



## Product Specification Sheet

**Product Name:** Nutlin-3a

**Catalog Number:** C6885

**Technical information:**

Chemical Formula:  $C_{30}H_{30}Cl_2N_4O_4$

CAS #: 675576-98-4

Molecular Weight: 581.49

Purity: > 98%

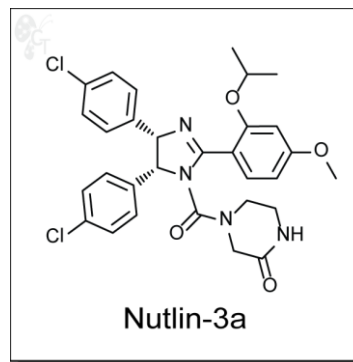
Appearance: white solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: 2-Piperazinone, 4-[[[(4S,5R)-4,5-bis(4-chlorophenyl)-4,5-dihydro-2-[4-methoxy-2-(1-methylethoxy)phenyl]-1H-imidazol-1-yl]carbonyl]-

Storage: For longer shelf life, store solid powder or DMSO solution at -20°C desiccated.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.172mL of DMSO for each mg of Nutlin-3a.
  - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

**Biological Activity:** Nutlin-3a is an antagonist of murine double minute-2 (MDM2). By inhibiting MDM2-p53 interactions (IC<sub>50</sub> = 90 nM), Nutlin-3a stabilizes p53 and induces cell cycle arrest and apoptosis in cells with functional p53. [1] Nutlin-3a induces autophagy and upregulation of AMPK in a p53-dependent manner in acute myelogenous leukemia cells (1-5 μM). [2]

- Reference:**
1. Vassilev LT, et al. In vivo activation of the p53 pathway by small-molecule antagonists of MDM2. *Science*. 2004; 303(5659):844-8 Pubmed ID: 14704432
  2. Borthakur G, et al. MDM2 Inhibitor, Nutlin 3a, Induces p53 Dependent Autophagy in Acute Leukemia by AMP Kinase Activation. *PLoS One*. 2015; 10(10):e0139254 Pubmed ID: 26440941

To reorder: <http://www.cellagentech.com/Nutlin-3a/>

For Technical Support: [technical@cellagentech.com](mailto:technical@cellagentech.com)

*Chemicals are sold for research use only, not for clinical or diagnostic use.*