Miltenyi Biotec

StemMACS™ mCherry mRNA

Order no. 130-120-975

Contents

1. Description

Components	**20 µg StemMACS™ mCherry mRNA** encoding the red fluorescent protein mCherry. **1 mL Double-distilled Water,** RNase-free
Product format	*In vitro* 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. 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 months.
Quality control	mRNA size has been verified on an Agilent Bioanalyzer System. mCherry protein expression after transfection was confirmed by flow cytometry.

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

mCherry is a red fluorescent protein derived from the *Discosoma sp.* protein DsRed. It offers fast maturation kinetics, pH resistance, and excellent photostability. [1]
StemMACS mCherry mRNA has been designed for transient expression of the mCherry protein after transfection. Expression can be easily detected by fluorescence microscopy or flow cytometry. The excitation maximum of mCherry is at 587 nm, its emission maximum at 610 nm.

1.3 Applications

- Positive control for mRNA transfections
- Optimization of mRNA transfection protocols
- Transient labeling of cells by transfection

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 mCherry 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.

For satisfactory transfection results, use a protocol that is optimized for your specific cell type.

3. Reference

1. Shaner, N. C. *et al.* (2004) Improved monomeric red, orange and yellow fluorescent proteins derived from *Discosoma sp.* red fluorescent protein. Nat. Biotechnol. 22(12): 1567–1572.

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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