

Anti-CD71 [ch128.1] Standard Size Ab04359-23.0

Isotype and Format: Rabbit IgG, Kappa

Clone Number: ch128.1

Alternative Name(s) of Target: TFRC; TfR1; TR; TfR; hTfR1; Transferrin receptor protein 1; p90; 128.1; anti-hTfR IgG3

UniProt Accession Number of Target Protein: P02786

Published Application(s): Cristallography, in vitro, in vivo

Published Species Reactivity: Monkey, Human

Immunogen: The antibody was constructed by substituting the variable regions of anti-dansyl IgG3 with those of the murine IgG1 anti-human TfR monoclonal Ab (mAb) 128.1. Ab128.1 was generated by immunizing mice with the external domain of the human transferrin (Tf) receptor.

Specificity: The antibody binds the apical domain of hTfR1.

Application Notes: The IgG3 format of the antibody cross-linked with a secondary antibody inhibits the growth and induces apoptosis in ARH-77 cells. The IgG3 format of the antibody cross-linked with a secondary Ab induces intracellular degradation of the TfR (Ng et al., 2006; PMID: 16804109). The IgG3 format of the antibody was able to block the entry of MLV pseudotyped with the envelope glycoproteins of JUNV, GTOV, CHAV, SABV, and MACV in CHO-K1 cells. The 50% inhibitory concentration (IC50) of the IgG3 format of the antibody for these pseudoviruses was measured in HEK293T cells. The antibody showed subnanomolar IC50 for all NW hemorrhagic fever arenaviruses. The IgG3 format of the antibody could antagonize replication-competent JUNV. Surface plasmon resonance assays confirmed that the IgG3 format of the antibody has a high affinity for hTfR1 ($K_d = 5.7$ nM). The IgG3 format of the antibody detected CD71 in different kind of cells (HEK 293T, sMAGI, Vero) by flow cytometry. The antibody was able to block JUNV pseudovirus entry in sMAGI and Vero cells (Helguera et al., 2012; PMID: 22278244). The IgG1 format of the antibody could inhibit JUNV infection in vitro ($EC_{90} = 0.73$ nM). The IgG1 format of the antibody protects hTfR1-expressing transgenic mice against lethal NWM challenge. The crystal structure of the Fab fragment of the antibody was determined (Hickerson et al., 2022; PMID: 35091550).

Antibody First Published in: White et al. Combinations of anti-transferrin receptor monoclonal antibodies inhibit human tumor cell growth in vitro and in vivo: evidence for synergistic antiproliferative effects Cancer Res. 1990 Oct 1;50(19):6295-301. [PMID:2400993](#)

Note on publication: The original paper describes the generation and characterization of the antibody.

Product Form

Size: 100 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.