

## Nutlin (3)

Catalog No: tcsc0295



### Available Sizes

---

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



### Specifications

---

**CAS No:**

548472-68-0

**Formula:**

$C_{30}H_{30}Cl_2N_4O_4$

**Pathway:**

Apoptosis

**Target:**

MDM-2/p53

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Observed Molecular Weight:**

581.49

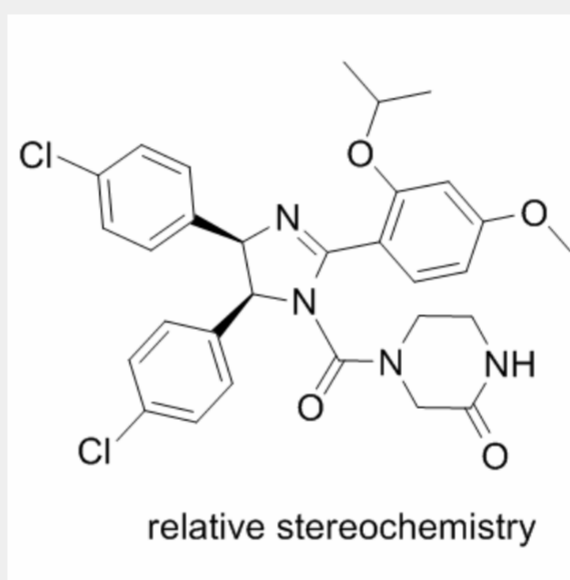
### Product Description

Nutlin 3 is a commercial available **p53-MDM2** inhibitor, with **K<sub>i</sub>** of 90 nM.

IC50 & Target: Ki: 90 nM (p53-MDM2)<sup>[1]</sup>

**In Vitro:** Nutlin 3 is an inhibitor of the MDM2-p53 interaction. In particular, co-treatment of p53-positive HCT116 cells with 1  $\mu$ M of Inauhzin and 2  $\mu$ M of Nutlin 3 more significantly activated p53 as measured by its protein level as well as the level of its target p21, PUMA or cleaved PARP as indication of apoptosis<sup>[2]</sup>. Nutlin 3 is a small-molecule inhibitor that acts to inhibit MDM2 binding to p53 and subsequent p53-dependent DNA damage signaling. As a single agent, Nutlin 3 (2-10  $\mu$ M) stabilizes p53 and p21<sup>WAF</sup> levels and is toxic to WTp53-22RV1 cells (IC<sub>50</sub>, 4.3  $\mu$ M) but has minimal toxicity toward p53-deficient cells (IC<sub>50</sub>, >10  $\mu$ M). Nutlin 3 induces p53 and p21<sup>WAF</sup> expression in a dose-dependent manner in 22RV1 cells. Short-term cell cycle assays show that, at a dose of 10  $\mu$ M, Nutlin 3 increasea slightly the G<sub>1</sub>-phase fraction and decreasea S-phase fraction of all three cell lines<sup>[3]</sup>.

**In Vivo:** Nutlin 3 can suppress the growth of xenograft tumors derived from human osteosarcoma or leukemia cells, the anti-tumor activity of Nutlin 3 even at the dose of 200 mg/kg per oral administration is marginal in an HCT116-derived xenograft tumor model<sup>[2]</sup>. Nutlin 3 may be a useful adjunct to improve the therapeutic ratio using precision radiotherapy targeted to hypoxic cells and warrants further study in vivo<sup>[3]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!