

PRODUCT INFORMATION



STF-31

Item No. 11173

CAS Registry No.: 724741-75-7

Formal Name: 4-[[[4-(1,1-dimethylethyl)phenyl]sulfonyl]amino]methyl]-N-3-pyridinyl-benzamide

MF: $C_{23}H_{25}N_3O_3S$

FW: 423.5

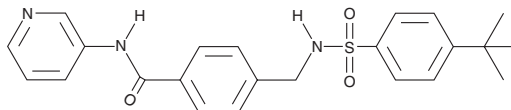
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 231, 264 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

STF-31 is supplied as a crystalline solid. A stock solution may be made by dissolving the STF-31 in the solvent of choice, which should be purged with an inert gas. STF-31 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of STF-31 in these solvents is approximately 1, 20, and 25 mg/ml, respectively.

STF-31 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, STF-31 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. STF-31 has a solubility of approximately 0.2 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Glucose transporter 1 (Glut1) is an inducible carrier of pentoses and hexoses, including glucose. STF-31 is an inhibitor of Glut1 ($IC_{50} = \sim 1 \mu\text{M}$) that blocks glucose uptake.¹ It induces necrosis in cancer cells that lack the von Hippel-Lindau tumor suppressor gene, which overexpress Glut1.¹ Although STF-31 binds Glut1, suggesting a direct effect, STF-31 also inhibits nicotinamide phosphoribosyltransferase, an enzyme that induces Glut1 expression.¹⁻³ STF-31 is also toxic to human pluripotent stem cells (hPSCs) and can be used to selectively eliminate hPSCs from mixed cultures.⁴

References

1. Chan, D.A., Sutphin, P.D., Nguyen, P., *et al.* Targeting GLUT1 and the Warburg effect in renal cell carcinoma by chemical synthetic lethality. *Sci. Transl. Med.* **3**(94), 1-9 (2011).
2. Adams, D.J., Ito, D., Rees, M.G., *et al.* NAMPT is the cellular target of STF-31-like small-molecule probes. *ACS Chem. Biol.* **9**(10), 2247-2254 (2014).
3. Garten, A., Petzold, S., Körner, A., *et al.* Nampt: Linking NAD biology, metabolism, and cancer. *Trends Endocrinol. Metab.* **20**(3), 130-138 (2009).
4. Boheler, K.R., Bhattacharya, S., Kropp, E.M., *et al.* A human pluripotent stem cell surface N-glycoproteome resource reveals markers, extracellular epitopes, and drug targets. *Stem Cell Reports* **3**, 185-203 (2014).

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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