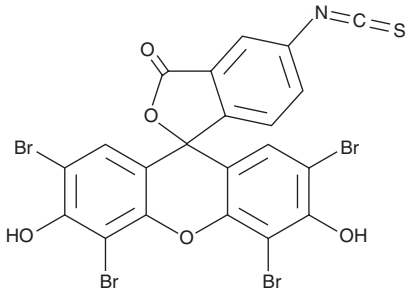
PRODUCT INFORMATION

Eosin 5-isothiocyanate

Item No. 46196

CAS Registry No.:	60520-47-0
Formal Name:	2′,4′,5′,7′-tetrabromo-3′,6′-dihydroxy-5-isothiocyanato-spiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one
Synonyms:	EITC, Eosin-ITC
MF:	$C_{21}H_7Br_4NO_5S$
FW:	705.0
Abs. Max:	518 nm
Purity:	≥90%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Eosin 5-isothiocyanate (EITC) is supplied as a solid. A stock solution may be made by dissolving the EITC in the solvent of choice, which should be purged with an inert gas. EITC is slightly soluble (0.1-1 mg/ml) in DMSO.

Description

EITC is an amine- and thiol-reactive fluorescent probe and photosensitizer.[1,2] It displays an absorption maximum at 518 nm and conjugate-dependent excitation and emission maxima; for ovalbumin-conjugated EITC, the excitation and emission maxima are 524 and 551 nm, respectively.[3,4] EITC has been conjugated to proteins, antibodies, and neoglycoconjugates for detection in a variety of fluorescence-based applications.[3-6] It has also been used as a photosensitizing agent when conjugated or complexed to antibodies targeting programmed cell death 1 ligand 1 (PD-L1) or bacteria *via* generation of singlet oxygen following exposure to light.[2,5,7]

References

1. Wilderspin, A.F. and Green, N.M. The reaction of fluorescein isothiocyanate with thiols: A method for assay of isothiocyanates. *Anal. Biochem.* **132(2),** 449-455 (1983).
2. Deerinck, T.J., Martone, M.E., Lev-Ram, V., *et al.* Fluorescence photooxidation with eosin: A method for high resolution immunolocalization and in situ hybridization detection for light and electron microscopy. *J. Cell Biol.* **126(4),** 901-910 (1994).
3. Hulspas, R., Krijtenburg, P.J., Keij, J.F., *et al.* Avidin-EITC: An alternative to avidin-FITC in confocal scanning laser microscopy. *J. Histochem. Cytochem.* **41(8),** 1267-1272 (1993).
4. Chen, R.F. and Scott, C.H. Atlas of fluorescence spectra and lifetimes of dyes attached to protein. *Anal. Lett.* **18(4),** 393-421 (1985).
5. Delcanale, P., Alampi, M.M., Mussini, A., *et al.* A photoactive supramolecular complex targeting PD-L1 reveals a weak correlation between photoactivation efficiency and receptor expression levels in non-small-cell lung cancer tumor models. *Pharmaceutics* **15(12),** 2776 (2023).
6. Becker, B., Furneaux, R.H., Reck, F., *et al.* A simple synthesis of 8-(methoxycarbonyl)octyl 3,6-di-O-(α-D-mannopyranosyl)-α-D-mannopyranoside and derivatives and their use in the preparation of neoglycoconjugates. *Carbohydr. Res.* **315(1-2),** 148-158 (1999).
7. Mussini, A., Uriati, E., Hally, C., *et al.* Versatile supramolecular complex for targeted antimicrobial photodynamic inactivation. *Bioconjug. Chem.* **33(4),** 666-676 (2022).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/03/2026

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM