Revised: July 27, 2020

Product Information

CF® Dye Human Transferrin Conjugates

Catalog no.	Conjugate	Ex/Em (nm)
00081	CF®488A	490/515
00082	CF®543	541/560
00083	CF®568	562/583
00084	CF®594	593/614
00085	CF®640R	642/662
00086	CF®680R	663/682
00087	CF®750	755/777

Unit Size: 1 mg

Storage and Handling

Store at -20°C upon arrival and protect from light. The lyophilized product is stable for at least six months from date of receipt when stored as recommended.

Reconstitute in phosphate-buffered saline, add sodium azide to a final concentration of 2 mM, and store at 4°C. Briefly centrifuge the tube prior to use to remove any aggregates. This product contains human holo-transferrin and has tested negative for HIV and HBsAg, but should be treated as containing potentially infectious agents. Please handle and dispose of this product using universal laboratory safety precautions.

Product Description

Transferrin is an iron-binding glycoprotein that delivers iron to cells by binding to the transferrin receptor when in its holo form (saturated with iron). The complex is subsequently internalized via clathrin-mediated endocytosis. Several factors, including endosomal pH and oxidoreductase activity, allow for the release of iron from transferrin. The apo-transferrin is then recycled back to the surface of the cell with the transferrin receptor via the endocytic recycling pathway and released to bind more iron.

Labeled human holo-transferrin is used for microscopic studies of the endosomal pathway and/or transferrin uptake. Biotium's holo-transferrin conjugates are labeled with a selection of CF® dyes, our next-generation fluorescent dyes that have combined advantages in brightness, photostability, and water-solubility compared to other dyes such as Alexa Fluor®, DyLight®, Cy® Dyes or IRDyes®.

Assay Protocol

The following is a protocol for labeling transferrin receptors on mammalian cells.

1. Reconstitute CF® dye conjugated human transferrin in 1X PBS (see Related Products) to a concentration of 1 mg/mL.
2. Serum starve cells for one hour prior to labeling. Then, wash cells with cold PBS + 0.1% Bovine Serum Albumin (BSA).
3. Add a final concentration of 25 ug/mL CF® dye conjugated human transferrin in cold PBS + 0.1% BSA.
4. Incubate cells at 4°C for 90 minutes in the dark. Wash cells three times with cold PBS + 0.1% BSA.
5. Follow the protocol below according to your application.

   For surface staining: Immediately fix cells in 4% paraformaldehyde in 1X PBS (22023) for 15 minutes at room temperature (protected from light).

   For trafficking assays: Add warm complete cell medium to the cells and incubate at 37°C for 5 minutes to 1 hour in the dark. Wash cells three times in cold PBS + 0.1% BSA prior to fixing the cells in 4% paraformaldehyde in 1X PBS for 15 minutes at room temperature (protected from light).
6. Wash cells twice with 1X PBS and process samples for imaging or subsequent immunostaining.

Related Products

Catalog number	Product Name
20289-20292	CF® Dye Bovine Serum Albumin
92136-96064	CF® Dye Hydrazides
00070-00079	Cholera Toxin Subunit B CF® Dye Conjugates
70030-70034	Nerve Terminal Staining Kits
80110-80121	CF® Dye Dextran 10,000 MW, Anionic and Fixable
80122-80128	CF® Dye Dextran 40,000 MW, Anionic and Fixable
80117-80130	CF® Dye Dextran 70,000 MW, Anionic and Fixable
80124-80133	CF® Dye Dextran 150,000 MW, Anionic and Fixable
80125-80136	CF® Dye Dextran 250,000 MW, Anionic and Fixable
22023	Paraformaldehyde, 4% in PBS, Ready-to-Use Fixative
22020	10X Phosphate-Buffered Saline (PBS)
22013	Bovine Serum Albumin Fraction V
22014	Bovine Serum Albumin 30% Solution
40061	RedDot™2 Far Red Nuclear Counterstain, 200X in DMSO
40046	Hoechst 33342, 10 mg/mL in H_2O
23001	EverBrite™ Mounting Medium
23002	EverBrite™ Mounting Medium with DAPI
23003	EverBrite™ Hardset Mounting Medium
23004	EverBrite™ Hardset Mounting Medium with DAPI
23005	CoverGrip™ Coverslip Sealant
22005	Mini Super^{HT} Pap Pen 2.5 mm tip, ~400 uses
22006	Super^{HT} Pap Pen 4 mm tip, ~800 uses

Please visit www.biotium.com to view our full selection of endosomal tracers as well as CF® dye bioconjugates, including secondary antibodies, anti-tag and anti-hapten antibodies, phalloidin, alpha-bungarotoxin, lectins, Annexin V, and many other innovative products for life science research.