

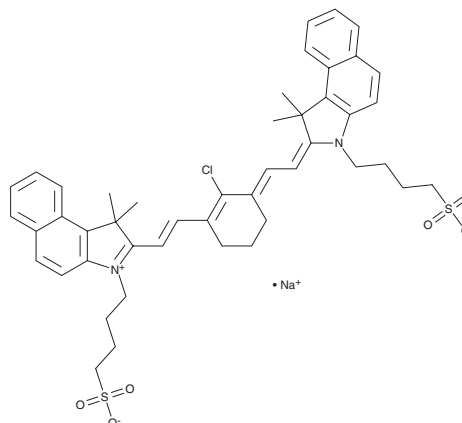
PRODUCT INFORMATION



IR 820 (sodium salt)

Item No. 46066

CAS Registry No.: 172616-80-7
Formal Name: 2-[2-[2-chloro-3-[2-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1-dimethyl-3-(4-sulfobutyl)-1H-benz[e]indolium, inner salt, monosodium salt
MF: C₄₆H₅₀ClN₂O₆S₂ • Na
FW: 849.5
UV/Vis.: λ_{max}: 218, 266, 406 nm
Ex./Em/ Max: 710/820 nm
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

IR 820 (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the IR 820 (sodium salt) in the solvent of choice, which should be purged with an inert gas. IR 820 (sodium salt) is slightly soluble (0.1-1 mg/ml) in DMSO.

Description

IR 820 is a near-infrared (NIR) indocyanine dye.¹ It displays excitation/emission maxima of 710/820 nm, respectively. IR 820 has been used as a blood pool contrast agent in mice for *in vivo* NIR fluorescence imaging of diseased tissue, including tumors and stroke-affected tissues, and to monitor the time course of muscle injury over multiple days. It has also been used in the synthesis of tumor-targeted fluorescent probes.² In addition, IR 820 has been encapsulated in liposomes as a photothermal therapy component in combination with protoporphyrin IX (PpIX) as a photosensitizer to form nanoparticles that synergistically reduce the viability of HeLa cells when used with irradiation.³

References

1. Prajapati, S.I., Martinez, C.O., Bahadur, A.N., *et al.* Near-infrared imaging of injured tissue in living subjects using IR-820. *Mol. Imaging* **8**(1), 45-54 (2009).
2. Yuan, X., Zhang, Y., Xuan, J., *et al.* α_vβ₃ integrin-targeted IR-820 dye-based small molecule probe for fluorescence imaging of tumor. *J. Photochem. Photobiol. B* **278**, 113437 (2026).
3. Yan, T., Alimu, G., Zhu, L., *et al.* PpIX/IR-820 dual-modal therapeutic agents for enhanced PDT/PTT synergistic therapy in cervical cancer. *ACS Omega* **7**(49), 44643-44656 (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.

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