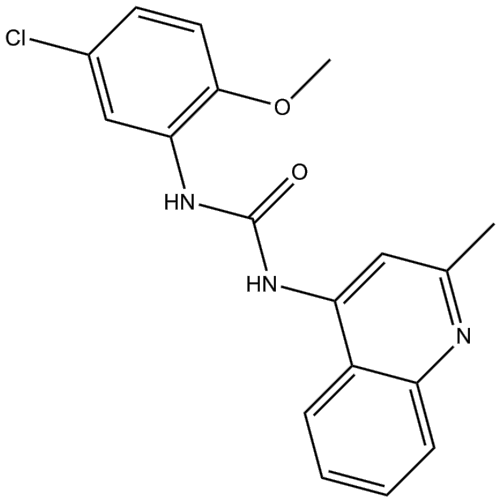
Product Data Sheet

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	≥ 17.1mg/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 IC50 of 12μM [1].

In human MCF-7 cells, PQ401 inhibited autophosphorylation of the IGF-IR with IC50 of 12 μM and autophosphorylation of the isolated kinase domain of the IGF-IR with IC50 < 1μM. In addition, PQ401

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inhibited the growth of cultured breast cancer cells in serum at 10μM. PQ401 can decrease IGF-I-mediated signaling through the Akt antiapoptotic pathway. Twenty-four hours treatment of 15 μM 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.