Product Information

5-Bromo-4-chloro-3-indolyl phosphate *p*-toluidine salt

≥99% (HPLC)

B8503

Product Description

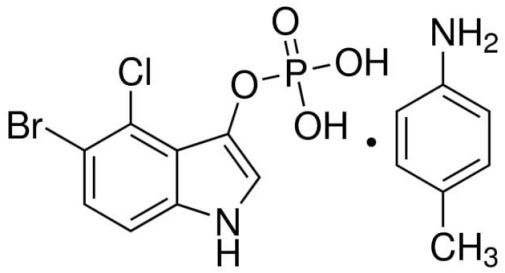
CAS Registry Number: 6578-06-9

Molecular Formula: $C_8H_6BrClNO_4P \cdot C_7H_9N$

Formula Weight: 433.62

Synonyms: BCIP® *p*-toluidine salt, X-phosphate *p*-toluidine salt

Storage temperature: –20 °C



5-Bromo-4-chloro-3-indolyl phosphate (BCIP®) and nitro blue tetrazolium (NBT) are commonly used in tandem for the colorimetric detection of alkaline phosphatase-labeled molecules.[1-3] The BCIP®/NBT substrate system is versatile and functions in a variety of applications, including:

- Northern, Southern, and Western blotting[4,5]
- *in situ* hybridization[6]
- immunohistochemistry[7]

BCIP® p-toluidine salt is soluble in dimethylformamide (DMF). DMF may be used to prepare a stock solution. A portion of the BCIP® stock solution is then combined with NBT in a reaction buffer to form a substrate solution for alkaline phosphatase. This substrate system, when incubated with alkaline phosphatase, produces an insoluble NBT diformazan product[8] that is easily observable with its purple color. (See Figure 1 for a reaction scheme.)

BCIP® is prepared synthetically. Several theses[9-13] and dissertations[14-28] have cited use of product B8503 in their protocols.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Solubility

BCIP® *p*-toluidine salt is tested for solubility in dimethylformamide (DMF) at 20 mg/mL.

Storage/Stability

Store BCIP® lyophilized product at −20 °C, protected from light and moisture.

One publication has reported that 50 mg/mL stock solutions of BCIP in 100% DMF can be stored at 4 °C.[29] A BCIP® stock solution in DMF remains active for ~2 weeks kept in the dark at 2-8 °C. However, a working solution in aqueous buffer is only good for one day. Another publication has reported that 50 mg/mL stock solutions of BCIP in 100% DMF can be stored at −20 °C.[30]

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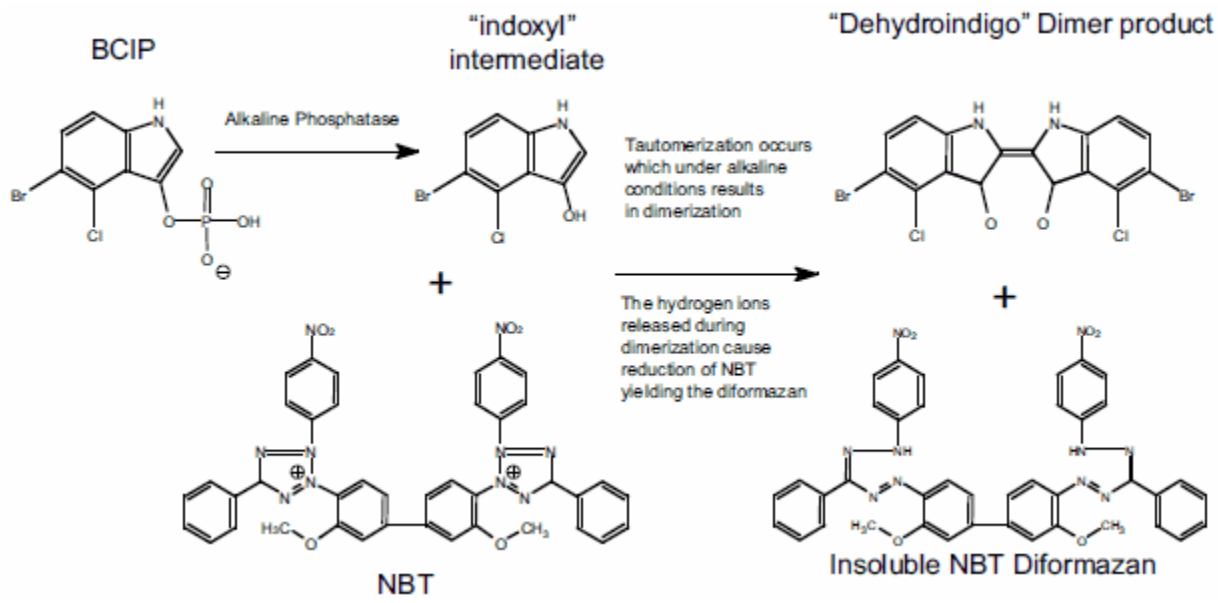
Figure 1. BCIP®/NBT Reactions



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B8503pis Rev 08/22 RBG,KTA,GCY,MAM