DESCRIPTION

Species Reactivity: Human

Specificity: Detects human Jagged 1 in direct ELISAs and Western blots. In direct ELISAs, less than 25% cross-reactivity with recombinant rat Jagged 1 and recombinant human Jagged 2 is observed.

Source: Polyclonal Goat IgG

Purification: Antigen Affinity-purified

Immunogen: Mouse myeloma cell line NS0-derived recombinant human Jagged 1 Ser32-Asp296

Accession #: P78504

Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.

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

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

Neutralization

Measured by its ability to neutralize Jagged 1-induced alkaline phosphatase production in the C3H10T1/2 mouse embryonic fibroblast cell line. The Neutralization Dose (ND50) is typically 1-5 µg/mL in the presence of 5 µg/mL Recombinant Human Jagged 1 Fc Chimera.

DATA

Western Blot

Detection of Human Jagged 1 by Western Blot. Western blot shows lysates of Huh-7 human hepatoma cell line and HepG2 human hepatocellular carcinoma cell line. PVDF Membrane was probed with 1 µg/mL of Goat Anti-Human Jagged 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1277) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Jagged 1 at approximately 180 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry

Jagged 1 in Human Kidney Cancer Tissue. Jagged 1 was detected in immersion fixed paraffin-embedded sections of human kidney cancer tissue using Goat Anti-Human Jagged 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1277) at 15 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). View our protocol for Chromogenic IHC Staining of immersion fixed paraffin-embedded Tissue Sections.

Neutralization

Alkaline Phosphatase Production Induced by Jagged 1 and Neutralization by Human Jagged 1 Antibody.

Recombinant Human Jagged 1 Fc Chimera (Catalog # 1277-JG) induces alkaline phosphatase production in the C3H10T1/2 mouse embryonic fibroblast cell line in the presence of Recombinant Human/Mouse/Rat BMP-2 (Catalog # 355-BM) in a dose-dependent manner (orange line). Alkaline phosphatase production elicited by Recombinant Human Jagged 1 Fc Chimera (5 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human Jagged 1 Antibody (Catalog # AF1277). The ND50 is typically 1-5 µg/mL.
**PREPARATION AND STORAGE**

<table>
<thead>
<tr>
<th><strong>Reconstitution</strong></th>
<th>Reconstitute at 0.2 mg/mL in sterile PBS.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping</strong></td>
<td>The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. <em>Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C</em></td>
</tr>
<tr>
<td><strong>Stability &amp; Storage</strong></td>
<td>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</td>
</tr>
<tr>
<td></td>
<td>12 months from date of receipt, -20 to -70 °C as supplied.</td>
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<tr>
<td></td>
<td>1 month, 2 to 8 °C under sterile conditions after reconstitution.</td>
</tr>
<tr>
<td></td>
<td>6 months, -20 to -70 °C under sterile conditions after reconstitution.</td>
</tr>
</tbody>
</table>

**BACKGROUND**

Jagged 1 is a 180 kDa type I transmembrane glycoprotein and member of the Delta-Serrate-Lag-2 (DSL) family of ligands that activate LIN12/Notch proteins. Human Jagged 1 is synthesized as a 1218 amino acid (aa) precursor that contains a 33 aa signal sequence, a 1034 aa extracellular domain (ECD), a 26 aa transmembrane segment, and a 125 aa cytoplasmic region. The ECD contains a DSL domain (aa 185-229), a cysteine-rich region, 15 EGF-like repeats, of which many bind calcium, and nine potential sites for N-linked glycosylation. Mature human Jagged 1 is 97% and 96% aa identical to mature mouse and rat Jagged 1, respectively. Jagged 1 is widely expressed in adult and fetal tissues. Jagged-Notch signaling specifies cell fate, regulates pattern formation, defines boundaries between different cell types, and modulates cell proliferation and differentiation, especially during hematopoiesis, myogenesis, neurogenesis, and development of vasculature (1-8). Mutations in human Jagged 1 are the cause of Alagille syndrome, an autosomal-dominant disorder characterized by intrahepatic cholestasis and abnormalities of heart, eye, vertebrae, as well as characteristic facial appearance (9, 10).

**References:**