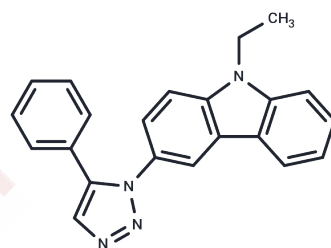


## MBQ-167

## Chemical Properties

CAS No. :	2097938-73-1
Formula:	C <sub>22</sub> H <sub>18</sub> N <sub>4</sub>
Molecular Weight:	338.41
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	MBQ-167 is a dual inhibitor of Rac/Cdc42 (IC <sub>50</sub> s: 103 nM for Rac 1/2/3 and 78 nM for Cdc42 in MDA-MB-231 cells, respectively).
Targets(IC <sub>50</sub> )	CDK,Ras
In vitro	MBQ-167 causes this phenotype in multiple mesenchymal cancer cell types including GFP-HER2-BM, MDA-MB-468, and Hs578t human breast cancer cells, as well as Mia-PaCa-2 pancreatic cancer cells, SKOV3 ovarian cancer cells, AGS and NCI-N87 gastric cancer cells, and SH-SY5Y neuroblastoma cells. MBQ-167 (≥100 nM) causes a loss of polarity in metastatic breast cancer cells. MBQ-167(500 nM; 24 h)treatment, results in ~95% cell rounding and detachment from the substratum in metastatic MDA-MB-231 cells. At earlier times (6h), MBQ-167(250 or 500 nM)treatment, induce an inhibition in Rac activity in the attached cell population, while the detached population demonstrates a ~40-50% inhibition. The attached population of MDA-MB-231 cells demonstrate a ~25% decrease in Rac activation while the detached cells are more responsive with a ~75% decrease following treatment with 250 nM MBQ-167 for 24 h .
In vivo	Mice treated with MBQ-167 exhibited comparable doubling times for the treatments (10 and 11 days), and demonstrated a statistically significant decrease in tumor growth. Upon sacrifice, a dosage of 1.0 mg/kg body weight (BW) with MBQ-167 led to an approximate 80% reduction in tumor size, while a higher dose of 10 mg/kg BW achieved an approximate 95% reduction. In comparison, EHop-016 at a 10 mg/kg BW dosage resulted in about a 40% reduction in tumor growth, making MBQ-167 ten times more effective than EHop-016.

## Solubility Information

Solubility	H <sub>2</sub> O: < 0.1 mg/mL (insoluble), DMSO: 155 mg/mL (458.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

### Preparing Stock Solutions

---

	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.955 mL	14.775 mL	29.550 mL
5 mM	0.591 mL	2.955 mL	5.910 mL
10 mM	0.2955 mL	1.4775 mL	2.955 mL
50 mM	0.0591 mL	0.2955 mL	0.591 mL

---

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Humphries-Bickley T, et al. Characterization of a Dual Rac/Cdc42 Inhibitor MBQ-167 in Metastatic Cancer. Mol Cancer Ther. 2017 May;16(5):805-818.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481