# Data Sheet

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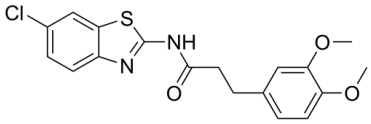
| **Product Name:** | KY02111 |
| **Cat. No.:** | CS-1975 |
| **CAS No.:** | 1118807-13-8 |
| **Molecular Formula:** | $C_{18}H_{17}ClN_2O_3S$ |
| **Molecular Weight:** | 376.86 |
| **Target:** | Wnt |
| **Pathway:** | Stem Cell/Wnt |
| **Solubility:** | DMSO : 33.33 mg/mL (88.44 mM; Need ultrasonic) |




## BIOLOGICAL ACTIVITY:

KY02111 is a canonical **WNT signaling (β-catenin)** inhibitor which promotes differentiation of hPSCs to cardiomyocytes. KY02111 can be used for the research of human cardiomyocyte regeneration[1]. ***In Vitro:*** KY02111 promotes differentiation by inhibiting WNT signaling in hPSCs[1].

KY02111 induces cardiomyocytes expressed the cardiac markers, αMHC, NKH2.5, and HCN4[1].

KY02111 (1-10 μM; 12 hours, 24 hours) reduces WNT signaling in both IMR90-1 cells and HEK293 cells in a dose-dependent manner[1].

KY02111 treatment with WNT signaling modulators produces robust cardiac differentiation of hPSCs in a xeno-free, defined medium, devoid of serum and any kind of recombinant cytokines and hormones, such as BMP4, Activin A, or insulin[1].

## PROTOCOL (Extracted from published papers and Only for reference)

Cell assay (Microarray) [1] IMR90-1 iPSCs were cultured in cardiac differentiation medium containing serum. On day 3, cells were treated with 10 μM KY02111 or 0.1% DMSO for 0, 12, or 24 hr. Nontreated cells (0 hr), cells treated with KY02111 for 12 hr (KY12hr) or 24 hr (KY24hr), and cells treated with 0.1% DMSO for 12 hr (DMSO12hr) or 24 hr (DMSO24hr) were used for microarray analysis using the Human Gene 1.0 ST array. For analysis of Distant Regulating Elements of co-regulated genes (DiRE analysis), all downregulated genes (based on the KY12hr/DMSO12hr ratio) were analyzed using the web-based program.

## References:

[1]. Minami I, et al. A small molecule that promotes cardiac differentiation of human pluripotent stem cells under defined, cytokine- and xeno-free conditions. Cell Rep. 2012 Nov 29;2(5):1448-60.

## CAIndexNames:

Benzenepropanamide, N-(6-chloro-2-benzothiazolyl)-3,4-dimethoxy-

## SMILES:

O=C(NC1=NC2=CC=C(Cl)C=C2S1)CCC3=CC=C(OC)C(OC)=C3

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

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