

Product Data Sheet

FITC-Dextran (MW 70000)

Cat. No.:	A9065
CAS No.:	60842-46-8
M.Wt:	70,000 Da (Average)
Short Summary:	A fluorescein isothiocyanate (FITC)–dextran fluorescent probe
Excitation (Ex):	495 nm
Emission (Em):	525 nm (standard in vitro detection); 520 nm reported in some in vivo measurements
Signal	Green fluorescence; suitable for tracing and permeability quantification
Batch:	1
Batch No.:	A906510134D9A5
Appearance:	Yellow to orange (Solid)
Shelf life:	1 year (powder)
Solubility:	Soluble in H ₂ O/saline with gentle warming and ultrasonic
Storage:	-20°C, protect from light (powder) In solvent: -80°C, 3 months (protect from light); -20°C, 2 weeks (protect from light)
Notes:	For optimal product performance, the material should always be stored at low temperature under dry conditions and protected from repeated freeze–thaw cycles. To ensure product stability, the package should only be opened after the container has been equilibrated to ambient temperature in a dry environment.

Biological Activity

Study 1: Perivascular spaces in the mouse brain

Reference: Smets NG, van der Panne SA, Strijkers GJ, Bakker ENTP. Perivascular spaces around arteries exceed perivenous spaces in the mouse brain. Sci Rep. 2024 Jul 26;14(1):17655. doi: 10.1038/s41598-024-67885-y. PMID: 39085283; PMCID: PMC11291892.

In Vivo	Animal experiment	
	Animal models:	15 C57BL/6J mice, 16 weeks old (8 males, 7 females; Envigo RMS); intraperitoneal anesthesia (ketamine 125 mg/kg + dexmedetomidine 0.2 mg/kg); 3-mm cranial window over the right middle cerebral artery (MCA)
	Dosage form:	Cisterna magna injection: 15 µL of a 5 mg/mL solution, infused via a 30G needle at 1 µL/min (Harvard Apparatus infusion pump)
	Applications:	Used as a cerebrospinal fluid (CSF) tracer to visualize the subarachnoid space and perivascular spaces (PVS) for glymphatic system research
	Preparation method:	FITC-dextran 70 kDa dissolved at 5 mg/mL in artificial CSF (aCSF: 148 mM NaCl, 3 mM KCl, 1.4 mM CaCl ₂ , etc.)
	Other notes:	Two-photon microscopy: excitation 790 nm, emission 525 nm (50-nm bandwidth); imaging 15 min–1 h after injection; vasculature co-labeled by retro-orbital injection of Texas Red-dextran 70 kDa (10 mg/mL in PBS, 150 µL); animals sacrificed ~1 h later, PBS-perfused and 4% PFA-fixed; 80-µm cryosections stained for laminin/Cy3

Study 2: Endothelial injury in a rat pneumosepsis model

Reference: van den Brink DP, Kleinveld DJB, Bongers A, Vos J, Roelofs JJTH, Weber NC, van Buul JD, Juffermans NP. The Effects of Heparan Sulfate Infusion on Endothelial and Organ Injury in a Rat Pneumosepsis Model. J Clin Med. 2023 Oct 10;12(20):6438. doi: 10.3390/jcm12206438. PMID: 37892576; PMCID: PMC10607557.

In Vivo	Animal experiment	
	Animal models:	Sprague Dawley (SD) rats with pneumosepsis induced by intratracheal inoculation of Streptococcus pneumoniae (sham: 100 µL sterile 0.9% NaCl); groups: RL / RL + 7 mg/kg heparan sulfate (HS) / 5% albumin (albu) / albu + HS; n=11 per group; fluids infused at 8 mL/kg over 1 h
	Dosage form:	Intravenous injection: 6.25 mg FITC-dextran 70 kDa in 0.5 mL saline, administered 4 h 45 min after start of resuscitation, allowed to circulate for 15 min
	Applications:	Endothelial/pulmonary vascular permeability tracer for quantitative measurement of pulmonary vascular leakage (primary outcome), assessing the effect of heparan sulfate resuscitation on the endothelial barrier
	Preparation method:	6.25 mg of FITC-dextran 70 kDa dissolved in 0.5 mL saline (0.9% NaCl); injected under isoflurane anesthesia
	Other notes:	Sacrificed at T=5 by cardiac puncture exsanguination; 2 mL heparinized saline (1250 iE/mL) injected intraventricularly; left pulmonary and left renal hilum ligated (for W/D ratio); circulation flushed with 100 mL 0.9% NaCl to remove residual intravascular tracer; lungs homogenized in RIPA buffer; 100 µL aliquots measured on a SpectraMax M2 spectrophotometer (Molecular Devices); Ex/Em wavelengths not stated in the original article

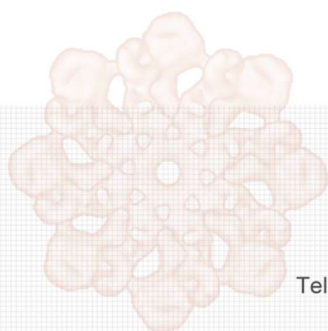
The above experimental data are sourced from the literature and have not been independently validated by APExBIO. They are intended for reference purposes only.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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