Revision 4

#18798 Store at -20C

4-1BB/CD137/TNFRSF9 (E2J5H) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-Bond, IHC-P, IF-F, IF-IC, FC-FP, FC-L	M	Endogenous	24-28, 40-50	Rabbit IgG	#P20334	21942

Product Usage Information

Application	Dilution
Western Blotting	1:1000
IHC Leica Bond	1:100 - 1:400
Immunohistochemistry (Paraffin)	1:200 - 1:800
Immunofluorescence (Frozen)	1:800 - 1:3200
Immunofluorescence (Immunocytochemistry)	1:800 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:100 - 1:400
Flow Cytometry (Live)	1:100 - 1:400

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.*

For a carrier-free (BSA and azide free) version of this product see product #71948.

Specificity / Sensitivity

4-1BB/CD137/TNFRSF9 (E2J5H) XP® Rabbit mAb recognizes endogenous levels of total 4-1BB/CD137/TNFRSF9 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to the extracellular domain of mouse 4-1BB/CD137/TNFRSF9 protein.

Background

TNFRSF9 is a member of the tumor necrosis factor receptor superfamily (1,2). It is also called 4-1BB or CD137 (1, 2). 4-1BB/CD137/TNFRSF9 is expressed in activated CD4+ and CD8+ T cells, natural killer cells and dendritic cells (2-5). The ligand 4-1BBL/CD137L/TNFSF9 on antigen presenting cells binds to 4-1BB/CD137/TNFRSF9 and costimulates the activation of T cells (5). The binding of agonistic antibodies to 4-1BB/CD137/TNFRSF9 also leads to costimulation for T cell activation (5). Studies have shown the effectiveness of targeting 4-1BB/CD137/TNFRSF9 by its agonistic antibodies in cancer immunotherapy (6).

Background References

1. Sun, Y. et al. (2002) *Nat Med* 8, 1405-13.
2. Wilcox, R.A. et al. (2002) *J Clin Invest* 109, 651-9.
3. Lin, W. et al. (2008) *Blood* 112, 699-707.
4. Wilcox, R.A. et al. (2002) *J Immunol* 168, 4262-7.
5. Melero, I. et al. (1997) *Nat Med* 3, 682-5.
6. Yonezawa, A. et al. (2015) *Clin Cancer Res* 21, 3113-20.

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

WB: Western Blotting **IHC-Bond:** IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin)
IF-F: Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)
FC-FP: Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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