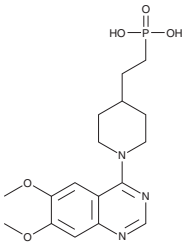
PRODUCT INFORMATION

STF-1084

Item No. 30440

CAS Registry No.:	2298390-71-1
Formal Name:	P-[2-[1-(6,7-dimethoxy-4-quinazolinyl)-4-piperidinyl]ethyl]-phosphonic acid
MF:	$C_{17}H_{24}N_3O_5P$
FW:	381.4
Purity:	≥95%
Supplied as:	A 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-1084 is supplied as a solid. A stock solution may be made by dissolving the STF-1084 in the solvent of choice, which should be purged with an inert gas. STF-1084 is slightly soluble (0.1-1 mg/ml) in acetonitrile, chloroform, methanol, and DMSO.

STF-1084 is slightly soluble (0.1-1 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

STF-1084 is a cell-impermeable inhibitor of ectonucleotide pyrophosphatase/phosphodiesterase family member 1 (ENPP1; apparent K_i = 0.11 µM).[1] It is selective for ENPP1 over ENPP2 and alkaline phosphatase (ALP; apparent K_is = 5.5 and >100 µM, respectively) and a panel of 468 kinases at 1 µM. STF-1084 inhibits the extracellular degradation of cGAMP in ENPP1-overexpressing and cGAS-expressing 293T cells (IC_{50} = 0.340 µM). It increases mRNA expression of the gene encoding IFN-β in $CD14^+$ primary human peripheral blood mononuclear cells (PBMCs) incubated with conditioned medium from ENPP1-overexpressing and cGAS-expressing 293T cells cultured with STF-1084. *In vivo*, STF-1084, in combination with ionizing radiation, increases the percentage of tumor-associated $CD11c^+$ cells among antigen-presenting cells (APCs) in a 4T1 murine mammary cancer model.

Reference

1. Carozza, J.A., Böhnert, V., Nguyen, K.C., *et al.* Extracellular cGAMP is a cancer-cell-produced immunotransmitter involved in radiation-induced anticancer immunity. *Nat. Cancer* **1(2)**, 184-196 (2020).

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