

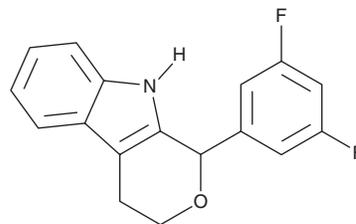
# PRODUCT INFORMATION



## PI3K/Akt/mTOR-IN-2

Item No. 44655

**CAS Registry No.:** 2757804-89-8  
**Formal Name:** 1-(3,5-difluorophenyl)-1,3,4,9-tetrahydro-pyrano[3,4-b]indole  
**Synonyms:** Phosphatidylinositol 3-Kinase/Protein Kinase B/Mammalian Target of Rapamycin-IN-2, Phosphatidylinositol 3-Kinase/Protein Kinase B/Mammalian Target of Rapamycin Inhibitor 2  
**MF:** C<sub>17</sub>H<sub>13</sub>F<sub>2</sub>NO  
**FW:** 285.3  
**Purity:** ≥98%  
**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

PI3K/Akt/mTOR-IN-2 is supplied as a solid. A stock solution may be made by dissolving the PI3K/Akt/mTOR-IN-2 in the solvent of choice, which should be purged with an inert gas. PI3K/Akt/mTOR-IN-2 is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

### Description

PI3K/Akt/mTOR-IN-2 is an inhibitor of the PI3K/Akt/mTOR pathway.<sup>1</sup> It reduces the phosphorylation of Akt and mTOR when used at a concentration of 2 μM and decreases PI3K, Akt, and mTOR levels at 4 μM. PI3K/Akt/mTOR-IN-2 is cytotoxic to A549, BGC-823, PC3, MCF-7, and MDA-MB-231 cancer cells (IC<sub>50</sub>s = 14.81, 9.11, 9.04, 7.89, and 2.29 μM, respectively). It induces apoptosis and cell cycle arrest at the G<sub>0</sub>/G<sub>1</sub> phase in MDA-MB-231 breast cancer cells. PI3K/Akt/mTOR-IN-2 decreases the mitochondrial membrane potential and glutathione (GSH) levels and increases reactive oxygen species (ROS) and intracellular calcium levels in MDA-MB-231 cells in a concentration-dependent manner.

### Reference

1. Qin, J., Sun, X., Ma, Y., *et al.* Design, synthesis and biological evaluation of novel 1,3,4,9-tetrahydropyrano[3,4-b]indoles as potential treatment of triple negative breast cancer by suppressing PI3K/AKT/mTOR pathway. *Bioorg. Med. Chem.* **55**, 116594 (2022).

**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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