

B7-H4 (H-108): sc-68872

BACKGROUND

T cell activation and immune function are regulated by the innate immune system through positive and negative costimulatory proteins. One such protein, B7-H4 (B7-homolog 4, also designated VTCN1), belongs to the B7 Immunoglobulin superfamily of ligand-lymphocyte interacting proteins. Expressed primarily on the membrane of lymphoid cells, B7-H4 is an immunoinhibitory protein that interacts with receptors on the surface of T lymphocytes, thus mediating cellular and humoral immune responses. Overexpression of the B7-H4 protein is associated with certain malignancies, including ovarian and breast cancer, as its interaction with T cells suppresses tumor-associated immunity. Current research suggests that, similar to Mucin 16 (CA125), B7-H4 may be a useful biomarker for the early detection of ovarian cancer.

REFERENCES

- Sica, G.L., et al. 2003. B7-H4, a molecule of the B7 family, negatively regulates T cell immunity. *Immunity* 18: 849-861.
- Salceda, S., et al. 2005. The immunomodulatory protein B7-H4 is overexpressed in breast and ovarian cancers and promotes epithelial cell transformation. *Exp. Cell Res.* 306: 128-141.
- Collins, M., et al. 2005. The B7 family of immune-regulatory ligands. *Genome Biol.* 6: 223-223.
- Simon, I., et al. 2006. B7-H4 is a novel membrane-bound protein and a candidate serum and tissue biomarker for ovarian cancer. *Cancer Res.* 66: 1570-1575.
- Ou, D., et al. 2006. Suppression of human T cell responses to β cells by activation of B7-H4 pathway. *Cell Transplant.* 15: 399-410.
- Sun, Y., et al. 2006. B7-H3 and B7-H4 expression in non-small-cell lung cancer. *Lung Cancer* 53: 143-151.

CHROMOSOMAL LOCATION

Genetic locus: VTCN1 (human) mapping to 1p13.1; Vtcn1 (mouse) mapping to 3 F2.2.

SOURCE

B7-H4 (H-108) is a rabbit polyclonal antibody raised against amino acids 116-223 mapping within an internal region of B7-H4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

B7-H4 (H-108) is recommended for detection of B7-H4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

B7-H4 (H-108) is also recommended for detection of B7-H4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for B7-H4 siRNA (h): sc-72384, B7-H4 siRNA (m): sc-72385, B7-H4 shRNA Plasmid (h): sc-72384-SH, B7-H4 shRNA Plasmid (m): sc-72385-SH, B7-H4 shRNA (h) Lentiviral Particles: sc-72384-V and B7-H4 shRNA (m) Lentiviral Particles: sc-72385-V.

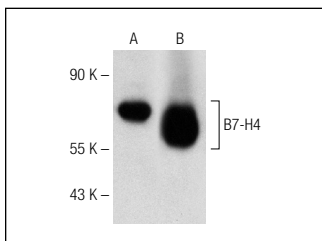
Molecular Weight of B7-H4: 35 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242 or mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



B7-H4 (H-108): sc-68872. Western blot analysis of B7-H4 expression in CTLL-2 whole cell lysate (A) and mouse liver tissue extract (B).

SELECT PRODUCT CITATIONS

- Li, H., et al. 2012. The characteristic expression of B7-associated proteins in Langerhans cell sarcoma. *Acta Histochem.* 114: 733-743.

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Try **B7-H4 (9): sc-66189**, our highly recommended monoclonal alternative to B7-H4 (H-108).