Technical Data Sheet

Purified Mouse Anti-Human Transferrin Receptor

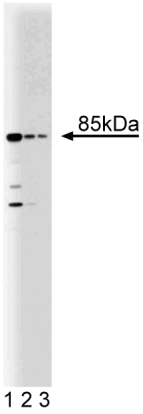
Product Information

Material Number:	**612124**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	2/Transferrin
Immunogen:	Human Transferrin Receptor aa. 517- 623
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	85 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Iron acquisition is a prerequisite for cell proliferation. The transferrin receptor is the primary mode of iron uptake. This receptor mediates iron uptake through internalization and recycling of the iron carrying serum protein transferrin. Binding of transferrin to its receptor causes rapid internalization into an acidic intracellular compartment where iron dissociates from transferrin. Both the receptor and transferrin are then recycled through the exocytic pathway. The transferrin receptor is expressed in most cells and tissues, especially proliferating cells, and the receptor is expressed as a dimer of identical intergral membrane proteins. Transferrin receptor mRNA expression is inversely proportional to iron availability, and this regulation occurs through post-transcriptional control of mRNA stability. Transferrin receptor mRNA contains iron responsive elements (IRE) that are bound by IRE-binding proteins (IRP). The RNA binding of IRPs is dependent on iron levels. Thus, iron deprivation leads to increased RNA binding, which masks the recognition site of endonucleases and stabilizes transferrin receptor mRNA.

This antibody is routinely tested by western blot analysis. Other application were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of the transferrin receptor on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:1000, lane 2: 1: 2000, lane 3: 1:4000 dilution of the mouse anti- human transferrin receptor antibody.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

McClelland A, Kuhn LC, Ruddle FH. The human transferrin receptor gene: genomic organization, and the complete primary structure of the receptor deduced from a cDNA sequence. *Cell.* 1984; 39(2 Pt 1):267-274.(Biology)

Seiser C, Posch M, Thompson N, Kuhn LC. Effect of transcription inhibitors on the iron-dependent degradation of transferrin receptor mRNA. *J Biol Chem.* 1995; 270(49):29400-29406.(Biology)