SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

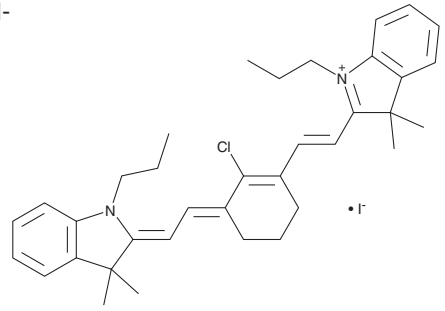
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

IR 780

Item No. 31632

CAS Registry No.:	207399-07-3
Formal Name:	2-[2-[2-chloro-3-[2-(1,3-dihydro-3,3-dimethyl-1-propyl-2H-indol-2-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-3,3-dimethyl-1-propyl-3H-indolium, monoiodide
MF:	$C_{36}H_{44}ClN_2 \bullet I$
FW:	667.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 783 nm
Ex./Em. Max:	780/799 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

IR 780 is supplied as a crystalline solid. A stock solution may be made by dissolving the IR 780 in the solvent of choice, which should be purged with an inert gas. IR 780 is soluble in the organic solvent chloroform at a concentration of approximately 10 mg/ml. IR 780 is slightly soluble in ethanol, DMSO, and dimethyl formamide.

Description

IR 780 is a heptamethine cyanine fluorescent probe for *in vivo* imaging of tumor cells.[1] It displays excitation/emission maxima of 780/799 nm, respectively.[2] IR 780 is transported into tumor cells, an effect that can be blocked by the organic anion transporting polypeptide (OATP) inhibitor sulfobromophthalein (bromosulfalein; Item No. 21058), and targeted to the mitochondria.[1] It has an additive effect on the increase in reactive oxygen species (ROS) production induced by sonodynamic therapy (SDT) in 4T1 breast cancer cells when used at a concentration of 16 µM.[3] IR 780 (0.2 mg/kg, i.v.) preferentially accumulates in tumor tissue in MCF-7, HeLa, and MG-63 mouse xenograft models and in a syngeneic mouse model of chemically induced lung tumors, and its fluorescence is detectable for up to 20 days. It also has an additive effect on the SDT-induced reduction in tumor growth in an 4T1 murine mammary carcinoma model. IR 780 has been incorporated into heparin-folic acid-IR 780 nanoparticles for use in photothermal therapy.[4]

References

1. Zhang, C., Liu, T., Su, Y., *et al.* A near-infrared fluorescent heptamethine indocyanine dye with preferential tumor accumulation for *in vivo* imaging. *Biomaterials* **31(25)**, 6612-6617 (2010).
2. Baeten, J., Niedre, M., Dunham, J., *et al.* Development of fluorescent materials for diffuse fluorescence tomography standards and phantoms. *Opt. Express* **15(14)**, 8681-8694 (2007).
3. Li, Y., Zhou, Q., Deng, Z., *et al.* IR-780 dye as a sonosensitizer for sonodynamic therapy of breast tumor. *Sci. Rep.* **6**, 25968 (2016).
4. Yue, C.H., Liu, P., Zheng, M., *et al.* IR-780 dye loaded tumor targeting theranostic nanoparticles for NIR imaging and photothermal therapy. *Biomaterials* **34(28)**, 6853-6861 (2013).

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