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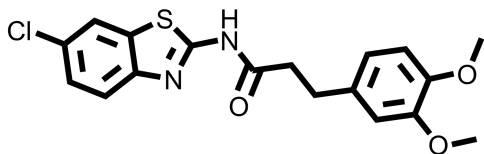
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Wnt Inhibitor – KY02111

Chemical Name: N-(6-chlorobenzo[d]thiazol-2-yl)-3-(3,4-dimethoxyphenyl)propanamide



Molecular Weight:	376.86
Formula:	C ₁₈ H ₁₇ ClN ₂ O ₃ S
Purity:	≥98%
CAS#:	1118807-13-8
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

Biological Activity:

KY02111 is a potent and selective Wnt signaling pathway inhibitor discovered by a cell-based screening, which promotes differentiation of hESCs/iPSCs to cardiomyocytes when used at the second stage of differentiation. Sequential use of CHIR99021 (in the first stage to trigger mesoderm induction of hESCs/iPSCs) followed by KY02111 (or XAV939, another Wnt signaling inhibitor) produced robust cardiac differentiation of hESCs/iPSCs in a xeno-free, defined medium, devoid of serum and any kind of recombinant cytokines and hormones, such as BMP4, Activin A, or insulin. The direct target of KY02111 remains unknown, but results from the study indicate that KY02111 might function downstream from GSK3 β and APC in b-catenin destruction complex, suggesting that KY02111 would be a powerful tool for not only stem cell research but also cancer studies.

How to Use:

In vitro: KY02111 was used at 10 μ M final concentration in vitro and in cellular assays. In cardiac differentiation KY02111 was added on day 3 (hiPSC lines) or day 4 (human or monkey ESC lines) until day 9 for hiPSC lines and the monkey ESC line, or day 14 for hESC lines.

In vivo: n/a

Reference:

1. Minami I, et al. A Small Molecule that Promotes Cardiac Differentiation of Human Pluripotent Stem Cells under Defined, Cytokine- and Xeno-free Conditions. (2012) Cell Rep. 2(5):1448-60.

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