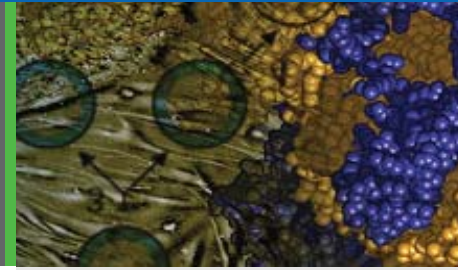


mRNAExpress™ mRNA Synthesis Kit

Transcribe and deliver mRNA into cells for instant expression



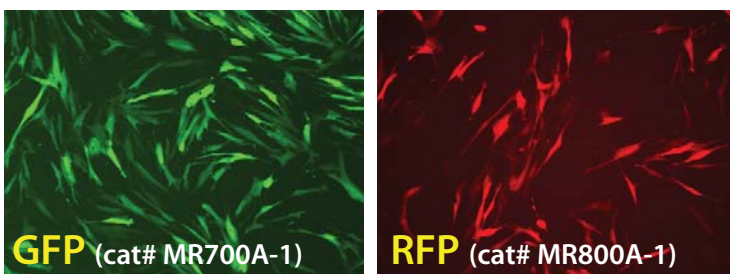
Generate stabilized mRNAs - ready for transfection

SBI's mRNAExpress mRNA Synthesis Kit is designed for *in vitro* transcription of mRNAs to be used for transfection of mammalian cells, oocyte micro-injections, *in vitro* translation and other applications. This high-yield kit can produce 20-40 µg of high quality mRNAs in a standard reaction. The *in vitro* transcription reaction utilizes a robust T7 RNA polymerase. An anti-reverse cap analog (ARCA), modified nucleotides (5-Methylcytidine-5'-Triphosphate and Pseudouridine-5'-Triphosphate) and poly-A tail are incorporated in the mRNAs to enhance the stability and to reduce the immune response of host cells. DNase I is provided to digest DNA template after mRNA synthesis. Phosphatase is provided to remove the 5' triphosphates at the end of the RNA to further reduce innate immune response in mammalian cells. The clean-up spin columns system yields high recovery of mRNAs that are ready for downstream applications.

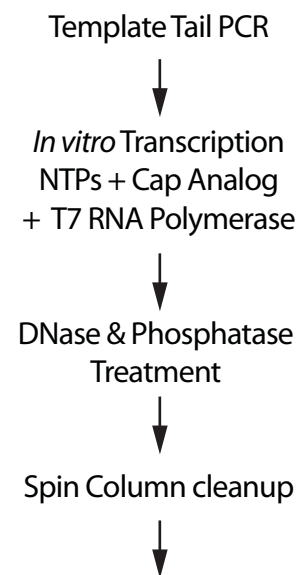
Highlights

- High-yield system to produce concentrated mRNAs
- mRNAExpress transcripts are stable and non-immunogenic
- Efficiently transfect the mRNAs with SBI's RNAFection™
- Non-integrative technology eliminates risk of mutagenesis
- Rapid and transient protein expression levels are easily regulated

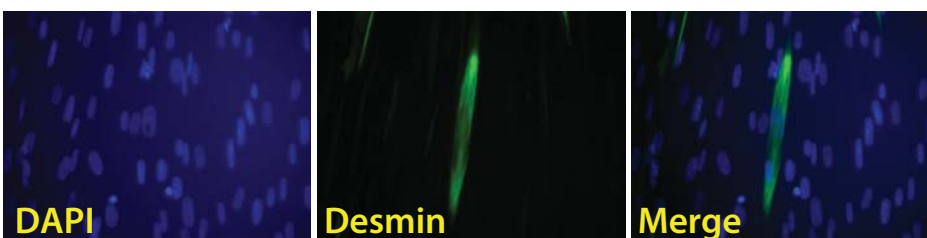
Sample protein expression from mRNAExpress transcripts



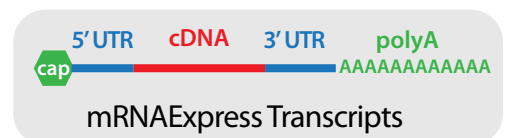
Synthesis of mRNA transcripts



Human MyoD mRNAExpress transcript makes muscle cells



Transfection of human foreskin fibroblasts with MyoD mRNAExpress transcript (cat# MR900A-1). After 3 days of transdifferentiation, cells were immunostained for Desmin (myogenic marker) for myotube formation and imaged for nuclei with DAPI.



