

Store at
-20C
#34594**4-1BB/CD137/TNFRSF9 (D2Z4Y) Rabbit mAb**

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

Applications: W, IP, IHC-P, IF-IC, FC-FP, FC-L	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 32, 40	Source/Isotype: Rabbit IgG	UniProt ID: #Q07011	Entrez-Gene Id: 3604
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunohistochemistry (Paraffin)
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)
Flow Cytometry (Live)

Dilution

1:1000
1:50
1:50 - 1:200
1:250 - 1:1000
1:400 - 1:1600
1:400 - 1:1600

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 #58350.

Specificity/Sensitivity

4-1BB/CD137/TNFRSF9 (D2Z4Y) Rabbit mAb recognizes endogenous levels of total 4-1BB/CD137/TNFRSF9 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the extracellular domain of human 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

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

Cross-Reactivity Key

H: Human

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