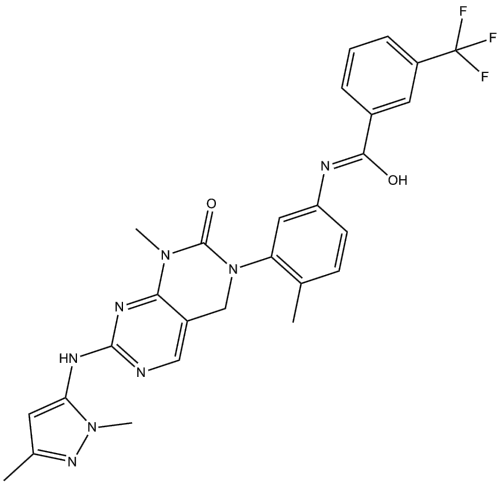
Product Data Sheet

Product Name: Pluripotin
Cat. No.: GC17407

Chemical Properties

Cas. No.	839707-37-8		
Chemical Name	(Z)-N-(3-(7-((1,3-dimethyl-1H-pyrazol-5-yl)amino)-1-methyl-2-oxo-1,2-dihydropyrimido[4,5-d]pyrimidin-3(4H)-yl)-4-methylphenyl)-3-(trifluoromethyl)benzimidic acid		
SMILES	CC1=C(N(C2=O)CC(C(N2C)=N3)=CN=C3NC4=CC(C)=NN4C)C=C(/N=C(O)/C5=CC(C(F)(F)F)=CC=C5)C=C1		
Formula	$C_{27}H_{25}F_3N_8O_2$	M.Wt	550.54
Solubility	DMF: 50 mg/ml,DMSO: 25 mg/ml,DMSO:PBS (7.2 pH) 1:2: 0.3 mg/ml	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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			

Protocol

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

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Cell experiment: The seven colon cancer lines (COLO 205, HCC-2998, HCT-15, HCT-116, HT29, KM12, SW-620) are used. In all experiments, each tumor line is cultured in 60 mm2 tissue culture treated dishes at an initial concentration of 62,500/mL (total 4 mL) before addition of 0.1 μM Pluripotin (SC-1) or an equivalent amount of diluent (DMSO) the next day. Five day exposures are conducted. The final concentration utilized for treatment for all tumor lines is determined by evaluating a range of SC-1 concentrations (0.01 to 10 μM) for sphere formation and any cytotoxic effects in the HCT-116 tumor line. Cell viability is routinely evaluated with the trypan blue exclusion test and is always >95% for concentrations at or below 0.1 μM[2].

References:

[1]. Chen S, et al. Self-renewal of embryonic stem cells by a small molecule. Proc Natl Acad Sci U S A. 2006 Nov 14;103(46):17266-71.
[2]. Mertins SD, et al. A small molecule (pluripotin) as a tool for studying cancer stem cell biology: proof of concept. PLoS One. 2013;8(2):e57099.

Background

Pluripotin is a dual inhibitor of ERK1 and RasGAP with KDs of 98 nM and 212 nM, respectively. Pluripotin also inhibits RSK1, RSK2, RSK3, and RSK4 with IC50s of 0.5, 2.5, 3.3, and 10.0 μM, respectively.

Pluripotin (SC-1) inhibits Abl1, p70S6K, PLK2, RSK1, RSK2, RSK3, RSK4 with IC50s of 0.005, 1.4, 2.2, 0.5, 2.5, 3.3, 10.0 μM,respectively. Pluripotin (SC-1) decreases cell growth for 7 colon tumor cell lines. After a five day exposure to 0.1 μM SC-1, the seven colon tumor lines are evaluated for changes in cell number and viability. There is a statistically significant decrease in cell number but >95% viability[2].

References:

[1]. Chen S, et al. Self-renewal of embryonic stem cells by a small molecule. Proc Natl Acad Sci U S A. 2006 Nov 14;103(46):17266-71.

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[2]. Mertins SD, et al. A small molecule (pluripotin) as a tool for studying cancer stem cell biology: proof of concept. PLoS One. 2013;8(2):e57099.

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