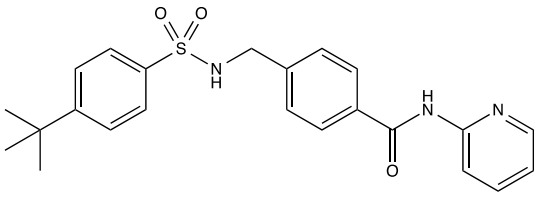
Catalog # 10-4570
STF31

CAS# 724741-75-7

4-[[[[4-(1,1-Dimethylethyl)phenyl]sulfonyl]amino]methyl]-N-3-pyridinylbenzamide

Lot # FBA2138



STF31 is an inhibitor of glucose transporter 1 (GLUT1; IC_{50} = 1 µM)[1] and NAMPT[3]. It has been shown to kill renal cell carcinoma cells (the majority of which lack the von Hippel-Lindau suppressor gene) without toxicity to normal cells. The target of STF31 anti-tumor activity has recently been questioned *via* use of large-scale cancer cell-line profiling.[2] This profiling indicated that nicotinamide phosphoribosyltransferase (NAMPT) was in fact the target of STF31. The inhibition of NAMPT by STF31 was confirmed via biochemical assay against recombinant NAMPT. The ability of STF31 to inhibit NAMPT had been previously displayed (IC_{50} = 19 nM).[3] More recent experiments provide evidence that STF-31 has a dual function and inhibits both GLUT1 an NAMPT is a concentration-dependent manner.[4]

1) Chan *et al.* (2011), *Targeting GLUT1 and the Warburg effect in renal cell carcinoma by chemical synthetic lethality;* Sci.Transl.Med. **3** 94ra70
2) Adams *et al*., (2014), *NAMPT is the Cellular Target of STF-31-Like Small-Molecule Probes*; ACS Chem.Biol. **9** 2447
3) Dragovich *et al.* (2014), *Fragment-based design of 3-aminopyridine-derived amides as potent inhibitors of human nicotinamide phosphoribosyltransferase* (NAMPT); Bioorg.Med.Chem.Lett. **24** 954
4) Kraus *et al.* (2018), *Targeting glucose transport and the NAD pathway in tumor cells with STF-31: a re-evaluation*; Cell Oncol.(Dordr) **41** 485

PHYSICAL DATA

Molecular Weight:	423.53
Molecular Formula:	$C_{23}H_{25}N_3O_3S$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (>25 mg/ml).
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20ºC for up to 1 year from the date of purchase. Store solutions at -20ºC for up to 1 month.

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