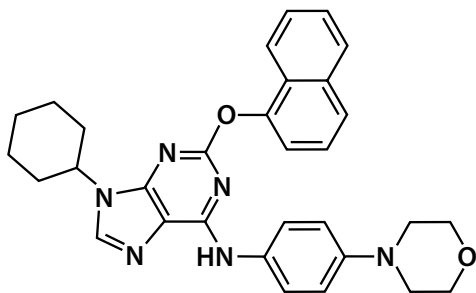


## Contents

1. Description
  - 1.1 Background information
2. Protocol
  - 2.1 Preparation of stock solution
  - 2.2 Use in cell culture

## 1. Description

<b>Components</b>	StemMACS Purmorphamine. An activator of Hedgehog signaling.
<b>Size</b>	5 mg
<b>Product format</b>	Off-white solid
<b>Molecular weight</b>	520.62
<b>CAS number</b>	483367-10-8
<b>Systematic name</b>	2-(1-Naphthoxy)-6-(4-morpholinoanilino)-9-cyclohexylpurine
<b>Molecular formula</b>	C <sub>31</sub> H <sub>32</sub> N <sub>6</sub> O <sub>2</sub>
<b>Structure</b>	



<b>Purity</b>	>96%
<b>Solubility</b>	Soluble in DMSO
<b>Storage</b>	Store powder at -20 °C. After reconstitution, store aliquots at -20 °C. Protect from light.

### 1.1 Background information

StemMACS Purmorphamine is a small molecule that activates the Hedgehog signaling pathway by binding to the smoothened receptor (IC<sub>50</sub> ~ 1.5 μM). Binding is competitive with respect to the smoothened antagonist cyclopamine. Purmorphamine has been used instead of sonic hedgehog for motor neuron differentiation from pluripotent stem cells and can promote osteogenesis in mesenchymal progenitor cells.

## 2. Protocol

### 2.1 Preparation of stock solution

Effective concentrations of StemMACS Purmorphamine for cell culture applications range from 1 μM to 10 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 960.4 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	2.5 mM	5 mM	10 mM
Volume of DMSO to add	Dilute 1:10 from a 10 mM stock	3762 μL	1881 μL	960.4 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.

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