



Transferrin

Glycoprotein with homologous N-terminal and C-terminal iron-binding domains that binds up to two Fe(III) atoms for delivery to vertebrate cells through receptor-mediated endocytosis.

Product Information

Product name cat.number	$\lambda_{exc} \lambda_{em. max.}$ (nm)	Comments
Transferrin antigen (unlabeled), bovine 888020, 10mg		
Transferrin-Biotin , bovine FP-CE2880, 1mg		
Transferrin-FITC , human FP-78966B, 1mg	491 / 515	
Transferrin-FITC , mouse FP-M2542A, 1mg	491 / 515	
Transferrin-FITC , rat FP-M2431A, 1mg	491 / 515	
Transferrin-Rhodamine , bovine FP-CE3320, 2mg	543 / 572	
Transferrin-CYanine3 , bovine FP-IV3660, 1mg	550 / 570	Loading rate (dye/molecule) : 2~5
Transferrin-CYanine5 , bovine CE2851, 1mg	646 / 662	Loading rate (dye/molecule) : 2~5
Transferrin-CYanine7 , bovine CE2870, 1mg	748 / 767	Loading rate (dye/molecule) : 2~5

Storage: +4°C Protect from light and moisture

SAFETY: We recommend that these products are handled only by those persons who have been trained in laboratory techniques and that it is used in accordance with the principles of good laboratory practice. As all chemicals should be considered as potentially hazardous, it is advisable when handling chemical reagents to wear suitable protective clothing, such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In case of contact with skin or eyes, wash immediately with water.

Caution: Care should be exercised when handling intensely colored product to avoid staining clothing, skin, and other items.

Introduction

Transferrin is a blood plasma glycoprotein that uptake, carry and deliver iron ion. Transferrin molecular weight is around 80 kD and contains 2 specific high affinity Fe(III) binding sites. It binds iron very tightly but reversibly: the affinity of transferrin for Fe(III) is extremely high (10^{23} M^{-1} at pH 7.4) but decreases progressively with decreasing pH below neutrality. When not bound to iron, transferrin is known as "apotransferrin". Iron bound to transferrin account for less than 0.1% (4 mg) of the total body iron, but dynamically it is the most important iron pool, with the highest rate of turnover (25 mg/24 h). Iron loaded transferrin delivers iron to transfer receptors on the cell surface, after transport i vesicle and release of iron ions upon vesicle acidification.

Transferrin levels may be checked in iron deficiency, hemochromatosis and other iron overload disorders. Transferrin is also associated with the innate immune system. Transferrin is found in the mucosa and binds iron,

FT-CE2850

thus creating an environment low in free iron, where few bacteria are able to survive. Also, the metal binding properties of transferrin have a great influence on the biochemistry of plutonium in humans. Transferrin has a bacteriocid effect on bacteria, in that it makes Fe³⁺ unavailable to the bacteria. Finally, a deficiency is associated with atransferrinemia pathology.

Labeled transferrin are use in a variety of applications, including:

- Determination of plasma volume
- uptake and release
- metabolism

Directions for use

Guidelines for use

- 1- After cells treatment on coverslips, incube cells with conjugated transferrin (10 µg/ml) for >3 min in serum-free media
- 2- Wash cells
- 3- Fix in 3.7% formaldehyde
- 4- Examine using a laser microscope at appropriate wavelength (see table above)

References

- **Angeloni, S. et al.**, Glycoprofiling with micro-arrays of glycoconjugates and lectins, *Glycobiology*; 15: 31 - 41 (2005)
- **Martys J. et al.**, Wortmannin-sensitive Trafficking Pathways in Chinese Hamster Ovary Cells, *JBC*, Volume 271, Number 18, Issue of May 3, pp. 10953-10962 (1996)

Related products

- Streptavidin-FluoProbes 547H, FP-CA5570
- Fetal bovine serum, 647870, 100 ml

Ordering information

Catalog size quantities and prices may be found at <http://www.fluoprobes.com>
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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