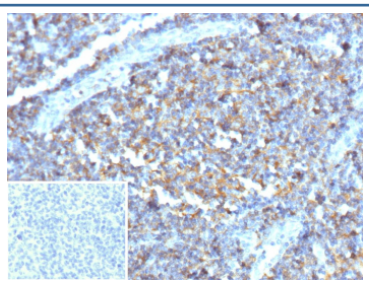
# TNFRSF9 Antibody / 4-1BB / Tumor necrosis factor receptor superfamily member 9 / CD137 [clone rS16] (V5923)

| Catalog No. | Formulation | Size |
|---|---|---|
| V5923-100UG | 0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide | 100 ug |
| V5923-20UG | 0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide | 20 ug |
| V5923SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

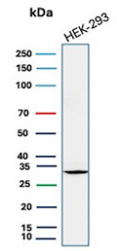
Recombinant | MOUSE MONOCLONAL

**Bulk quote request**

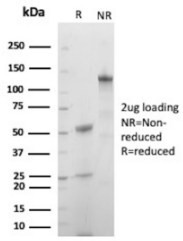
| | |
|---|---|
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Recombinant Mouse Monoclonal |
| **Isotype** | Mouse IgM, kappa |
| **Clone Name** | rS16 |
| **UniProt** | Q07011 |
| **Localization** | Cell membrane, Cytoplasm |
| **Applications** | Immunohistochemistry (FFPE) : 1-2ug/ml<br>Western Blot : 2-4ug/ml |
| **Limitations** | This TNFRSF9/4-1BB antibody is available for research use only. |



Immunohistochemistry analysis of recombinant TNFRSF9 / CD137 antibody (clone rS16) in human tonsil. Formalin-fixed, paraffin-embedded human tonsil tissue shows membranous and cytoplasmic brown chromogenic staining in scattered lymphoid cells, consistent with TNFRSF9-positive immune cell populations within lymphoid tissue. Inset shows a PBS-only negative control processed without primary antibody, demonstrating minimal non-specific background staining.




Western blot analysis of human HEK293 cell lysate using recombinant TNFRSF9/4-1BB antibody (clone rS16). Expected molecular weight: ~30 kDa monomer and 55-60 kDa dimer. Higher molecular weights may be observed due to glycosylation.




SDS-PAGE Analysis of purified recombinant TNFRSF9/4-1BB antibody (clone rS16). Confirmation of Purity and Integrity of Antibody.

## Description

TNFRSF9 antibody targets Tumor necrosis factor receptor superfamily member 9, a cell surface costimulatory receptor that is a member of the TNF receptor superfamily. TNFRSF9 is also widely known as 4-1BB and CD137 and is encoded by the TNFRSF9 gene. The protein is a type I transmembrane receptor primarily localized to the plasma membrane and is inducibly expressed following immune cell activation. TNFRSF9 antibody reagents are commonly used to study immune activation states due to the receptor's tightly regulated expression pattern.

TNFRSF9 expression is low or undetectable on resting T lymphocytes but is rapidly upregulated upon antigen stimulation. Activated CD8+ T cells show particularly strong induction of TNFRSF9, with additional expression observed on activated CD4+ T cells, natural killer cells, dendritic cells, and subsets of monocytes. Engagement of TNFRSF9 triggers intracellular signaling pathways that support cell survival, proliferation, and cytokine production, reinforcing immune responses during both acute and chronic stimulation.

As a costimulatory receptor, TNFRSF9 plays a central role in sustaining T cell effector function and promoting the formation of long-lived memory T cells. Antibody-based detection of TNFRSF9 is therefore widely applied in studies examining immune regulation, T cell differentiation, and immune exhaustion. Increased TNFRSF9 expression has been documented in inflammatory conditions and in tumor-infiltrating lymphocyte populations, making TNFRSF9 antibody tools valuable in immunology and cancer research contexts.

Beyond T cells, TNFRSF9 signaling influences interactions between immune cells within complex tissue environments. Expression of TNFRSF9 has been associated with immune activation in secondary lymphoid tissues and inflamed peripheral tissues. Analysis using a 4-1BB antibody enables researchers to assess costimulatory receptor dynamics and immune activation status across diverse experimental models. Clone rS16 is designed to recognize TNFRSF9 and is suitable for research applications focused on immune signaling, costimulatory receptor biology, and immune cell characterization.

## Application Notes

1. Optimal dilution of the TNFRSF9//4-1BB antibody should be determined by the researcher.

2. This TNFRSF9//4-1BB antibody is recombinantly produced by expression in CHO cells.

## Immunogen

Prokaryotic recombinant protein corresponding to a 140 amino acid sequence from the external domain of the N-terminus

of the human CD137 molecule was used as the immunogen for the TNFRSF9/4-1BB antibody.

## Storage

TNFRSF9//4-1BB antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.