



## CD71 monoclonal antibody

Catalog: MB65819

Host: Mouse

Reactivity: Human

### BackGround:

Transferrin receptor 1 (CD71, TFRC) is a type II transmembrane receptor and carrier protein responsible for the uptake of cellular iron through receptor-mediated endocytosis. Neutral pH at the cell surface promotes binding of the iron-binding glycoprotein transferrin (Tf) to the CD71 receptor. The receptor-ligand complex enters the cell through receptor-mediated endocytosis and is internalized into an endosome. Relatively lower endosomal pH leads to a change in the local charge environment surrounding the iron-transferrin binding site and results in the release of iron. The receptor-ligand complex is recycled to the cell surface where transferrin dissociates from the CD71 receptor. Ubiquitously expressed transferrin receptor is continuously recycled and undergoes clathrin-mediated endocytosis regardless of ligand binding state. The interaction between receptor and ligand has been studied in detail. The helical domain of CD71 directly interacts with the transferrin C-lobe and induces a conformation change in Tf to facilitate the transport process. Interaction between the receptor CD71 and transferrin is mediated by the membrane protein hemochromatosis (HFE). HFE binds the  $\alpha$ -helical domain of CD71, blocking formation of the CD71-transferrin complex and inhibiting iron uptake. In addition to binding transferrin, CD71 also interacts with H-ferritin at the cell surface and transports this intracellular iron storage protein to cellular endosomes and lysosomes. Additional studies indicate that the transferrin receptor is an evolutionarily conserved receptor for a number of arenaviruses and at least one retrovirus. Aberrant expression of CD71 is seen in a number of cancers, including thyroid carcinomas, lym-

phomas, and T-lineage leukemias, suggesting a possible therapeutic role for targeted inhibition of the transferrin receptor.

### Product:

Mouse IgG1. Liquid in PBS, pH 7.3, and 0.02% sodium azide.

### Molecular Weight:

~ 84 kDa

### Swiss-Prot:

P02786

### Purification&Purity:

The monoclonal antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

### Applications:

IF (1/50 - 1/200)

### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

### Specificity:

Recognizes human CD71

### DATA:

### Note:

For research use only, not for use in diagnostic procedure.

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