

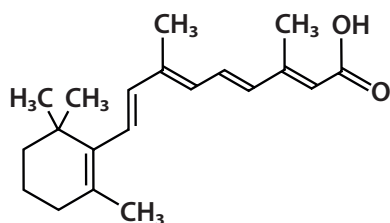
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1. Description

Components	50 mg StemMACS™ Retinoic Acid
Product format	Yellow solid
Molecular mass	300.44
CAS number	302-79-4
Systematic name	(2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid

Molecular formula C₂₀H₂₈O₂



Purity	>98%
Solubility	Soluble in DMSO (up to 100 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™ Retinoic Acid is the oxidized form of retinol, also known as the liposoluble vitamin A. It acts as a ligand for the heterodimeric retinoic acid receptor RAR/RXR. Retinoic acid has been implicated in the specification of the anterior/posterior axis in the developing embryo. In pluripotent stem cell research, retinoic acid has been used in various differentiation protocols, including neural differentiation.

2. Protocol

2.1 Preparation of stock solution

Effective concentrations of StemMACS Retinoic Acid for cell culture applications range from 500 nM to 1 µM. A 50 mM stock solution in DMSO can be prepared as follows:

1. Reconstitute the entire vial contents by adding 3329 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	50 mM
Volume of DMSO to add	Dilute 1:50 from a 50 mM stock	Dilute 1:10 from a 50 mM stock	Dilute 1:5 from a 50 mM stock	3329 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/local to find your nearest Miltenyi Biotec contact.

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