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1. Description

Components	20 µg StemMACS™ Mash1 (Ascl1) mRNA encoding the transcription factor Mash1 (Ascl1, Ash1; Entrez Gene ID 429) 1 mL Double-distilled Water , RNase-free
Specifications	<i>In vitro</i> transcribed, polyadenylated and capped mRNA that has been modified with pseudouridine and 5-methyl-cytidine to reduce the innate antiviral response to single-stranded RNA.
Formulation	Lyophilized from a filtered (0.2 µm) solution.
Storage	Store the lyophilized product at -20 °C. The expiration date is indicated on the label. After reconstitution, the product can be stored at -70 °C for up to 3 month.
Quality control	mRNA size has been verified on an Agilent Bioanalyzer System. Mash1 (Ascl1) protein expression after transfection was confirmed by immunofluorescence.

1.1 Principle

The transient expression of key developmental regulators, recombinases or markers via mRNA transfection is a powerful tool for modulating cell fate. StemMACS mRNAs are highly pure, *in vitro*-transcribed mRNAs that have been carefully optimized and validated to ensure high level expression after transfection.

1.2 Background information

The basic helix-loop-helix (BHLH) transcription factor Mash1(Ascl1) dimerizes with other BHLH family members to activate transcription via recognition of the E-box motif (5'-CANNTG-3'). In pluripotent stem cell biology, Mash1 plays a role in neuronal commitment and differentiation, e.g. in the generation of olfactory and autonomic neurons.

1.3 Applications

- Neural differentiation of pluripotent stem cells.

2. Protocol: Reconstitution of lyophilizate

▲ RNA is susceptible to degradation by exogenous ribonucleases. Wear gloves, use RNase-free reagents, tubes, and pipette tips.

1. Dissolve StemMACS Mash1 (Ascl1) mRNA in 200 µL of Double-distilled Water. Vortex thoroughly. The final concentration will be 0.1 µg/µL.
2. Briefly centrifuge to collect the content at the bottom of the tube.
3. Prepare aliquots and store at -70 °C to -80 °C. Do not subject aliquots to more than two freeze-thaw cycles.

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