# PRODUCT INFORMATION

## Indocyanine Green

*Item No. 27462*

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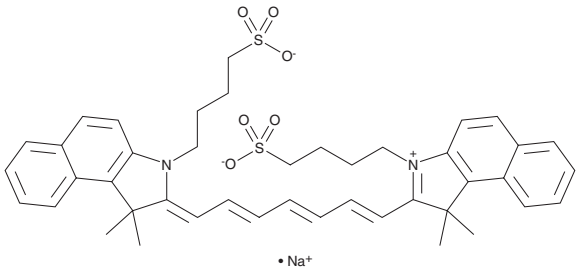
| **CAS Registry No.:** | 3599-32-4 |
| **Formal Name:** | 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrien-1-yl]-1,1-dimethyl-3-(4-sulfobutyl)-1H-benz[e]indolium, inner salt, monosodium salt |
| **Synonyms:** | Cardio Green, Ujoviridin |
| **MF:** | $C_{43}H_{47}N_2O_6S_2$ • Na |
| **FW:** | 775.0 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 218, 396, 789 nm |
| **Ex./Em. Max:** | 750-800/≥800 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

Indocyanine green is supplied as a solid. A stock solution may be made by dissolving the indocyanine green in the solvent of choice, which should be purged with an inert gas. Indocyanine green is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of indocyanine green in ethanol is approximately 1 mg/ml and approximatley 10 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of indocyanine green can be prepared by directly dissolving the solid in aqueous buffers. The solubility of indocyanine green in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Indocyanine green is a vital fluorescent dye that binds to plasma proteins and lipoproteins.[1,2] It displays excitation maxima ranging from 750 to 800 nm and an emission maximum of greater than or equal to 800 nm, which shifts from 810-820 nm in aqueous solution to 820-834 nm following intravenous injection.[1,3] Formulations containing indocyanine green have been commonly used in clinical and surgical applications, including retinal angiography, intraocular surgery, and cardiac output and liver condition monitoring.

### References


1. Alander, J.T., Kaartinen, I., Laakso, A., *et al.* A review of indocyanine green fluorescent imaging in surgery. *Int. J. Biomed. Imaging* **940585**, (2012).
2. Morales, M.C., Freire, V., Asumendi, A., *et al.* Comparative effects of six intraocular vital dyes on retinal pigment epithelial cells. *Invest. Ophthalmol. Vis. Sci.* **51(11),** 6018-6029 (2010).
3. Desmettre, T., Devoisselle, J.M., and Mordon, S. Fluorescence properties and metabolic features of indocyanine green (ICG) as related to angiography. *Surv. Ophthalmol.* **45(1),** 15-27 (2000).





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