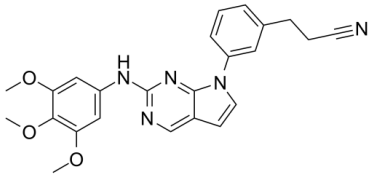
Data Sheet

Product Name:	Casein Kinase II Inhibitor IV
Cat. No.:	CS-0040257
CAS No.:	863598-09-8
Molecular Formula:	C24H23N5O3
Molecular Weight:	429.47
Target:	Casein Kinase
Pathway:	Cell Cycle/DNA Damage; Stem Cell/Wnt
Solubility:	DMSO : ≥ 250 mg/mL (582.11 mM)



BIOLOGICAL ACTIVITY:

Casein Kinase II Inhibitor IV is a small-molecule inducer of epidermal keratinocyte differentiation. IC50 & Target: Target: Casein Kinase [1] **In Vitro:** Treatment of human epidermal keratinocytes (NHEKs) with Casein Kinase II Inhibitor IV leads to an increase in the early differentiation markers keratins 1 and 10 at 48 h. Increased levels of IVL and TGM are observed in cells treated with Casein Kinase II Inhibitor IV at 72 h and persisted at 96 h. In addition, treated with Casein Kinase II Inhibitor IV expressesloricrin, a terminal differentiation marker, at later time points. Similar results are observed by messenger RNA (mRNA) expression analysis of NHEKs treated with Casein Kinase II Inhibitor IV. At early time points (12 and 24 h), treatment with Casein Kinase II Inhibitor IV leads to the upregulation of keratinocyte early differentiation marker genes, including keratin 1 (5.4-fold) and keratin 10 (5.4-fold). Terminal differentiation marker genes, including IVL (1.8-fold), TGM 1 (4.8-fold), loricrin (3.3-fold), and filaggrin (5.6-fold), are upregulated at late time points (36 and 48 h). These results are again consistent with the ability of Casein Kinase II Inhibitor IV to induce differentiation of epidermal progenitor cells into terminally differentiated keratinocytes[1].

PROTOCOL (Extracted from published papers and Only for reference)

Kinase Assay: [1]For reporter gene assays with transiently transfected cells, the cells are typically transfected in 150 mm-diam dishes when 30-40% confluent. A reporter plasmid, pGL3/3.7 kbp-IVLLuc plasmid, is transfected into the NHEKs. After 24 h, the transfected cells are plated into 96-well assay plates and treated with compound (**Casein Kinase II Inhibitor IV**) to a final concentration of 5 μM. After incubation for 2 d, reporter gene activity is measured using the Bright-Glo luciferase assay system[1].

References:

[1]. Hong J, et al. Identification and characterization of small-molecule inducers of epidermal keratinocyte differentiation. ACS Chem Biol. 2007 Mar 20;2(3):171-5.

CAIndexNames:

Benzenepropanenitrile, 3-[2-[(3,4,5-trimethoxyphenyl)amino]-7H-pyrrolo[2,3-d]pyrimidin-7-yl]-

SMILES:

N#CCCC1=CC=CC(N2C=CC3=CN=C(NC4=CC(OC)=C(OC)C(OC)=C4)N=C32)=C1

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

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