

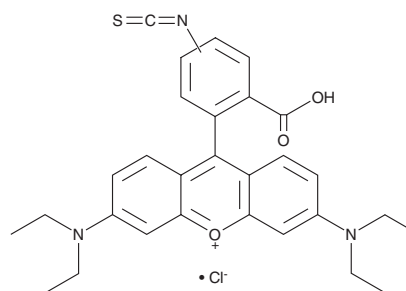
# PRODUCT INFORMATION



## Rhodamine B isothiocyanate (mixed isomers)

Item No. 20653

**CAS Registry No.:** 944130-99-8  
**Formal Name:** 9-[2-carboxy-4(or 5)-isothiocyanatophenyl]-3,6-bis(diethylamino)-xanthylium, monochloride  
**Synonyms:** RBITC, RITC  
**MF:** C<sub>29</sub>H<sub>30</sub>N<sub>3</sub>O<sub>3</sub>S • Cl  
**FW:** 536.1  
**Purity:** Mixture of isomers  
**UV/Vis.:** λ<sub>max</sub>: 220, 258, 285, 352, 554 nm  
**Supplied as:** A crystalline 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

Rhodamine B isothiocyanate (RITC) (mixed isomers) is supplied as a crystalline solid. A stock solution may be made by dissolving the RITC (mixed isomers) in the solvent of choice, which should be purged with an inert gas. RITC (mixed isomers) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of RITC (mixed isomers) in ethanol and DMSO is approximately 15 mg/ml and approximately 25 mg/ml in DMF.

RITC (mixed isomers) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, RITC (mixed isomers) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. RITC (mixed isomers) has a solubility of approximately 0.16 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

RITC is a cell-permeant fluorogenic dye most often used as a conjugate to antibodies and proteins for fluorescence detection in microscopy.<sup>1</sup> It displays excitation/emission maxima of 570/595 nm, respectively, and can be used in conjunction with immunohistochemistry for multi-labeling studies.<sup>2</sup> It has also been used as an anterograde and retrograde tracer in neurons and in nanoparticles to detect apoptosis.<sup>3-5</sup>

### References

1. Mao, S.-Y. and Mullins, J.M. Conjugation of fluorochromes to antibodies. *Methods Mol. Biol.* **588**, 43-48 (2010).
2. Nuschke, A.C., Farrell, S.R., Levesque, J.M., *et al.* Assessment of retinal ganglion cell damage in glaucomatous optic neuropathy: Axon transport, injury and soma loss. *Exp. Eye Res.* **141**, 111-124 (2015).
3. Thanos, S., Vidal-Sanz, M., Aguayo, A.J., *et al.* The use of rhodamine-B-isothiocyanate (RITC) as an anterograde and retrograde tracer in the adult rat visual system. *Brain Res.* **406(1-2)**, 317-321 (1987).
4. Shi, H., He, X., Wang, K., *et al.* Rhodamine B isothiocyanate doped silica-coated fluorescent nanoparticles (RBITC-DSFNPs)-based bioprobes conjugated to annexin V for apoptosis detection and imaging. *Nanomedicine* **3(4)**, 266-272 (2007).
5. Jiang, Z., Dong, B., Chen, B., *et al.* Multifunctional Au@mSiO<sub>2</sub>/rhodamine B isothiocyanate nanocomposites: Cell imaging, photocontrolled drug release, and photothermal therapy for cancer cells. *Small* **9(4)**, 604-612 (2013).

#### 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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