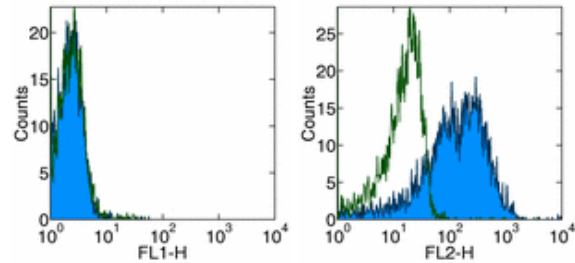


## Product Information

Contents: Biotin anti-mouse 4-1BB Ligand (4-1BBL, 41BBL)  
Catalog Number: 13-5901  
Sizes: 50 ug, 100 ug, 500 ug  
Formulation: Phosphate buffer pH 7.2,  
150 mM NaCl, 0.09% NaN<sub>3</sub>  
Storage Conditions: Store at 4°C.  
DO NOT FREEZE.  
Clone: TKS-1  
Isotype: Rat IgG2a, κ



Surface staining of resting mouse splenocytes (left) and anti-mouse IgM + anti-mouse CD40 stimulated splenocytes (right) with anti-mouse 4-1BB Ligand (TKS-1) PE. Appropriate isotype controls were used (open histogram). Total viable cells were used for analysis.

## Available Formats of This Product

Cat. No.	Format	Excite (nm)	Emit (nm)	Reported Applications
12-5901	PE anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand)	488	575	FC
13-5901	Biotin anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand)	N/A	N/A	FC
14-5901	Affinity Purified anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand)	N/A	N/A	FA FC
16-5901	Functional Grade* Purified anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand)	N/A	N/A	FC

\*Functional Grade™ (FG™): Azide-free, sterile-filtered, and endotoxin < 0.001 ng/μg.  
Purified: Contains azide, not sterile-filtered, and not endotoxin tested.

## Description

The TKS-1 monoclonal antibody reacts with mouse 4-1BB Ligand (4-1BBL), a type II transmembrane protein and a member of the tumor necrosis factor superfamily. 4-1BBL is expressed by activated antigen presenting cells including B cells and macrophages. Interaction of 4-1BBL with 4-1BB (CDw137) is reported to deliver a costimulatory signal important in the T-APC interaction.

## Usage

For research use only, not for diagnostic or therapeutic use. The TKS-1 antibody has been reported for use in flow cytometric analysis.

## Applications Tested

The TKS-1 antibody has been tested by flow cytometric analysis of resting and 2-3day (IgM+CD40)-activated mouse splenocytes. This can be used at less than or equal to 1 μg per million cells in a 100 μl total staining volume. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

## Related Products

- Cat. 11-4317 Streptavidin-FITC (Fluorescein isothiocyanate)
- Cat. 12-4317 Streptavidin-PE (Phycoerythrin)
- Cat. 17-4317 Streptavidin Allophycocyanin (SA-APC)
- Cat. 13-4321 Biotin Rat IgG2a Isotype Control
- Cat. 12-5901 PE anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand) (clone TKS-1)
- Cat. 14-5901 Affinity Purified anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand) (clone TKS-1)
- Cat. 16-5901 Functional Grade Purified anti-mouse 4-1BB Ligand (4-1BBL, 41BBL, CD137L, CD137 Ligand) (clone TKS-1)

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## References

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Akiba, H., Y. Miyahira, et al. (2000). "Critical contribution of OX40 ligand to T helper cell type 2 differentiation in experimental leishmaniasis." J Exp Med 191(2): 375-80.

Futagawa, T., H. Akiba, et al. 2002. Expression and function of 4-1BB and 4-1BB ligand on murine dendritic cells. Int Immunol 14(3): 275-86.

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