



Recombinant Version of Classic Clone

**Cat nr AE00317**

**Product Datasheet**

Rabbit Recombinant Antibody, TKS-1R to:

**mouse CD137L, 4-1BBL**

Tumor necrosis factor ligand superfamily member 9; tumor necrosis factor (ligand) superfamily, member 9; CD137 ligand; 4-1BB ligand; 4-1BBL; 4-1BB-L; AI848817; Cd137I; Cd157I; Ly63I; Ly63J

Cellular localization surface of cell membranes

Official Symbol (Gene) Tnfsf9  
GenelD 21950  
SwissProt P41274

Confirmed Applications FC, Blocking  
Positive controls LPS-activated dendritic cells, LPS-activated macrophages, B lymphoma cell lines, macrophage cell lines  
Aeonian Rating© 100

Purification By Protein A from bioreactor concentrate

Formulation  1 mg IgG/ml in PBS with 0.02% Proclin 300

Amount  200ug  1000ug

Isotype Rabbit IgG, recombinant chimeric version of rat IgG2a clone TKS-1

Confirmed species reactivity Mouse

Immunogen CD137L-transfected NRK cells.

Epitope Near or at the CD137 binding site (Mbanwi et al)

Storage instructions Avoid repeated freeze/thaw cycles. For long term storage, keep small aliquots at -20C or -80C and keep one aliquot at 4C for daily experimentations. Azide will preserve antibody at 4C for 6-12 months, when kept away from direct sun light.

Expiration Integrity warranted for 24 months after purchase when handled and stored according to instructions, see below.

Warranty This product is only warranted for the specifications as described in this product sheet and only when the product is handled and stored according to instructions. User should validate this antibody in the application and tissue/cell type as required, after confirmation of integrity upon receipt is obtained by reproducing the performance as described below. Should such confirmation not be attempted, any warranty is void. In case of non-conformance, user needs to contact us immediately for replacement or refund.

Liability This product is for in vitro research use only. Any other applications, such as diagnostics or therapeutics, or in vivo experiments, and the validation of this product therein, are solely at the responsibility of the buyer/user.

Product performance see next pages

## Product data:

### Immunoassays

#### Flow Cytometry (FC):

The original clone TKS-1 was successfully used on murine cell lines and on splenic activated T cells.

Futagawa T, Akiba H, Kodama T, Takeda K, Hosoda Y, Yagita H, Okumura K. Expression and function of 4-1BB and 4-1BB ligand on murine dendritic cells. *Int Immunol*. 2002 Mar;14(3):275-86. doi: 10.1093/intimm/14.3.275. PMID: 11867564.

The original clone TKS-1 was successfully used on murine LPS-activated bone marrow derived dendritic cells.  
Mbanwi AN, Lin GHY, Wang KC, Watts TH. Constitutive interaction between 4-1BB and 4-1BBL on murine LPS-activated bone marrow dendritic cells masks detection of 4-1BBL by TKS-1 but not 19H3 antibody. *J Immunol Methods*. 2017 Nov;450:81-89. doi: 10.1016/j.jim.2017.08.001. PMID: 28789924.

### Biological activity

#### Blocking CD137/CD137L signalling through splenic dendritic cells:

**The original clone TKS-1 was successfully used to block CD137/CD137L signalling in splenic dendritic cells**

Futagawa T, Akiba H, Kodama T, Takeda K, Hosoda Y, Yagita H, Okumura K. Expression and function of 4-1BB and 4-1BB ligand on murine dendritic cells. *Int Immunol*. 2002 Mar;14(3):275-86. doi: 10.1093/intimm/14.3.275. PMID: 11867564.

#### Partially blocking CD137/CD137L signalling in cocultured astrocytes/microglia:

**The original clone TKS-1 was successfully used to partially block CD137/CD137L signalling in lipid-laden astrocytes seeded with TKS-1 pretreated microglia.**

Kim J, Kwon YH, Kim CS, Tu TH, Kim BS, Joe Y, Chung HT, Goto T, Kawada T, Park T, Choi MS, Kim MS, Yu R. The involvement of 4-1BB/4-1BBL signaling in glial cell-mediated hypothalamic inflammation in obesity. *FEBS Open Bio*. 2018 Apr 19;8(5):843-853. doi: 10.1002/2211-5463.12426. PMID: 29744298.

#### Blocking the CD137 binding site in LPS-activated bone marrow dendritic cells:

**The original clone TKS-1 was successfully used to block the CD137 binding site in murine LPS-activated dendritic cells.**

Mbanwi AN, Lin GHY, Wang KC, Watts TH. Constitutive interaction between 4-1BB and 4-1BBL on murine LPS-activated bone marrow dendritic cells masks detection of 4-1BBL by TKS-1 but not 19H3 antibody. *J Immunol Methods*. 2017 Nov;450:81-89. doi: 10.1016/j.jim.2017.08.001. PMID: 28789924.