Miltenyi Biotec

StemMACS™ Brn2 mRNA
human

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1. Description

Components	**20 µg StemMACS™ Brn2 mRNA** encoding the transcription factor Brn2 (Pou3f2, Oct-7; Entrez Gene ID 5454) **1 mL Double-distilled Water,** RNase-free
Specifications	*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.
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. Brn2 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

Brn2 belongs to the POU-III class of neural transcription factors which recognize the octameric DNA-binding sequence ATGCAAAT. Class III POU genes are expressed predominantly in the CNS where they play a role in neurogenesis. In pluripotent stem cell research, overexpression of Brn2 in combination with other transcription factors (e.g. Myt1l, Mash1/Ascl1) has been used to induce neuronal differentiation

1.3 Applications

- Neuronal differentiation of pluripotent stem cells.
- Direct reprogramming of fibroblasts into neurons.

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 Brn2 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. StemMACS™ eGFP mRNA or StemMACS™ Nuclear eGFP mRNA allow easy evaluation of transfection efficiency and are recommended as positive controls.

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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