

## Anti-Lymphotoxin alpha [3F12.2D3] Standard Size Ab00788-3.0

**Isotype and Format:** Mouse IgG2b, Kappa

**Clone Number:** 3F12.2D3

**Alternative Name(s) of Target:** LT $\alpha$ 3 chimeric 3F12;LT;; LT $\alpha$ ; Tumor necrosis factor beta; Tumor necrosis factor  $\beta$ ; Tumor necrosis factor-beta; tumor necrosis factor- $\beta$ ; TNF beta; TNF-beta; TNF  $\beta$ ; TNF- $\beta$ ; Lymphotoxin-alpha; Lymphotoxin alpha

**UniProt Accession Number of Target Protein:** P01374

**Published Application(s):** neutralize, SPR, ELISA, FC

**Published Species Reactivity:** Human

**Immunogen:** 3F12 was prepared by hyperimmunizing BALB/c mice with purified recombinant human LT $\alpha$  expressed in E. coli - the hybridoma clone was selected for its ability to bind LT $\alpha$ 3 by ELISA. The CDRs of the antibody were grafted to the framework regions of the mice mAb 2G7 to create the chimeric version of the antibody.

**Specificity:** 3F12 binds to human LT $\alpha$ 3 and LT $\alpha$  $\beta$  (with a KD of ~0.3 nM, determined by BIAcore; ~ 37 pM, determined by ELISA) in both its soluble homotrimeric and membrane heterotrimeric forms. LT $\alpha$  belongs to the tumor necrosis factor (TNF) superfamily and is secreted as a homo-trimer (LT $\alpha$ 3), or is expressed on the cell surface in complex with LT $\beta$ . Lymphotoxin is produced by lymphocytes and in its homotrimeric form binds to TNFRSF1A/TNFR1, TNFRSF1B/TNFR and TNFRSF14/HVEM. LT $\alpha$ 3 signaling induces target cells to upregulate many chemokines and cytokines in an NF $\kappa$ B-dependent manner.

**Application Notes:** The properties of the chimieric 3F12 is equivalent to that of the original 3F12 mAb. 3F12 is able to bind to Th2 cells and additionally is can functionally block human LT $\alpha$ 3 versus an isotype control (trastuzumab) - LT $\alpha$ 3-induced ICAM upregulation is blocked on HUVEC (Human Umbilical Endothelial Cells) (IC50 0.04 nM) and LT $\alpha$ 3-induced IL-8 is blocked in A549 cells. The antibody has also been used in ELISA studies to detect LT-alpha and to measure binding.

**Antibody First Published in:** Catellana et al. Resurrection of a Clinical Antibody: Template ProteoGenomic de novoProteomic Sequencing and Reverse Engineering of an Anti-Lymphotoxin Alpha Antibody Proteomics. 2011 Feb; 11(3): 395–405. [PMID:21268269](#)

**Note on publication:** Describes the generation of anti-LT antibody and compares binding specificity and affinity of the chimeric antibody against the original antibody by BIAcore and ELISA.

## Product Form

**Size:** 200 µg Purified antibody.

**Purification:** Protein A affinity purified

**Supplied In:** PBS with 0.02% Proclin 300.

**Storage Recommendation:** Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.