Miltenyi Biotec

StemMACS™ Cebpb mRNA
human

Order no. 130-104-377

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1. Description

Components	**20 µg StemMACS™ Cebpb mRNA** encoding the transcription factor C/EBP-beta (CEBPB, LAP, CRP2, TCF5; Entrez Gene ID 1051). **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. Cebpb 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

CCAAT/enhancer-binding protein beta (C/EBP-beta) is a member of the basic leucine zipper (bZIP) containing family of transcription factors. It can function as a homodimer or in heterodimeric complexes with other C/EBP family members, such as C/EBP-alpha, -beta or -gamma. C/EBP-beta plays a role in the regulation of genes that are important for immune and inflammatory responses. In addition, C/EBP-beta is transiently induced during the early stages of adipocyte differentiation and promotes adipogenesis in cooperation with other adipogenic factors such as PPAR-gamma. In pluripotent stem cell research overexpression of C/EBP-beta has been used to induce the differentiation into adipose tissue.

1.3 Applications

- Differentiation of pluripotent stem cells into adipose tissue.

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 Cebpb 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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