

## Contents

### 1. Description

#### 1.1 Background information

### 2. Protocol

#### 2.1 Preparation of stock solution

#### 2.2 Use in cell culture

## 1. Description

**Components** 1 mg StemMACS™ TPPB

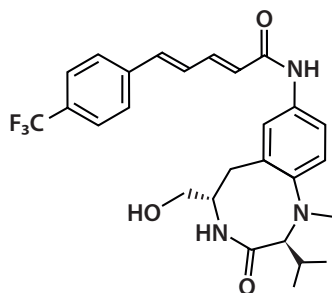
**Product format** Yellow solid

**Molecular mass** 501.54

**CAS number** 497259-23-1

**Systematic name** (2E,4E)-N-[(2S,5S)-1,2,3,4,5,6-Hexahydro-5-(hydroxymethyl)-1-methyl-2-(1-methylethyl)-3-oxo-1,4-benzodiazocin-8-yl]-5-[4-(trifluoromethyl)phenyl]-2,4-pentadienamide

**Molecular formula** C<sub>27</sub>H<sub>30</sub>F<sub>3</sub>N<sub>3</sub>O<sub>3</sub>



**Purity** >98%

**Solubility** Soluble in DMSO (up to 50 mM upon warming).

**Storage** Store powder at -20 °C. After reconstitution, store aliquots at -20 °C. The expiration date is indicated on the label. Protect from light.

### 1.1 Background information

StemMACS™ TPPB is a potent, cell-permeable activator of Protein Kinase C (PKC) with a *K<sub>i</sub>* of 11.9 nM. TPPB, also known as alpha-amyloid precursor protein modulator, has been shown to enhance the α-processing of amyloid precursor protein (APP). In pluripotent stem cell differentiation, TPPB has been used for increasing differentiation efficiency into Pdx-1-positive pancreatic progenitor cells.

## 2. Protocol

### 2.1 Preparation of stock solution

Effective concentrations of StemMACS TPPB for cell culture applications range from 100 nM to 200 nM. 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 199.4 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 mM	5 mM	10 mM	20 mM
Volume of DMSO to add	1994 μL	997 μL	398.6 μL	199.4 μL	99.7 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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