Human B7-1/CD80 Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF140

**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human B7-1/CD80 in direct ELISAs and Western blots. In Western blots, approximately 5% cross-reactivity with recombinant human B7-2 and recombinant mouse B7-2 is observed.

**Source** Polyclonal Goat IgG

**Purification** Antigen Affinity-purified

**Immunogen** *S. frugiperda* insect ovarian cell line Sf 21-derived recombinant human B7-1/CD80 Extracellular domain

**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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>1 μg/mL</th>
<th>See Below</th>
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</thead>
<tbody>
<tr>
<td>Immunohistochemistry</td>
<td>5-15 μg/mL</td>
<td>See Below</td>
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</table>

**DATA**

**Western Blot**

Detection of Human B7-1/CD80 by Western Blot. Western blot shows bands of Daudi human Burkitt's lymphoma cell line. PVDF membrane was probed with 1 μg/mL of Goat Anti-Human B7-1/CD80 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF140) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for B7-1/CD80 at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**

B7-1/CD80 in Human Tonsil. B7-1/CD80 was detected in immersion fixed paraffin-embedded sections of human tonsil using Goat Anti-Human B7-1/CD80 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF140) at 3 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 lymphocytes in germinal center.

**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.

**BACKGROUND**

B7-1 and B7-2, together with their receptors CD28 and CTLA-4, constitute one of the dominant co-stimulatory pathways that regulate T and B cell responses. Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100 fold higher affinity than CD28 and is involved in the down-regulation of the immune response. B7-1 is expressed on activated B cells, activated T cells, and macrophages. B7-2 is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells. Additionally, B7-2 is expressed at low levels on monocytes and can be up-regulated through IFN-γ. B7-1 and B7-2 are both members of the Immunoglobulin superfamily. Human B7-1 is a 288 amino acid (aa) protein containing a 34 aa signal peptide, a 208 aa extracellular domain, a 21 aa transmembrane domain, and a 25 aa cytoplasmic domain. Human B7-1 and B7-2 share 26% amino acid identity. Human and mouse B7-1 share 44% amino acid identity. However, it has been observed that both human and mouse B7-1 and B7-2 can bind to either human or mouse CD28 and CTLA-4, suggesting that there are conserved amino acids which form theB7-1/B7-2/CD28/CTLA-4 critical binding sites.

**References:**