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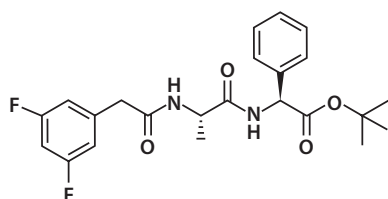
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1. Description

Components	StemMACS™ DAPT
Size	5 mg
Product format	White solid
Molecular weight	432.46
CAS number	208255-80-5
Systematic name	<i>N</i> -[<i>N</i> -(3,5-Difluorophenacetyl)- <i>L</i> -alanyl]-(<i>S</i>)-phenylglycine <i>t</i> -butyl ester

Molecular formula C₂₃H₂₆F₂N₂O₄

Structure



Purity	>95%
Solubility	Soluble in DMSO (up to 100 mM).
Storage	Store powder at -20 °C. After reconstitution, store aliquots at -20 °C. Protect from light.

1.1 Background information

StemMACS™ DAPT is a cell-permeable dipeptide that inhibits the protease γ-secretase, a key component of the Notch signaling pathway. The Notch pathway is involved in various developmental cell fate and lineage decisions, making the small molecule inhibitor DAPT a valuable tool for the modulation of stem cell differentiation in cell culture. In addition, γ-secretase plays a role in processing of amyloid precursor protein (APP) to β-amyloid, a component of the senile plaques characteristic for Alzheimer's disease. Inhibition of γ-secretase by DAPT has been shown to cause a dose-dependent reduction of β-amyloid levels in primary neuronal cultures as well as *in vivo*.

2. Protocol

2.1 Preparation of stock solution

Effective concentrations of StemMACS DAPT 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 1156 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	5 mM	10 mM	25 mM
Volume of DMSO to add	Dilute 1:10 from a 10 mM stock	2312 μL	1156 μL	462 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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