FITC CONJUGATED MONOCLONAL ANTIBODY TO HUMAN TUMOR NECROSIS FACTOR RECEPTOR I (TNF-RI)
clone H398

Catalog no
HM2020F (lot number and expiry date are indicated on the label)

Description
The monoclonal antibody H398 recognizes the extracellular part of the Tumor Necrosis Factor Receptor type I (TNF-RI) of the membrane-bound as well as the soluble receptor. TNF-RI (~55-60 kDa) is present on most cell types and is considered to play a prominent role in cell stimulation by TNF-alpha. TNF-alpha activates inflammatory responses, induces apoptosis, regulates cellular proliferation, and may even promote cancer progression. The effects of TNF-alpha are mediated by TNF-R1 and TNF-R2, which have both distinct and overlapping downstream signaling cascades. Induction of cytotoxicity and other functions are mediated largely via TNF-RI. TNF-R1 is equally well activated by both the 17 kDa soluble and 26 kDa membrane-bound form, whereas TNF-R2 is efficiently activated only by the membrane bound form of TNF-alpha.
TNF-R1 signaling is initiated when trimeric TNF-alpha binds TNF-R1 receptors. Subsequent TNF-R1 trimerization promotes the recruitment of a proximal signaling complex composed of TNF Receptor Associated protein with a Death Domain (TRADD), Receptor Interacting Protein (RIP), cellular Inhibitor of Apoptosis Protein 1 (cIAP1), TNF Receptor Associated Factor 2 (TRAF2), and likely TRAF5. Studies with TNF-R1-deficient mice indicate that TNF-R1 mediates most of the proliferation, pro-inflammatory, and apoptosis-activating pathways.

Aliases
CD120a, Tumor necrosis factor receptor superfamily member 1A, p55/p60, TNFR-1

Species
Mouse IgG_{2a}

Cross reactivity
The monoclonal antibody H398 shows no cross-reactivity with TNF-RII.
The monoclonal antibody H398 is cross reactive with rat TNF-RI.

Formulation
1 ml (100 µg/ml) 0.2 µm filtered FITC conjugated antibody solution in PBS, containing 1% bovine serum albumin and 0.02 % sodium azide.

Application
The FITC conjugated monoclonal antibody H398 can be used for immuno assay, flow cytometry, and Western blotting. Furthermore, the FITC conjugated monoclonal antibody H398 is useful for immunohistology on frozen sections. Be aware that the antibody competes with TNF-alpha.

Use
For immunohistology, flow cytometry and Western blotting, 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.

Storage and stability
Product should be stored at 4°C. Under recommended storage conditions, product is stable for 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 with the use or derivation of this product.

References

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2. Grell, M et al; TR60 and TR80 tumor necrosis factor (TNF)-receptors can independently mediate cytolysis. Lymphokine Cytokine Res 1993, *12*: 143
3. Scheurich, P et al; Agonistic and antagonistic antibodies as a tool to study the functional role of human tumor necrosis factor receptors. Tumor Necrosis factor 1993, *4*: 52
4. Grell, M et al; The type 1 receptor (CD120a) is the high-affinity receptor for soluble tumor necrosis factor. Proc Natl Acad Sci USA 1998, *95*: 570
5. Krippner-Heidenreich, A et al; Single-chain TNF, a TNF derivative with enhanced stability and antitumoral activity. J Immunol 2008, *180*: 8176
6. Kontermann, R et al; A humanized tumor necrosis factor receptor 1 (TNFR1)-specific antagonistic Antibody for selective inhibition of tumor necrosis factor (TNF) action. J Immunother 2008, *31*: 225

Also available

HM2020	Monoclonal antibody against Human TNF-RI, clone H398
HM2021	Biotinylated monoclonal antibody against Human TNF-RI, clone H398
HM2005	Monoclonal antibody against Human TNF-RI, clone MR1-2, agonistic
HM2006	Biotinylated monoclonal antibody against Human TNF-RI, clone MR1-2, agonistic
HP9002	Polyclonal antibody against Human TNF-RI, agonistic