Immune Checkpoint TIGIT Antibody [clone TIGIT/3034] (V5872)

| Catalog No.	Formulation	Size
V5872-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5872-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5872SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	TIGIT/3034
UniProt	Q495A1
Localization	Nucleus
Applications	ELISA :
Limitations	This Immune Checkpoint TIGIT antibody is available for research use only.
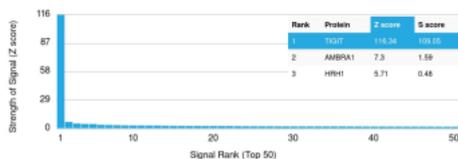
Analysis of Protein Array containing more than 19,000 full-length human proteins using Immune Checkpoint TIGIT antibody (clone TIGIT/3034). Z- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (MAb) (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProtTM array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProtTM are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a MAb to its intended target. A MAb is considered to specific to its intended target, if the MAb has an S-score of at least 2.5. For example, if a MAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that MAb to protein X is equal to 29.
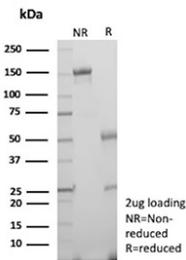
SDS-PAGE Analysis of purified Immune Checkpoint TIGIT antibody (clone TIGIT/3034). Confirmation of Purity and Integrity of Antibody.

Description

Immune checkpoint TIGIT antibody targets T-cell immunoreceptor with Ig and ITIM domains, an inhibitory surface receptor encoded by the TIGIT gene that plays a central role in restraining immune activation. TIGIT is expressed on multiple immune cell subsets, including activated effector T cells, regulatory T cells, and natural killer cells, where it functions as a negative regulator of immune responses. As part of the immune checkpoint network, TIGIT helps balance immune activation and tolerance under physiological and pathological conditions.

TIGIT exerts its inhibitory function through engagement with ligands of the poliovirus receptor family, most notably CD155 and CD112, which are expressed on antigen-presenting cells, endothelial cells, and many tumor cells. Ligand binding favors inhibitory signaling through the TIGIT cytoplasmic ITIM domain, resulting in suppression of T-cell receptor signaling, reduced cytokine production, and diminished cytotoxic activity. Immune checkpoint TIGIT antibody detection is therefore useful for examining immune suppression mechanisms in complex tissue environments.

In addition to direct signaling effects, TIGIT influences immune responses by shaping the cellular microenvironment. TIGIT engagement can promote immunosuppressive phenotypes in antigen-presenting cells and reinforce regulatory signaling circuits that limit effector immune activity. These effects contribute to immune adaptation during chronic antigen exposure and play an important role in maintaining immune homeostasis during prolonged inflammatory stimulation.

Pathologically, elevated TIGIT expression is a hallmark of immune exhaustion and is frequently observed in tumor-infiltrating lymphocytes and chronically stimulated immune cells. High TIGIT levels are associated with impaired antitumor immunity and reduced immune-mediated clearance, making TIGIT a focal point in immuno-oncology research. Dysregulated TIGIT signaling has also been implicated in chronic infection and autoimmune disease, where inappropriate immune inhibition or activation contributes to disease progression.

Clone TIGIT/3034 is designed to recognize immune checkpoint TIGIT in research applications. Immune checkpoint TIGIT antibody reagents are suitable for detecting checkpoint receptor expression in immune cells and tissue samples, supporting studies focused on immune exhaustion, checkpoint pathway regulation, and disease-associated immune suppression.

Application Notes

Optimal dilution of the Immune Checkpoint TIGIT antibody should be determined by the researcher.

Immunogen

Recombinant full-length human TIGIT protein was used as the immunogen for the Immune Checkpoint TIGIT antibody.

Storage

Immune Checkpoint TIGIT antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.