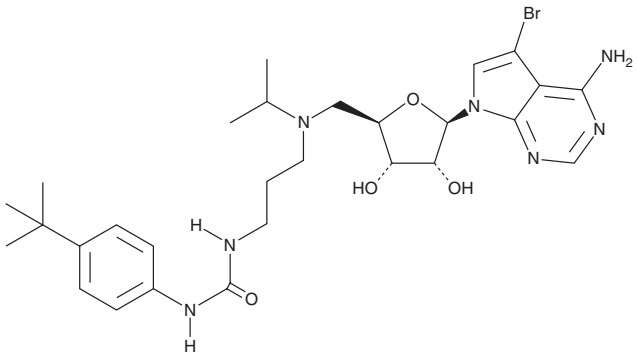
# PRODUCT INFORMATION

## SGC0946

*Item No. 13967*

**CAS Registry No.:** 1561178-17-3
**Formal Name:** 5-bromo-7-[5-deoxy-5-[[3-[[[[4-(1,1-dimethylethyl)phenyl]amino]carbonyl]amino]propyl](1-methylethyl)amino]-β-D-ribofuranosyl]-7H-pyrrolo[2,3-d]pyrimidin-4-amine
**MF:** $C_{28}H_{40}BrN_7O_4$
**FW:** 618.6
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 242, 280 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

SGC0946 is supplied as a crystalline solid. A stock solution may be made by dissolving the SGC0946 in the solvent of choice, which should be purged with an inert gas. SGC0946 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of SGC0946 in these solvents is approximately 10 mg/ml.

SGC0946 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SGC0946 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. SGC0946 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

DOT1L is a protein methyltransferase (PMT). It is the only enzyme known to methylate histone 3 at lysine 79 (H3K79), where it catalyzes mono-, di-, and trimethylation.[1] Proper DOT1L function is necessary for transcriptional activation of many genes, DNA damage repair, and cell cycle regulation.[2] SGC0946 is a potent inhibitor of DOT1L ($IC_{50}$ = 0.3 nM) developed by the Structural Genomics Consortium (SGC). It is over 100-fold selective over other PMTs. It is active in cells, reducing H3K79 dimethylation in A431 and MCF10A cells ($IC_{50}$s = 2.6 and 8.8 nM, respectively). SGC0946 is a brominated analog of EPZ004777, an S-adenosylmethionine-competitive inhibitor of DOT1L.[3] Both SGC0946 and EPZ004777 selectively kill mixed lineage leukemia (MLL) cells, in which DOT1L is aberrantly localized *via* interaction with an oncogenic MLL fusion protein.[3] The negative control for SGC0956 is available exclusively through the SGC.

### References


1. Bernt, K.M. and Armstrong, S.A. A role for DOT1L in MLL-rearranged leukemias. *Epigenomics* **3(6)**, 667-670 (2011).
2. Nguyen, A.T., He, J., Taranova, O., *et al.* Essential role of DOT1L in maintaining normal adult hematopoiesis. *Cell Res.* **21(9)**, 1370-1373 (2011).
3. Yu, W., Chory, E.J., Wernimont, A.K., *et al.* Catalytic site remodelling of the DOT1L methyltransferase by selective inhibitors. *Nat. Commun.* **3**, (2012).





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