

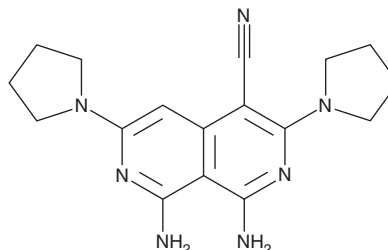
# PRODUCT INFORMATION



**SID 3712249**

Item No. 29723

**CAS Registry No.:** 522606-67-3  
**Formal Name:** 1,8-diamino-3,6-di-1-pyrrolidinyl-2,7-naphthyridine-4-carbonitrile  
**MF:** C<sub>17</sub>H<sub>21</sub>N<sub>7</sub>  
**FW:** 323.4  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 299 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

SID 3712249 is supplied as a crystalline solid. A stock solution may be made by dissolving the SID 3712249 in the solvent of choice, which should be purged with an inert gas. SID 3712249 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of SID 3712249 in these solvents is approximately 10 mg/ml.

SID 3712249 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SID 3712249 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. SID 3712249 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

SID 3712249 inhibits the biogenesis of microRNA-544 (miR-544), a silencer of mammalian target of rapamycin (mTOR).<sup>1</sup> Under hypoxic conditions, SID 3712249 (20 nM) increases *MTOR* mRNA expression and decreases the mRNA expression of the genes encoding miR-544, hypoxia-inducible factor-1α (HIF-1α), and ataxia-telangiectasia mutated kinase (ATM) in MDA-MB-231, MCF-7, and MCF-10A cells. It induces apoptosis in MDA-MB-231 cells in a hypoxia- and mTOR-dependent manner when used at a concentration of 20 nM. SID 3712249 (20 nM) enhances the sensitivity of MCF-7 and MDA-MB-231 cells cultured under hypoxic conditions to decreases in cell viability induced by 5-fluorouracil (5-FU; Item No. 14416). It reduces tumor growth in an MDA-MB-231 mouse xenograft model.

## Reference

1. Haga, C.L., Velagapudi, S.P., Strivelli, J.R., *et al.* Small molecule inhibition of miR-544 biogenesis disrupts adaptive responses to hypoxia by modulating ATM-mTOR signaling. *ACS Chem. Biol.* **10(10)**, 2267-2276 (2015).

**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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