

## Anti-Tissue factor [D3H44] Bulk size M Ab03461-10.29-BS

This is a Fab fragment with His tag.

This reformatted human antibody was made using the variable domain sequences of the original Human Fab format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Human Fab fragment, His-Tagged, Kappa

**Clone Number:** D3H44

**Alternative Name(s) of Target:** CD142; TF; hTF; F3; Coagulation factor III; Thromboplastin; platelet tissue factor; factor III; D3

**UniProt Accession Number of Target Protein:** P13726

**Published Application(s):** functional assay, neutralize, WB, ELISA, IF

**Published Species Reactivity:** Human

**Immunogen:** The original antibody was generated by grafting CDRs of parental murine antibody D3 onto human framework regions. Using computer graphics model of the murine D3 heavy and light chain sequences several amino acid residues in the CDRs as well as framework region of light and heavy chains were altered using site-directed mutagenesis in order to optimize antigen binding.

**Specificity:** This antibody binds human tissue factor (TF) a hemostatic protein which is involved in the extrinsic pathway of coagulation. TF is receptor for circulating serine protease factor VIIa, activating the catalytic VIIa protease domain. The complex formed functions to activate the zymogen factor X into activated factor Xa, which then catalyzes the formation of Prothrombin to Thrombin. The pathway results in a fibrin clot which acts to stop bleeding. TF plays a role in normal hemostasis by initiating the cell-surface assembly and propagation of the coagulation protease cascade.

**Application Notes:** This antibody is the humanized and affinity matured version of murine antibody D3. This antibody binds human tissue factor with a 100-fold increased affinity (KD 0.1 nM.) as compared to the original murine and chimeric versions. In vitro, D3H44 displays potent inhibition of plasma clotting, prevents FXa activation through the TF/FVIIa pathway (IC50 = 47 pM) and prevents fibrin deposition in a human ex-vivo thrombosis model (IC50 = 37 nM.) (PMID: 11307801). In vivo studies with this antibody demonstrated efficient antithrombotic activity. Anti-TF antibodies may prove useful in cardiovascular disorders and cancer, given the role of TF in these diseases (PMID: 15379713). This antibody was used in the immunofluorescence staining of tissue factor expressed on the surface of SW480 colon cancer cells. Fibrin formation was observed in plasma after 200 secs (PMID: 30462538).

**Antibody First Published in:** Presta et al. Generation of a humanized, high affinity anti-tissue factor

antibody for use as a novel antithrombotic therapeutic. Thromb Haemost. 2001 Mar;85(3):379-89.

[PMID:11307801](#)

**Note on publication:** Describes the generation and characterization of humanized version of murine anti-tissue factor antibody D3.

## Product Form

**Size:** 1 mg Purified antibody in bulk size.

**Purification:** Purified by Immobilized Metal Affinity Chromatography

**Supplied In:** PBS only.

**Storage Recommendation:** Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20°C.

**Concentration:** See vial label

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