

# Product Sheet



**QVQ**

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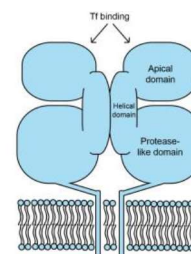
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## Transferrin Receptor (TfR)

**Catalogue no.:** Q52c  
**Clone name:** QTF-3B2

**Product:** VHH directed against TfR

**Target:** The transferrin receptor (TfR, CD71, UniProtKB P02786) is a type 2 single membrane spanning receptor (95kDa) that plays an important role in erythrocyte development and in the nerve system. TfR functions as a homodimer and regulates iron homeostasis via binding and cellular uptake of iron-loaded transferrin (Tf) via receptor-mediated endocytosis. The lower pH in endosomes releases the iron from the complex, allowing translocation to the cytoplasm. Upon recycling back to the plasma membrane, the apo-Tf dissociates from the receptor, which can then bind new iron-loaded Tf. In addition, TfR is able to translocate proteins across endothelium/epithelium and the ectodomain can be secreted as circulating serum TfR.<sup>1-3</sup>



**Source:** Recombinant monoclonal VHH (Llama glama), purified from *S.cerevisiae* using affinity chromatography. Immunization with HUVEC cells. Phage-display selection on captured recombinant ectodomain with total elution.

**Specificity:** Human TfR/CD71. Q52 does not compete for Tf binding.

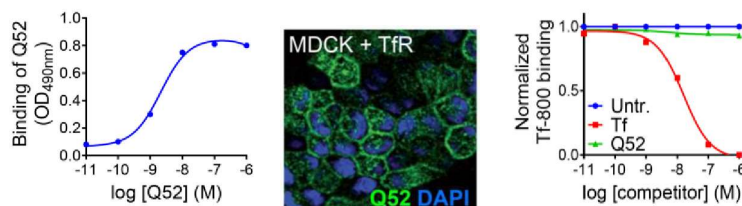
**Formulation:** 0.2 µm filtered solution in PBS.

**Mol. Weight:** 15.5 kDa  
**Ext. Coeff. (ε):** 27055  
**A<sub>280</sub> at 1g/L:** 1.7

**Storage:** Shipped on blue ice. Store at 4 °C or -20 °C (aliquots). Addition of 0.02% sodiumazide is optional.

**Applications:** ELISA, IF

**Examples:**



Binding of Q52 to either TfR ectodomain in ELISA (left) or TfR on transfected MDCK cells in IF (green, middle). Q52 does not compete for binding of Tf800CW to TfR ectodomain (green, right). Homologous displacement of Tf is shown in red.

## References:

- 1 Schneider et al., (1984) *Nature* 311, 675-678
- 2 Ciechanover et al., (1983) *J Cel Biochem* 23, 107-130
- 3 Skikne, (2008) *Am J Hematol* 83, 872-875