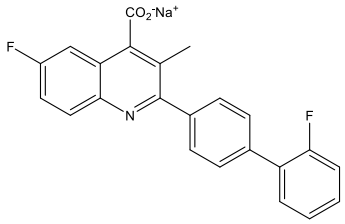
Catalog # 10-3965
Brequinar sodium

CAS# 96201-88-6

6-Fluoro-2-[4-(2-fluorophenyl)phenyl]-3-methylquinoline-4-carboxylic acid sodium salt; DuP-785; NSC 368390

Lot # JKM1196



Brequinar sodium is an inhibitor of dihydroorotate dehydrogenase (DHODH)[1,2] with IC_{50}'s between 0.2 and 5.8 µM in various cell lines[3] and 20 nM in isolated enzyme[4]. It reduced leukemic cell burden, decreased levels of leukemia-initiating cells, and improved survival in human and mouse models of acute myeloid leukemia.[4] Brequinar displayed broad antiviral activity against flaviviruses, positive-strand RNA alphaviruses, negative-strand RNA rhabdoviruses, Influenza A and B viruses, and HIV.[5,6,7]

1) Chen *et al*. (1986) *Mechanism of action of the novel anticancer agent 6-fluoro-2-(2'-fluoro-1,1'-biohenyl-4-yl)-3-methyl-4-quinolinecarboxylic acid sodium salt (NSC 368390): inhibition of de novo pyrimidine nucleotide biosynthesis*; Cancer Res., **46** 5014
2) Peters *et al*. (1990) *In vivo inhibition of the pyrimidine de novo enzyme dihydroorotic aicd dehydrogenase by brequinar sodium (DUP-785; NSC 368390) in mice and patients;* Cancer Res., **50** 4644
3) De Kant *et al.* (1989) *The relation between inhibition of cell growth and of dihydroorotic acid dehydrogenase by brequinar sodium*; Cancer Lett., **46** 123
4) Sykes *et al.* (2016) *Inhibition of Dihydroorotate Overcomes Differentiation Blockade in Acute Myeloid Leukemia*; Cell, **167** 171
5) Qing *et al.* (2010) *Characterization of Dengue Virus Resistance to Brequinar in Cell Culture*; Antimicrob. Agents Chemother., **54** 3686
6) Andersen *et al.* (2019) *Novel Antiviral Activities of Obatoclax, Emetine, Niclosamide, Brequinar, and Homoharringtonine*; Viruses, **11** E964
7) Park *et al.* (2020) *Identification and Characterization of Novel Compounds with Broad-Spectrum Antiviral Activity against Influenza A and B Viruses*; J. Virol., **94** e02149

PHYSICAL DATA

Molecular Weight:	397.35
Molecular Formula:	$C_{23}H_{14}F_2NO_2 \cdot Na$
Purity:	99% (HPLC)
Solubility:	DMSO (>25 mg/ml) or water (15 mg/ml with warming)
Physical Description:	Off-white - white solid
Storage and Stability:	Store as supplied at -20°C for up to one year from the date of purchase. Solutions in DMSO or water may be stored at -20°C for up to 1 month.

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