Human/Mouse B7-H4 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2319B
Catalog Number: MAB21541

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects mouse B7-H4 in direct ELISAs. Detects human and mouse B7-H4 in Western blots.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2319B
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived 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.

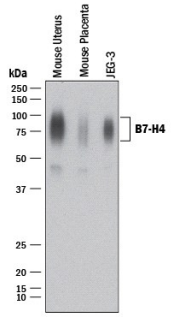
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
Immunohistochemistry	5-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

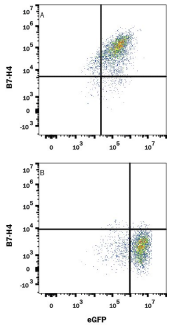
DATA

Western Blot



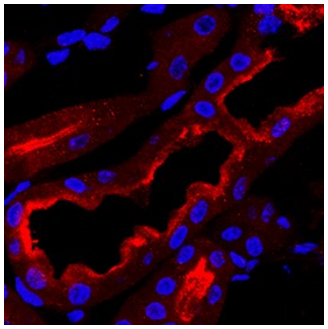
Detection of human and mouse B7-H4 by Western Blot. Western blot shows lysates of mouse uterus tissue, mouse placenta tissue, and JEG-3 human epithelial choriocarcinoma cell line. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human/Mouse B7-H4 Monoclonal Antibody (Catalog # MAB21541) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for B7-H4 at approximately 50-80 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of B7-H4 in HEK293 Human Cell Line Transfected with Mouse B7-H4 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with either (A) mouse B7-H4 or (B) irrelevant protein and eGFP was stained with Rabbit Anti-Human/Mouse B7-H4 Monoclonal Antibody (Catalog # MAB21541) followed by APC-conjugated Goat anti-Rabbit IgG Secondary Antibody (Catalog # F0111). Quadrant markers were set based on Rabbit IgG control antibody staining (Catalog # MAB1050). View our protocol for Staining Membrane-associated Proteins.

Immunohistochemistry



B7-H4 in Mouse Kidney. B7-H4 was detected in perfusion fixed frozen sections of mouse kidney using Rabbit Anti-Human/Mouse B7-H4 Monoclonal Antibody (Catalog # MAB21541) at 10 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces of epithelial cells in convoluted tubules. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human/Mouse B7-H4 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2319B
Catalog Number: MAB21541

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:

1. Yi, K.H. and L. Chen (2009) Immunol. Rev. **229**:145.
2. Salceda, S. *et al.* (2005) Exp. Cell Res. **306**:128.
3. Zang, X. *et al.* (2003) Proc. Natl. Acad. Sci. **100**:10388.
4. Prasad, V.R. *et al.* (2003) Immunity **18**:863.
5. Sica, G.L. *et al.* (2003) Immunity **18**:849.
6. Kryczek, I. *et al.* (2006) J. Exp. Med. **203**:871.
7. Tringler, B. *et al.* (2005) Clin. Cancer Res. **11**:1842.
8. Xue, Q. *et al.* (2010) Stem Cells Dev. **19**:27.
9. Song, H. *et al.* (2008) Cancer Lett. **266**:227.
10. Park, G.B. *et al.* (2009) Immunology **128**:360.
11. Zang, X. *et al.* (2007) Proc. Natl. Acad. Sci. **104**:19458.
12. Krambeck, A.E. *et al.* (2006) Proc. Natl. Acad. Sci. **103**:10391.
13. Simon, I. *et al.* (2006) Cancer Res. **66**:1570.
14. Thompson, R.H. *et al.* (2008) Cancer Res. **68**:6054.
15. Azuma, T. *et al.* (2009) PloS Med. **6**:e1000166.
16. Suh, W.-K. *et al.* (2006) Mol. Cell. Biol. **26**:6403.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449