CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	TNF-Alpha, Mouse, clone V1q		
Catalog number	HM1021-20UG		
Lot number	-	**Expiry date**	-
Volume	200 µl	**Amount**	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA	**Concentration**	100 µg/ml
Host Species	Rat IgD	**Conjugate**	None
Endotoxin	<24 EU/mg	**Purification**	Affinity
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #				2,4	1,3,5			
Yes				•	•			
No								
N.D.	•	•	•			•	•	•

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- FC: Antibody V1q stains the extracellular domain of mouse TNF-α. The CHO cells were fixed in PBA containing 0.2 % formaldehyde before staining. As positive control mTNF-α transfected cells were used. (Ref.2)
- FS: Antibody V1q functions as a neutralizing antibody. The antibody was functionally tested by neutralization of the cytopathic effect of cytotoxin in the L929 TNF bioassay. The biological activity of the antibody can be defined as the concentration of V1q required to neutralize 100 U/ml of TNF/cytotoxin. (Ref.1).

General Information

Description

The monoclonal antibody V1q recognizes mouse tumor necrosis factor alpha (TNF-α). TNF-α is the prototype cytokine of the family of TNF-related ligands, which are based on structural and functional homologies. TNF-α is synthesized as type II transmembrane protein. TNF-α can be recognized by two different membrane receptors, namely TNF-R1 and TNF-R2. TNF-α is present in a membrane-bound (tmTNF) as well as soluble form (sTNF). The membrane-bound form of TNF-α is recognized by both TNF receptors with high affinity, whereas the soluble form is recognized more superiorly by TNF-R1. TNF-α is produced by many different cell types including macrophages, T lymphocytes, NK cells, neutrophils and endothelial cells. Cells differ in the expression of the two TNF-receptors and sTNF versus tmTNF, respectively.
TNF-α, a homotrimeric 17 kDa protein, is a potent mediator of inflammatory and metabolic functions. TNF-α was originally detected as a highly cytotoxic cytokine for tumor cells, it causes tumor necrosis in vivo and shows cytolytic activity against tumor cells in vitro. Furthermore, TNF-α has been implied as central mediator in shock induced by gram negative micro-organisms. TNF-α induces on its turn the production of many other cytokines. Furthermore, TNF-α has been found in inflammatory foci such as synovial effusions in rheumatoid arthritis, systemic circulation in septic shock, parasitemia and rejection of renal transplants. The monoclonal antibody V1q recognizes both natural and recombinant TNF-α and shows neutralizing activity.

Immunogen

Cytotoxin purified from conA induced T cell clone 29.

Aliases

TNF, TNF-SF2, DIF, cachectin, TNF-α, tumor necrosis factor ligand superfamily member 2

Cross reactivity

Chinese hamster TNF-α: Yes
Receptor bound mouse TNF-α: No

References

1. Echtenacher, B et al; Requirement of endogenous tumor necrosis factor/cachectin for recovery from experimental peritonitis. J Immunol 1990, 145: 3762
2. Gerspach, J et al; Detection of membrane-bound tumor necrosis Factor (TNF): an analysis of TNF-specific reagents. Microsc Res Tech 2000, 50: 243
3. Demjen, D et al; Neutralization of CD95 ligand promotes regeneration and functional recovery after spinal cord injury. Nat Med 2004, 10: 389
4. Rajashekhar, G et al; Divergent and convergent effects on gene expression and function in acute versus chronic endothelial activation. Physiol Genomics 2007, 31: 104

5. Sangaletti, S et al; Oncogene-driven intrinsic inflammation induces leukocyte production of tumor necrosis factor that critically contributes to mammary carcinogenesis. Cancer Res 2010, 70: 7764

Storage&stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC	Date
Brenda Teunissen	26/10/2020

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.