# Rat TfR (Transferrin R) Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse $IgG_{2A}$ Clone # OX26

Catalog Number: FAB10079U

100 µg

## DESCRIPTION

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|---|---|
| **Species Reactivity** | Rat |
| **Specificity** | Detects rat TfR in Flow Cytometry. |
| **Source** | Monoclonal Mouse $IgG_{2A}$ Clone # OX26 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | PHA activated rat lymphocytes |
| **Conjugate** | Alexa Fluor 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 nm |
| **Formulation** | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

| | Recommended Concentration | Sample |
|---|---|---|
| **Flow Cytometry** | 0.25-1 µg/$10^6$ cells | PC-12 rat adrenal pheochromocytoma cell line |

## PREPARATION AND STORAGE

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| **Shipping** | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| **Stability & Storage** | **Protect from light. Do not freeze.**<br>• 12 months from date of receipt, 2 to 8 °C as supplied. |

## BACKGROUND

The Transferrin Receptor (TfR or TfR-1, designated CD71) is a type 2 transmembrane glycoprotein expressed on erythroid progenitors, muscle cells and proliferating cells as a 188 kDa disulfide-linked homodimer of 95 kDa monomers. As the major mediator of cellular iron uptake, it binds and internalizes diferric transferrin, allowing iron release at the low pH of the endosome. Most soluble TfR (sTfR) arises from trypsin proteolysis at aa 100, producing the circulating form of TfR. sTfR concentration in plasma or serum is proportional to total TfR and can be increased by iron deficiency. Erythroid progenitors, which use iron for hemoglobin synthesis, normally account for the bulk of total body TfR production. Since rapidly growing cells require iron to replicate DNA, cancer cells can express up to 5-fold more TfR than quiescent cells in the surrounding tissue. Antibody targeting of TfR can inhibit tumor cell proliferation and induce apoptosis. The hereditary hemochromatosis protein HFE competes with diferric transferrin for binding to TfR, and targets TfR for degradation rather than recycling. TfR has been reported to have ferritin-independent functions in T cell development, immunological synapse formation and galectin-3-mediated cell death, and to be a cell entry receptor for New World hemorrhagic fever arenaviruses.

## PRODUCT SPECIFIC NOTICES

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