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## Product Data Sheet

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Product Name: CP681301

Cat. No.: GC68455

### Chemical Properties

Cas. No. 865317-32-4

Formula  $C_{17}H_{22}N_4O$

M.Wt 298.38

Solubility DMSO :  $\geq 100$  mg/mL (335.14 mM)

Storage 4°C, protect from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

CP681301 is a potent **CDK5** inhibitor. CP681301 shows antiproliferative activity. CP681301 decreases the expression of CD133, OLIG2, SOX2, KI67, pCDK5 protein level in GSCs (Glioma stem cells). CP681301 reduces self-renewal in mouse glioma xenografts. CP681301 shows anti-tumor activity in *Drosophila*<sup>[1]</sup>.

CP681301 (1  $\mu$ M; 96 h) shows variably cytotoxic to the tested GSC cultures but is not toxic to NHNPs<sup>[1]</sup>.

CP681301 (0, 10, 50  $\mu$ M; 48 h) decreases the expression of CD133, OLIG2, SOX2, KI67, pCDK5 protein level in GSCs<sup>[1]</sup>.

CP681301 (0, 0.5, 1  $\mu$ M; ) suppresses the expression of CREB Ser133 phosphorylation<sup>[1]</sup>.

Cell Cytotoxicity Assay<sup>[1]</sup>

Cell Line: NHNP, N12.159, GBM121, GBM39, N08-74 cells

Concentration: 1  $\mu$ M

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Incubation  
Time: 96 h

Result: Showed variably cytotoxic to the tested GSC cultures but was not toxic to NHNPs (normal human neuro-progenitors).

**Western Blot Analysis<sup>[1]</sup>**

Cell Line: GBM 121, GBM39 cells

Concentration: 1  $\mu$ M

Incubation  
Time: 48 h

Result: Suppressed the expression of CD133, OLIG2, and SOX2 and cell proliferation marker KI67.

CP681301 (1 mM; fed; 10 days) shows anti-tumor activity in 0- to 2-day-old adult *Drosophila*<sup>[1]</sup>.

Animal Model: 0- to 2-day-old adult *Drosophila* (brat-RNAi tumors)<sup>[1]</sup>

Dosage: 1 mM

Administration: Fed, 10 days

Result: Reduced active phospho-dCdk5 (Y15) in tumor cells and the self-renewal properties of stem cells, increased the expression of neuronal marker ElaV in these cells and increased the median survival by 2.8-fold.

[1]. Mukherjee S, et al. CDK5 Inhibition Resolves PKA/cAMP-Independent Activation of CREB1 Signaling in Glioma Stem Cells. Cell Rep. 2018 May 8;23(6):1651-1664.

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