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## Product Information

Contents: Affinity Purified anti-human TWEAK
Catalog Number: 14-9915
Sizes: 25 ug, 100 ug
Formulation: Phosphate buffer pH 7.2, 500 mM NaCl, 0.09% $NaN_3$
Storage Conditions: Store at 4°C. Avoid repeated freeze/thaw cycles.
Clone: CARL-1
Isotype: Mouse IgG3, κ

| Available Formats of This Product | | | | |
|---|---|---|---|---|
| Cat. No. | Format | Excite (nm) | Emit (nm) | Reported Applications |
| 12-9915 | PE anti-human TWEAK | 488 | 575 | FC |
| 13-9915 | Biotin anti-human TWEAK | N/A | N/A | ELISA det FC |
| 14-9915 | Affinity Purified anti-human TWEAK | N/A | N/A | FA FC |
| 16-9915 | Functional Grade* Purified anti-human TWEAK | N/A | N/A | FA 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 CARL-1 monoclonal antibody reacts with human TWEAK, a type II transmembrane TNF superfamily member with high identity to TNF in its extracellular portion. TWEAK transcript is expressed broadly in many adult and fetal tissues, however, the staining of human peripheral blood mononuclear cells with monoclonal antibodies shows a more restricted pattern. While freshly isolated PBMCs do not express detectable levels of TWEAK on their surface, IFN-γ-stimulated blood monocytes rapidly upregulate TWEAK surface expression. TWEAK is expressed as membrane bound and secreted forms. Interaction of TWEAK with its counter-receptor promotes secretion of IL-8, activation of NF-κB, proliferation of endothelial cells, and apoptosis in a number of human cell lines. Initially, DR3 was thought to be a receptor for TWEAK, but further studies have shown that TWEAK could induce apoptosis via receptors distinct from DR3. While TWEAK exhibits overlapping signaling functions to TNF, it is generally less effective in inducing apoptosis, giving rise to its name, TNF-like weak inducer of apoptosis. For detection of human TWEAK by sandwich ELISA, a combination of purified CARL-2 for capture and biotinylated CARL-1 for detection is recommended.

## Usage

For research use only, not for diagnostic or therapeutic use. The CARL-1 antibody has been reported for use in flow cytometric analysis. It has also been reported in blocking of TWEAK-induced cell death in functional studies. (Please use Functional Grade purified CARL-1, cat. 16-9915, in functional assays.)

## Applications Tested

The CARL-1 antibody has been tested by flow cytometric analysis of transfected cells and IFN-γ-stimulated human PBMCs. This can be used at less than or equal to 1 µg per 100 µl blood (or per 1 million cells in 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. 11-4011 FITC Anti-Mouse IgG
Cat. 13-4013 Biotin Anti-Mouse IgG (clone Polyclonal)
Cat. 11-4317 Streptavidin-FITC (Fluorescein isothiocyanate)
Cat. 12-4317 Streptavidin-PE (Phycoerythrin)
Cat. 17-4317 Streptavidin Allophycocyanin (SA-APC)

Cat. 14-4742 Affinity Purified Mouse IgG3 Isotype Control
Cat. 12-9915 PE anti-human TWEAK (clone CARL-1)
Cat. 13-9915 Biotin anti-human TWEAK (clone CARL-1)
Cat. 16-9915 Functional Grade Purified anti-human TWEAK (clone CARL-1)
Cat. 14-9916 Affinity Purified anti-human TWEAK (clone CARL-2)

## References


Nakayama, M., N. Kayagaki, et al. (2000). "Involvement of TWEAK in Interferon {gamma}-stimulated Monocyte Cytotoxicity." J. Exp. Med. 192(9): 1373-1380.

Chicheportiche, Y., P. R. Bourdon, et al. (1997). "TWEAK, a new secreted ligand in the tumor necrosis factor family that weakly induces apoptosis." J Biol Chem 272(51): 32401-10.

Kaplan, M. J., D. Ray, et al. (2000). "TRAIL (Apo2 ligand) and TWEAK (Apo3 ligand) mediate CD4+ T cell killing of antigen-presenting macrophages [In Process Citation]." J Immunol 164(6): 2897-904.

Lynch, C. N., Y. C. Wang, et al. (1999). "TWEAK induces angiogenesis and proliferation of endothelial cells." J Biol Chem 274(13): 8455-9.

Schneider, P., R. Schwenzer, et al. (1999). "TWEAK can induce cell death via endogenous TNF and TNF receptor 1." Eur J Immunol 29 (6): 1785-92.



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