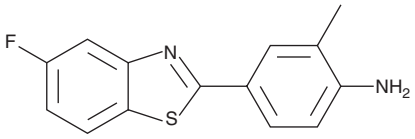
PRODUCT INFORMATION

5-fluoro 203

Item No. 17677

CAS Registry No.:	260443-89-8
Formal Name:	4-(5-fluoro-2-benzothiazolyl)-2-methyl-benzenamine
Synonym:	NSC 703786
MF:	$C_{14}H_{11}FN_2S$
FW:	258.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 204, 219, 351 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

5-fluoro 203 is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-fluoro 203 in the solvent of choice, which should be purged with an inert gas. 5-fluoro 203 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 5-fluoro 203 in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

The aryl hydrocarbon receptor (AhR) is a ligand-activated transcription factor that promotes the expression of phase I and II xenobiotic chemical metabolizing enzyme genes, including the cytochrome P450 (CYP) isoforms CYP1A1 and CYP1A2. 5-fluoro 203 is a cytotoxic compound that at 1 µM activates AhR signaling, inducing transcription of CYP1A1, which leads to the formation of DNA adducts and cell cycle arrest.[1-3] In certain ovarian, breast, kidney, and colorectal cancer cells, 5-fluoro 203 can increase the levels of reactive oxygen species as well as activate JNK, ERK, and p38 MAPK.[4]

References

1. Brantley, E., Patel, V., Stinson, S.F., *et al.* The antitumor drug candidate 2-(4-amino-3-methylphenyl)-5-fluorobenzothiazole induces NF-κB activity in drug-sensitive MCF-7 cells. *Anticancer Drugs* **16(2)**, 137-143 (2005).
2. Hose, C.D., Hollingshead, M., Sausville, E.A., *et al.* Induction of CYP1A1 in tumor cells by the antitumor agent 2-[4-amino-3-methylphenyl]-5-fluoro-benzothiazole: A potential surrogate marker for patient sensitivity. *Mol. Cancer Ther.* **2(12)**, 1265-1272 (2003).
3. Bruno, R.D. and Njar, V.C.O. Targeting cytochrome P450 enzymes: A new approach in anti-cancer drug development. *Bioorg. Med. Chem.* **15(15)**, 5047-5060 (2007).
4. Callero, M.A., Luzzani, G.A., De Dios, D.O., *et al.* Biomarkers of sensitivity to potent and selective antitumor 2-(4-amino-3-methylphenyl)-5-fluorobenzothiazole (5F203) in ovarian cancer. *J. Cell. Biochem.* **114(10)**, 2392-2404 (2013).

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