**Species Reactivity**  
Human/Mouse

**Specificity**  
Detects mouse B7-H4 in direct ELISAs and Western blots. Detects human and mouse B7-H4 in Western blots.

**Source**  
Polyclonal Goat IgG

**Purification**  
Antigen Affinity-purified

**Immunogen**  
Mouse myeloma cell line NS0-derived recombinant mouse B7-H4  
Phe29-Pro258  
Accession # Q7TSP5

**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>Recommended Concentration</th>
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</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>2 µg/mL</td>
</tr>
<tr>
<td>Flow Cytometry</td>
<td>2.5 µg/10^6 cells</td>
</tr>
<tr>
<td>CyTOF-ready</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
</tr>
</tbody>
</table>

**DATA**

**Western Blot**  
Detection of Mouse and Human B7-H4 by Western Blot. Western blot shows lysates of mouse placenta tissue, mouse uterus tissue, and SK-BR-3 human breast cancer cell line. PVDF membrane was probed with 2 µg/mL of Goat Anti-Mouse B7-H4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2154) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for B7-H4 at approximately 50-75 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**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-H4, also known as B7x and B7S1, is a 50 - 80 kDa glycosylated member of the B7 family of immune co-stimulatory proteins (1, 2). Mature mouse B7-H4 consists of a 230 amino acid (aa) extracellular domain (ECD) with one Ig-like V-set domain and one Ig-like C2-set domain which is followed by a hydrophobic C-terminal region (3 - 5). Within the ECD, mouse B7-H4 shares 90% and 99% aa sequence identity with human and rat B7-H4, respectively. It shares 21% - 29% aa sequence identity with mouse B7-1, B7-2, B7-H1, B7-H2, B7-H3, and PD-L2. B7-H4 is expressed on the surface of activated lymphocytes, macrophages, monocytes, dendritic cells, epithelial cells, and bone marrow-derived mesenchymal stem cells (4 - 8). Its binding to activated T cells dampens T cell responses and induces cell cycle arrest in the T cell (3 - 5). Reverse signaling can induce either cell cycle arrest or apoptosis in the B7-H4 expressing cell (9, 10). B7-H4 is up-regulated in several carcinomas in correlation with tumor progression and metastasis (2, 7, 11, 12). A soluble form of B7-H4 is elevated in the serum of ovarian cancer, renal cell carcinoma, and rheumatoid arthritis patients, also in correlation with advanced disease status (13 - 15). Soluble B7-H4 functions as a decoy molecule that blocks the inhibitory influence of B7-H4 on immune activation (15). Despite evidence for the involvement of B7-H4 in immune regulation, mice deficient in its expression do not show significant immune deficiencies, suggesting compensation by other molecules in vivo (16).

**References:**