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.

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Species Reactivity</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specificity</td>
<td>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.</td>
</tr>
<tr>
<td>Source</td>
<td>Polyclonal Goat IgG</td>
</tr>
<tr>
<td>Purification</td>
<td>Antigen Affinity-purified</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Mouse myeloma cell line NS0-derived recombinant human EMMPRIN/CD147 Thr25-His205, Accession # Q54A51</td>
</tr>
<tr>
<td>Formulation</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Recommended Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>1 µg/mL See Below</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>5-15 µg/mL See Below</td>
</tr>
<tr>
<td>Simple Western</td>
<td>10 µg/mL See Below</td>
</tr>
</tbody>
</table>

**Knockout Validated**

EMMPRIN/CD147 is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in EMMPRIN/CD147 knockout HEK293T cell line.

**ELISA**

This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human EMMPRIN/CD147 Monoclonal Antibody (Catalog # MAB972).

This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human EMMPRIN/CD147 DuoSet ELISA Kit (Catalog # DY972) for convenient development of a sandwich ELISA or the Human EMMPRIN/CD147 Quantikine ELISA Kit (Catalog # DEMP00) for a complete optimized ELISA.

**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 # 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.
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 # HAF017). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

ELISA

Human EMMPRIN/CD147 ELISA Standard Curve. Recombinant Human EMMPRIN/CD147 protein was serially diluted 2-fold and captured by Mouse Anti-Human EMMPRIN/CD147 Monoclonal Antibody (Catalog # MAB972) coated on a Clear Polystyrene Microplate (Catalog # DY990). Goat Anti-Human EMMPRIN/CD147 Antigen-purified Polyclonal Antibody (Catalog # AF972) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

**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.
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).

References:

Human EMMPRIN/CD147 Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF972