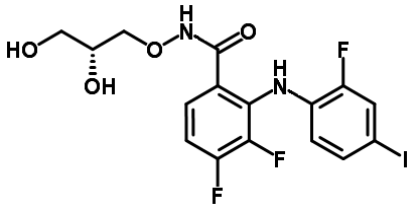
Product Specification Sheet

Product Name	Stemolecule™ PD0325901
Description	PD0325901 is a small molecule targeting mitogen-activated protein kinase kinase (MAPK/ERK kinase or MEK) with potential antineoplastic activity. PD0325901, a derivative of MEK inhibitor CI-1040, selectively binds to and inhibits MEK, which may result in the inhibition of the phosphorylation and activation of MAPK/ERK and the inhibition of tumor cell proliferation[1,2]. Along with the ALK5 inhibitor SB431542, PD0325901 has also been shown to increase the efficiency of reprogramming human primary fibroblasts into induced pluripotent stem (iPS) cells[3].
Catalog Number	04-0006
Size	2 mg
Chemical Name	N-[(2R)-2,3-dihydroxypropoxy]-3,4-difluoro-2-[(2-fluoro-4-iodophenyl)amino]-benzamide
Chemical Formula	$C_{16}H_{14}F_3IN_2O_4$
Structure	
Molecular Weight	482.19
CAS Number	391210-10-9
Purity	Greater than 97% by HPLC analysis
Formulation	Pale purple solid
Solubility	For a 10 mM concentrated stock solution of PD0325901, reconstitute the compound by adding 414.8 µl of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For use in cell culture, warm the medium just prior to adding the reconstituted compound. Once the compound is added, mix and filter-sterilize the medium using a 0.2 µM low-protein binding filter. PD0325901 is soluble in DMSO at 25 mM.
Storage and Stability	Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed.
Quality Control	The purity of PD0325901 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. No acute cytotoxicity was observed in mouse embryonic stem cells following a 6 hour exposure to 1 nM – 100 µM of PD0325901.

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References

1. Bain, J., Plater, L., Elliott, M., Hastie, C.J., McLauchlan, H., Klevernic, I., Arthur, J.S., Alessi, D.R., and Cohen, P. (2007) The selectivity of protein kinase inhibitors: a further update. Biochem J. 408: 297-315.
2. Sebolt-Leopold, J.S., and Herrera, R. (2004) Targeting the mitogen-activated protein kinase cascade to treat cancer. Nat Rev Cancer 4: 937-947.
3. Lin, T., Ambasudhan, R., Yuan, X., Li, W., Hilcove, S., Abujarour, R., Lin, X., Hahm, H.S., Hao, E., Hayek, A., and Ding, S. (2009) A chemical platform for improved induction of human iPSCs. Nat Methods 6: 805-808.

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