

Store at
-20C
#52200**HHLA2/B7-H7 (E1U6X) Rabbit mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	70-80	Rabbit IgG	#Q9UM44	11148

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

HHLA2/B7-H7 (E1U6X) Rabbit mAb recognizes endogenous levels of total HHLA2/B7-H7 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn101 of human HHLA2/B7-H7 protein.

Background

HERV-H LTR-associating protein 2 (HHLA2, with alternative names of B7-H5 and B7-H7) is a member of the B7 immunoglobulin superfamily (1). HHLA2 protein is constitutively expressed on the surface of human monocytes and is induced on B cells after stimulation with LPS and IFN-γ (1,2). Through interaction with TMIGD2, which is constitutively expressed on all naive T cells and the majority of natural killer cells, but not on T regulatory cells or B cells, HHLA2 co-stimulates T cells in the context of TCR-mediated activation, enhancing T cell proliferation and cytokine production via an AKT-dependent signaling cascade (2). Contrary to this, HHLA2 has also been shown to inhibit T cell proliferation and cytokine production, suggesting a secondary receptor for HHLA2 that is expressed on activated T cells with co-inhibitory functions (3). Moreover, HHLA2 has been shown to be highly expressed in various types of cancer, and is associated with a poor prognosis (4-10). Further understanding the immunologic functions of the HHLA2 pathway will guide the selection of agents used for cancer immunotherapy, autoimmune disorders, infection, and transplant rejection.

Background References

1. Mager, D.L. et al. (1999) *Genomics* 59, 255-63.
2. Zhu, Y. et al. (2013) *Nat Commun* 4, 2043.
3. Zhao, R. et al. (2013) *Proc Natl Acad Sci U S A* 110, 9879-84.
4. Janakiram, M. et al. (2015) *Clin Cancer Res* 21, 2359-66.
5. Koirala, P. et al. (2016) *Sci Rep* 6, 31154.
6. Cheng, H. et al. (2017) *Clin Cancer Res* 23, 825-32.
7. Cheng, H. et al. (2018) *Clin Cancer Res* 24, 1954-64.
8. Zhu, Z. and Dong, W. (2018) *Onco Targets Ther* 11, 1563-70.
9. Shimonosono, M. et al. (2018) *Oncotarget* 9, 22069-78.
10. Chen, D. et al. (2018) *J Med Genet* 56, 43-49.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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