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ProductInformation

Albumin, Fluorescein Isothiocyanate Conjugate, from Human

Product Number **A 7016**
Storage Temperature 2-8 °C

Product Description

Molecular weight of albumin: 66 kDa
Molecular weight of FITC: 389.4
λ_{max}: 495 nm
Extinction Coefficient (for FITC): E^{mM} = 84 (495 nm at pH 7.5)
Synonym: FITC-Albumin

Albumin makes up 55 to 62% of the serum protein, and is one of the few carbohydrate-free proteins in blood plasma. The main function of albumin is the regulation of the colloidal osmotic pressure of the blood.

FITC labeled albumin has been used as a protease substrate.[1] It has also been used to detect sites of protein leakage in lungs,[2] to characterize membrane binding sites,[3] to assess microvascular permeability,[4] and to measure microvascular flow.[5]

FITC is coupled to the protein through the ε-amino group of lysines of the albumin.[1] The degree of substitution is approximately 10 moles of FITC per mole of albumin. FITC isomer I (Product No. F 7250) and human albumin (Product No. A 1653) are used to prepare this product

When measuring the absorbance at 280 nm for protein measurement, one must calculate the contribution of the FITC absorption at 280 nm. Use one third of the measured absorption at 495 nm ($A_{280} = A_{495}/ 3$).

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in 10 mM Tris, pH 7.0 (10 mg/ml).

Storage/Stability

The FITC loses fluorescence (bleaches) when exposured to light at 495 nm. It quickly bleaches at pH less than 7.0 with or without light exposure.

References

1. De Lumen, B.O., et al., Fluorescein-hemoglobin as a substrate for cathepsin D and other proteases. Anal. Biochem., **36**, 22-29 (1970).
2. Pietra, G.G., Johns, L.W., Confocal- and electron-microscopic localization of FITC-albumin in H2O2-induced pulmonary edema. J Appl Physiol. **80**(1), 182-190 (1996)
3. Gekle, M., et al., Functional characterization of albumin binding to the apical membrane of OK cells. Am. J. Physiol. **271**, F286-F291 (1996).
4. King-VanVlack, C.E., et al., Hemodynamic and proinflammatory actions of endothelin-1 in guinea pig small intestine submucosal microcirculation. Am J Physiol Gastrointest Liver Physiol. **284**(6), G940-G948 (2003)
5. Baker, C.H., et.al, Microvascular vasopressin effects during endotoxin shock in the rat. Circ Shock. **30**(2) 81-95 (1990).

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