

Product Data Sheet

Product Name: PQ 401
Cat. No.: GC16991

Chemical Properties

Cas. No. 196868-63-0

Chemical Name 1-(5-chloro-2-methoxyphenyl)-3-(2-methylquinolin-4-yl)urea

SMILES CC1=NC2=CC=CC=C2C(=C1)NC(=O)NC3=C(C=CC(=C3)Cl)OC

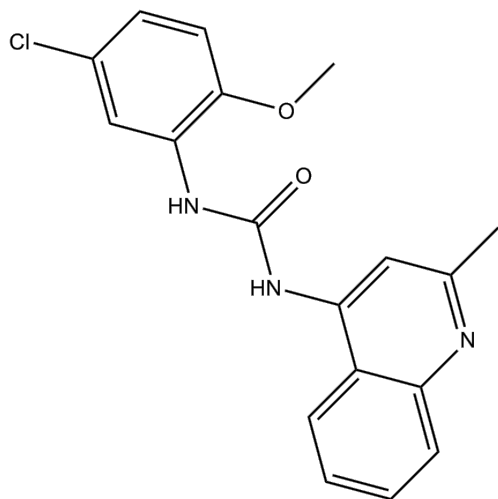
Formula $C_{18}H_{16}ClN_3O_2$ M.Wt 341.79

Solubility $\geq 17.1\text{mg/mL}$ in DMSO Storage Store at -20°C

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

PQ401 is a novel, potent inhibitor of IGF-IR with IC_{50} of $12\mu\text{M}$ [1].

In human MCF-7 cells, PQ401 inhibited autophosphorylation of the IGF-IR with IC_{50} of $12\mu\text{M}$ and autophosphorylation of the isolated kinase domain of the IGF-IR with $\text{IC}_{50} < 1\mu\text{M}$. In addition, PQ401

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

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inhibited the growth of cultured breast cancer cells in serum at 10 μ M. PQ401 can decrease IGF-I-mediated signaling through the Akt antiapoptotic pathway. Twenty-four hours treatment of 15 μ M PQ401 induced caspase-mediated apoptosis [1]. In small trigeminal ganglion neurons, PQ401 blocked the IGF-1-induced A-type K(+) currents (IA) that were associated with a hyperpolarizing shift in the voltage dependence of inactivation [2].

In vivo, a treatment with PQ401 triple per week reduced the growth rate of MCNeuA cells implanted into mice [1].

References:

- [1]. Gable KL, Maddux BA, Penaranda C, Zavodovskaya M, Campbell MJ, Lobo M, Robinson L, Schow S, Kerner JA, Goldfine ID, Youngren JF. Diarylureas are small-molecule inhibitors of insulin-like growth factor I receptor signaling and breast cancer cell growth. *Mol Cancer Ther.* 2006 Apr;5(4):1079-86.
- [2]. Wang H, Qin J, Gong S, Feng B, Zhang Y, Tao J. Insulin-like growth factor-1 receptor-mediated inhibition of A-type K(+) current induces sensory neuronal hyperexcitability through the phosphatidylinositol 3-kinase and extracellular signal-regulated kinase 1/2 pathways, independently of Akt. *Endocrinology.* 2014 Jan;155(1):168-79.

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