# TNF-RII, MOUSE, CLONE HM102, R-PE LABELED

**Catalog no** HM1011PE-100

**Lot number** -

**Expiry date** -

**Description** The monoclonal antibody HM102 recognizes the extracellular part of membrane-bound TNF-RII as well as the soluble form of TNF-RII which is generated by proteolytic cleavage of the extracellular domain. The soluble form can still bind TNF-alpha with high affinity and functions as a TNF-alpha antagonist. TNF-alpha is an important signalling protein in the immune system which can activate inflammatory responses, induce apoptosis, regulate cellular proliferation, and may even promote cancer progression. TNF-alpha can bind to two structurally distinct membrane receptors, TNF-RI and TNFRII, which have both distinct and overlapping downstream signaling cascades. TNFRI is believed to be expressed on nearly all cell types, whereas TNFRII exhibits more restricted expression, being found on certain subpopulations of immune cells and several other cell types. A dominant role of TNFRII has been shown in thymocyte activation by TNF-alpha, whereas induction of cytotoxicity and other functions are mediated largely by TNF-RI. TNF-RI is equally well activated by both the 17 kDa soluble and 26 kDa membrane-bound form, whereas TNF-RII is activated only by the membrane bound form of TNF-alpha. The antibody is an agonistic receptor modulating antibody. It enhances *in vitro* TNF alpha responses by increasing the affinity of the soluble form of TNF-alpha for TNF-RII.

**Aliases** Tumor necrosis factor receptor superfamily member 1B, CD120b, TNF-R2, p75, p80 TNF-alpha receptor
Gene name: Tnfrsf1b

**Species** Rat $Ig2_a$

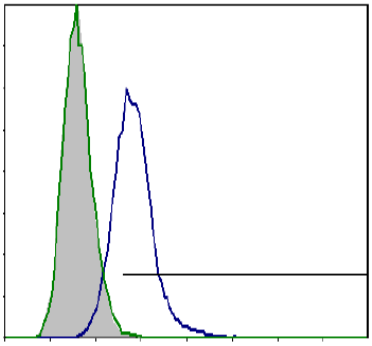
**Formulation** 100 tests of 0.2 µm protein G purified R-PE labeled antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02 % sodium azide.

**Application**

| | F | FC[1,5,6] | FS[2,3,5] | IA | IF | IP | P | W[4] |
|---|---|---|---|---|---|---|---|---|
| Yes | ● | ● | ● | ● | | ● | | ● |
| No | | | | | | | | |
| N.D. | | | | | ● | | ● | |

*N.D.= Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot*
*Application IA has been tested by Hycult Biotech. Application IP and F are based on personal communication.*

**Application notes** 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. For functional studies, *in vitro* dilutions have to be optimized in user's experimental setting.
FS: In most cases 2µg/ml acts agonistically
FC: 100.000 microglia cells were incubated with 10µg/ml PBS/1%serum for 30 min on ice
W: A reduced sample treatment and SDS-Page was used. The band size (s) is 75 kDa (Ref.4).



Flow cytometric detection of mouse TNF-RII (5µg/ml) on 500,000 BV2 microglial cells (clone HM102). Green line represents an isotype-control, whereas the purple line represents clone HM102.

**References**


1. Tacchini-Cottier, F et al; Role of TNFR1 and TNFR2 in TNF-induced platelet consumption in mice. J Immunol 1998, *160*: 6182
2. Brekke, O et al. Specificity of endogenous fatty acid release during tumor necrosis factor-induced apoptosis in WEHI164 fibrosarcoma cells. J of Lipid res. 1999, *40*:2223
3. Marchetti, L et al; Tumor Necrosis Factor (TNF)-mediated neuroprotection against glutamate-induced excitotoxicity is enhanced by N-methyl-D-aspartate receptor activation. J Biol Chem 2004, *279*: 32869
4. Taoufik, E et al; FLIPL protects neurons against in vivo ischemia and in vitro glucose deprivation-induced cell death. J Neurosci 2007, *27*: 6633
5. Veroni, C et al; Activation of TNF receptor 2 in microglia promotes induction of anti-inflammatory pathways. Mol Cell Neurosci 2010, *45*: 234
6. Chee, J et al. TNF receptor 1 deficiency increases regulatory T cell function in nonobese diabetic mice. J immunol 2011, *187*:1702-1712


**Storage and 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.