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Anti-TNF alpha (Humicade), Human IgG4 Antibody

Catalog # ABV11787

Product Information

Application	E
Primary Accession	P01375
Reactivity	Human
Host	Recombinant
Clonality	Monoclonal
Isotype	Human IgG4, kappa
Calculated MW	25644

Additional Information

Gene ID	7124
Alias Symbol	TNF
Other Names	Tumor necrosis factor superfamily member 2, TNFSF2, TNFA
Appearance	Colorless liquid
Formulation	200 □g affinity purified human antibody in phosphate-buffered saline (PBS) containing 0.02% Proclin 300
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-TNF alpha (Humicade), Human IgG4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TNF
Synonyms	TNFA, TNFSF2
Function	Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. Impairs regulatory T- cells (Treg) function in individuals with rheumatoid arthritis via FOXP3 dephosphorylation. Up-regulates the expression of protein phosphatase 1 (PP1), which dephosphorylates the key 'Ser-418' residue of FOXP3, thereby inactivating FOXP3 and rendering Treg cells functionally defective (PubMed:23396208). Key mediator of cell death in the anticancer action of BCG-stimulated neutrophils in combination with

	DIABLO/SMAC mimetic in the RT4v6 bladder cancer cell line (PubMed:16829952, PubMed:22517918, PubMed:23396208). Induces insulin resistance in adipocytes via inhibition of insulin-induced IRS1 tyrosine phosphorylation and insulin-induced glucose uptake. Induces GKAP42 protein degradation in adipocytes which is partially responsible for TNF-induced insulin resistance (By similarity). Plays a role in angiogenesis by inducing VEGF production synergistically with IL1B and IL6 (PubMed:12794819). Promotes osteoclastogenesis and therefore mediates bone resorption (By similarity).
Cellular Location	Cell membrane; Single-pass type II membrane protein [Tumor necrosis factor, soluble form]: Secreted [C-domain 2]: Secreted.

Background

The antibody binds specifically to TNF-alpha, a pro-inflammatory cytokine which stimulates release of other cytiokines e.g. IL-1, IL-6 and GM-CSF as well as secretion of ICAM-1 and VCAM-1 from endothelial cells. It stimulates acute phase responses and acts as a chemoattractant for NK cells and monocytes/macrophages. The antibody reached Phase II clinical trials with Celltech, UCB.