

Transferrin Receptor/TFRC Protein, Rat, Recombinant (His)

General Information

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| Synonyms: | transferrin receptor |
| Protein Construction: | A DNA sequence encoding the Rat TFRC (Q99376) (Gly87-Phe761) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His |
| Species: | Rat |
| Expression Host: | HEK293 Cells |
| Accession: | Q99376 |
| Molecular Weight: | 78.59 kDa (predicted); 73.45 kDa (reducing conditions) |

QC Testing

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| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | ≥ 90 % as determined by SDS-PAGE. |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 150 mM NaCl, 0.02% Tween 80, 5% Mannitol, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

Preparation and Storage

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| Reconstitution: | A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information. |
| Stability & Storage: | It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small> |
| Shipping: | In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice. |

Protein Background

Transferrin receptor protein 1, also known as transferrin receptor, Trfr, p9, CD71 and TFRC, is a single-pass type II membrane protein that belongs to the peptidase M28 family and M28B subfamily. TFRC / CD71 is a membrane-bound protein expressed in larger amounts in proliferating. The specific expression of TFRC can represent a diagnostic tool or a therapeutic target in solid tumours expressing this antigen. Transferrin receptor is necessary

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for development of erythrocytes and the nervous system. TFRC / CD71 is regulated by cellular iron levels through binding of the iron regulatory proteins, IRP1 and IRP2, to iron-responsive elements in the 3'-UTR. Up-regulated upon mitogenic stimulation. TFRC / CD71 represents a marker of malignant transformation in the pancreas that could be applied as potential diagnostic and therapeutic target.

Reference

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Ryschich, E. et al., 2004, Eur J Cancer. 40 (9):1418-22.

Tosoni D., et al., 2005, Cell 123:875-888.

Wollscheid B., et al., 2009, Nat. Biotechnol. 27:378-386.

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