffin-embedded sections of human stomach cancer tissue using Goat Anti-Human EMMPRIN/CD147 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF972) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the plasma membrane of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunohistochemistry



EMMPRIN/CD147 in Human Cervix. EMMPRIN/CD147 was detected in immersion fixed paraffin-embedded sections of human cervix using Goat Anti-Human EMMPRIN/CD147 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF972) at 1 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 membranes. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Human EMMPRIN/CD147 by Simple Western™. Simple Western lane view shows lysates of human brain (cerebellum) tissue, loaded at 0.2 mg/mL. A specific band was detected for EMMPRIN/CD147 at approximately 70 kDa (as indicated) using 10 µg/mL of Goat Anti-Human EMMPRIN/CD147 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF972) 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.

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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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BACKGROUND

Extracellular matrix metalloproteinase (MMP) inducer (EMMPRIN), also known as basigin and CD147, is a 44-66 kDa, variably glycosylated, type I transmembrane protein that belongs to the immunoglobulin superfamily (1-4). Human EMMPRIN is 269 amino acids (aa) in length and contains a 24 aa signal sequence, a 183 aa extracellular domain (ECD), a 21 aa transmembrane (TM) domain and a 41 aa intracellular domain. The ECD contains one C2-type and one V-type Ig-like domain. There is one 385 aa splice variant that contains an extra N-terminal IgCAM domain and is found only in the retina (5). mRNA transcripts, but not protein, have been reported for additional 432, 388, 205, 176, and 174 aa variants.

EMMPRIN is expressed in areas of tissue remodeling, including tumors, endometrium, placenta, skin, and regions undergoing angiogenesis (1, 2, 6-9). It is also expressed in cells with high metabolic activity, such as lymphoblasts, macrophages and tumor cells (2, 10). On cells with elevated metabolic rates, EMMPRIN is often co-expressed with the amino acid transporter CD98h (11). EMMPRIN also interacts with caveolin-1 (via its C2-like domain), and this reduces the level of EMMPRIN glycosylation and subsequent EMMPRIN multimerization and activity (12). EMMPRIN's TM sequence contains a Glu and a Pro which are important for intracellular interactions with cyclophilins (CyP) (3, 13, 14). CyPA (cyclosporin A receptor) and CyP60 interactions with the TM segment promote leukocyte inflammatory chemotaxis and surface expression of EMMPRIN, respectively (13, 14). An active 22 kDa fragment can be shed from tumor cells by MT1-MMP (1). Tumor cells can also release active, full-length EMMPRIN in microvesicles (15, 16). Functionally, EMMPRIN is known to induce urokinase-type plasminogen activator (uPA), VEGF, hyaluronan, and multiple MMPs (1, 2, 7, 8, 9). Human EMMPRIN (269 aa) shows 58%, 58%, 62%, and 52% aa identity with mouse, rat, bovine, and chicken EMMPRIN, respectively. It also shows 25% and 38% aa identity with the related proteins, embigin and neuroplastin (SDR-1), respectively (4).

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bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956