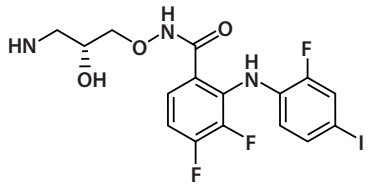
StemMACS™ PD0325901

2 mg	130-103-923
5×2 mg	130-104-170

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1. Description

Components	StemMACS PD0325901. A selective small molecule MEK inhibitor.
Size	2 mg; 5×2 mg
Product format	Off-white solid
Molecular weight	482.19
CAS number	391210-10-9
Systematic name	*N*-[(2*R*)-2,3-dihydroxypropoxy]-3,4-difluoro-2-[(2-fluoro-4-iodophenyl)amino]-benzamide
Molecular formula	$C_{16}H_{14}F_3IN_2O_4$
Structure	
Purity	≥95%
Solubility	Soluble in DMSO (up to 25 mM)
Storage	Store powder at –20 °C. After reconstitution, store aliquots at –20 °C. Protect from light.

1.1 Background information

StemMACS PD0325901 is a selective small molecule inhibitor of MEK (mitogen-activated protein kinase, MAPK/ERK kinase), a key component of the Ras/Raf/MEK/ERK signaling pathway. PD0325901 is a derivative of the MEK inhibitor CI-1040 and shows improved cell permeability and higher potency towards ERK1/2 (IC50=0.33 nM). In pluripotent stem cell research, inhibition of the MAPK signaling pathway with PD0325901 has been used to enhance reprogramming and sustain pluripotent stem cell self-renewal.

2. Protocol

2.1 Preparation of stock solution

Effective concentrations of StemMACS PD0325901 for cell culture applications range from 0.1 µM to 2 µM. A 10 mM stock solution in DMSO will be appropriate for most applications and can be prepared as follows:

1. Reconstitute the entire vial contents by adding 414.8 µL of pure DMSO. Warm to 37 °C for 3–5 minutes to facilitate solubilization.

   ▲ **Note:** The vial may have turned upside down during transportation. Gently tap prior to reconstitution to collect all powder at the bottom of the vial.

2. Prepare appropriate aliquots and store at –20 °C. Avoid repeated freeze-thaw cycles.

   ▲ **Note:** The DMSO concentration in culture should not exceed 0.5%. Stock solutions of alternate concentration can be prepared using the following table. Add the solvent directly to the vial, it will hold up to 4 mL.

Desired stock	1 mM	2 mM	5 mM	10 mM	20 mM
Volume of DMSO to add	Dilute 1:10 from a 10 mM stock	2074 µL	829.6 µL	414.8 µL	207.4 µL

2.2 Use in cell culture

1. Thaw aliquots at 37 °C as needed.
2. To avoid precipitation, prewarm the cell culture media prior to adding the reconstituted compound.
3. Mix and filter the supplemented media through a 0.2 µM low-protein binding filter.

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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