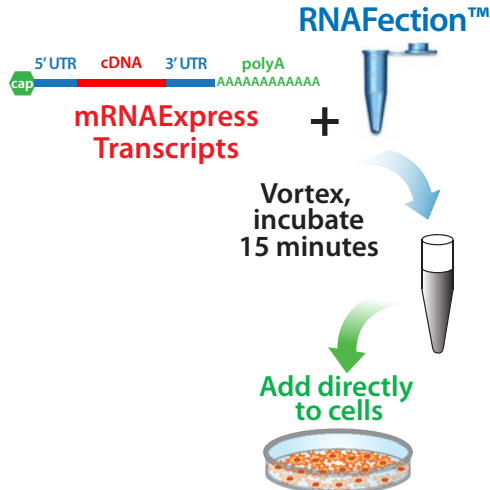
RNAFection™ and Pluripotency Antibody Kits

Efficiently transfect the mRNAExpress transcripts using RNAFection™

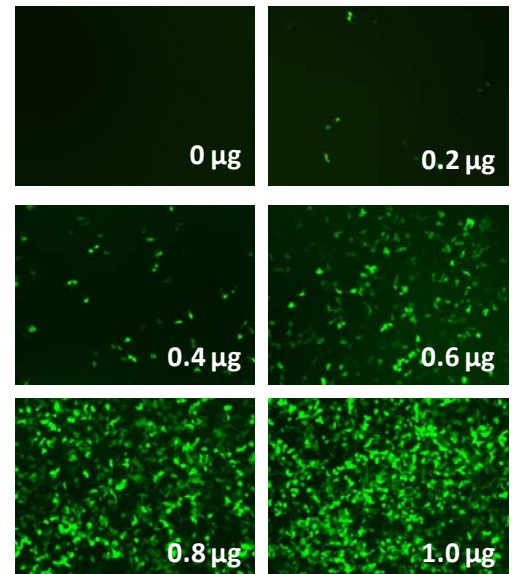
RNAFection is a nanotechnology-based transfection reagent that enables high efficiency transfection of modified mRNA transcripts. RNAFection has a low toxicity profile across a broad range of cell types. The reagent is simple to use - just mix and add to cells.

Features of RNAFection

- Efficient mRNA transfection
- Low toxicity reagent
- Works with most cell types
- Simple 20 minute protocol



Dose response of GFP mRNAExpress Transcripts



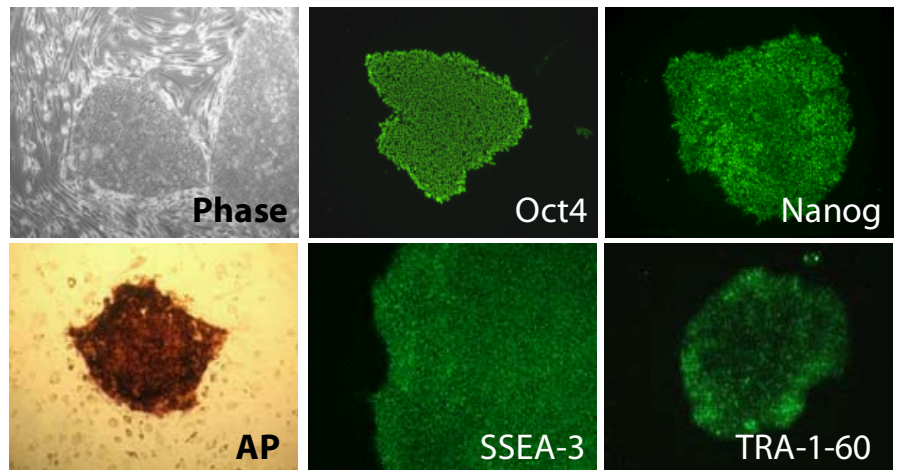
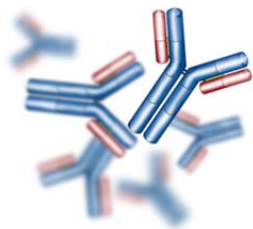
HEK293 cells transfected with increasing amounts of modified GFP mRNAExpress.

Verify ES and iPS Cell Pluripotency

Human embryonic stem cells (ESCs) and induced pluripotent stem cells (iPSCs) have distinct pluripotency protein markers like the transcription factors Oct4 and Nanog. ES and iPS cells also have unique surface markers for Stage-Specific Embryonic Antigen-3 (SSEA-3) and the transmembrane glycoprotein TRA-1-60. Pluripotent stem cells also exhibit elevated levels of alkaline phosphatase activity, another method for monitoring stem cell pluripotency. SBI offers affinity purified and validated antibodies to detect these human pluripotent stem cell markers Oct4, Nanog, SSEA-3 and TRA-1-60. The antibodies are available individually, or can be purchased as a complete iPS verification kit that comes with all four antibodies plus an alkaline phosphatase staining kit.

Validated pluripotent stem cell antibodies

- Human Oct4 and Nanog nuclear markers
- Human SSEA-3 and TRA-1-60 surface markers
- Complete system with AP staining kit available



We Also Offer Custom Services

System Biosciences offers a wide-range of custom services to support your research, allowing you to spend less time making tools, and more time making discoveries. To learn more, visit our website at www.systembio.com/service or call us at 888-266-5066.