

# AT7867

**Catalog No: tcsc0218**



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

857531-00-1

**Formula:**

$C_{20}H_{20}ClN_3$

**Pathway:**

Stem Cell/Wnt;Protein Tyrosine Kinase/RTK;PI3K/Akt/mTOR;MAPK/ERK Pathway

**Target:**

PKA;PKA;Akt;Ribosomal S6 Kinase (RSK)

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Observed Molecular Weight:**

337.85

## Product Description

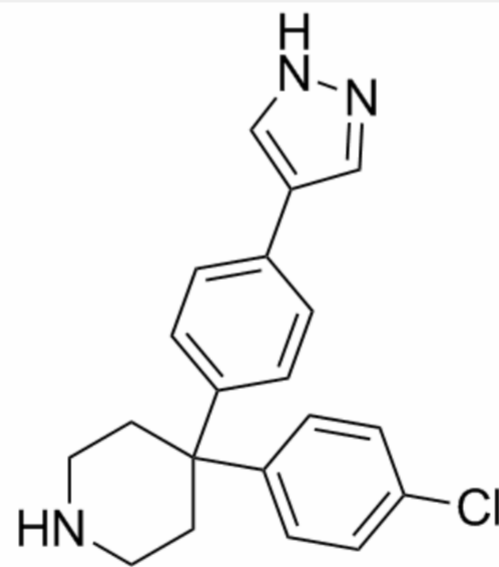
AT7867 is a potent ATP-competitive inhibitor of **Akt1/Akt2/Akt3** and **p70S6K/PKA** with **IC<sub>50</sub>s** of 32 nM/17 nM/47 nM and 85 nM/20

nM, respectively.

IC<sub>50</sub> & Target: IC<sub>50</sub>: 32 nM/17 nM/47 nM (Akt1/Akt2/Akt3), 85 nM/20 nM (p70S6K/PKA)<sup>[1]</sup>

**In Vitro:** The inhibition of AKT2 by AT7867 is shown to be ATP-competitive with a  $K_i$  of 18nM. AT7867 also displays potent activity against the structurally related AGC kinases p70S6K and PKA, but shows a clear window of selectivity against kinases from other kinase sub-families. In vitro growth inhibition studies show that AT7867 blocks proliferation in a number of human cancer cell lines. AT7867 appears to be most potent at inhibiting proliferation in MES-SA uterine, MDA-MB-468 and MCF-7 breast, and HCT116 and HT29 colon lines (IC<sub>50</sub> values range from 0.9-3  $\mu$ M), and least effective in the two prostate lines tested (IC<sub>50</sub> values range from 10-12  $\mu$ M) <sup>[1]</sup>.

**In Vivo:** In vivo: Following oral administration at 20 mg/kg, the elimination of AT7867 from plasma appears to be similar to that observed after i.v. administration. Plasma levels of AT7867 remain above 0.5  $\mu$ M for at least 6 hours following an oral dose of 20 mg/kg. Assuming linear pharmacokinetics following i.v. administration, the bioavailability by the oral route is calculated to be 44%. In vivo pharmacodynamic (PD) biomarker studies are therefore performed with this model. Following pharmacokinetic and tolerability studies, doses of AT7867 (90 mg/kg p.o. or 20 mg/kg i.p.) are administered to athymic mice bearing MES-SA tumors and the phosphorylation status of GSK3 $\beta$  and S6RP in tumors is monitored over time. Clear inhibition of phosphorylation of the two markers of pathway activity is seen at 2 and 6 hours following treatment with AT7867. By 24 hours, total levels of both GSK3 $\beta$  and S6RP are greatly reduced<sup>[1]</sup>.



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