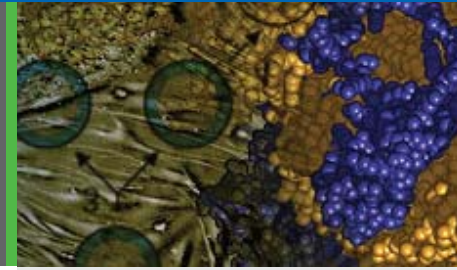


# mRNAExpress™ Transcripts

Direct delivery of mRNA into cells for instant expression



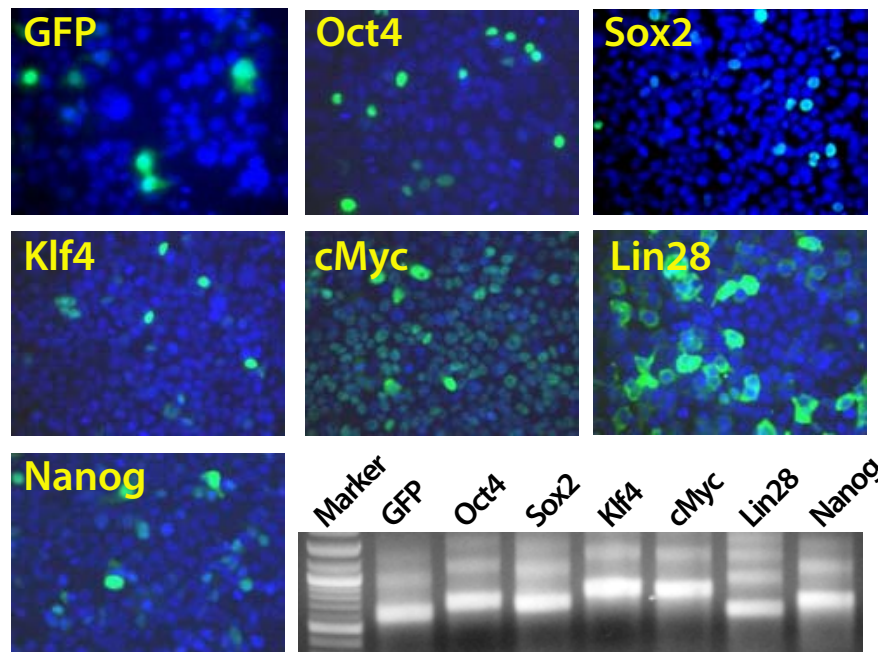
## Pre-made mRNA transcripts - ready for transfection

The mRNAExpress transcripts are mRNAs synthesized *in vitro*. The mRNAs have enhanced stability by incorporating modified nucleobases and offer increased translatability with 5' cap analogs and 3' polyA tails. The mRNAs can be delivered through transfection into a broad range of cell types, including fibroblasts and lymphocytes. This system enables a titratable, reproducible and non-integrating method for directly expressing key cellular factors involved in generating iPS cells as well as direct differentiation factors. Protein expression from the mRNAs can be seen within 5 hours after transfection with maximum protein expression observed between 24 to 48 hours.

## Highlights

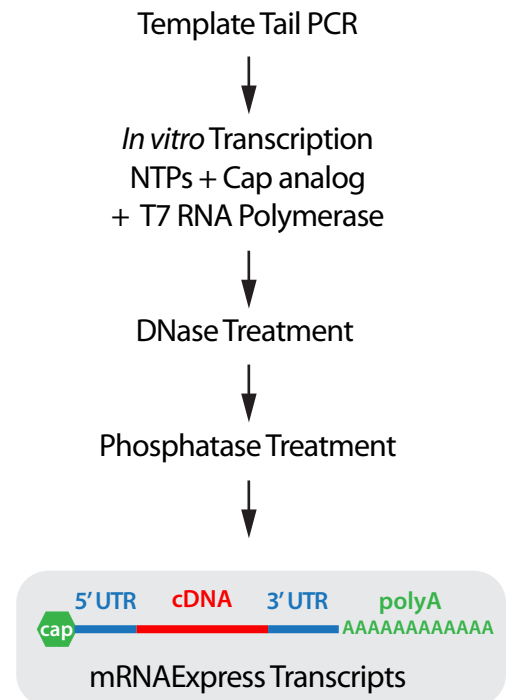
- Highly concentrated mRNAs to directly express key factors
- Efficiently transfect the mRNAs with SBI's RNAFection™
- Non-integrative technology eliminates risk of mutagenesis
- Rapid and transient protein expression levels are easily regulated

## Sample protein expression from mRNAExpress transcripts



Autofluorescence (GFP) and immunostaining of the factors are shown in green and blue is DAPI staining for nuclei.

## Synthesis of mRNA transcripts



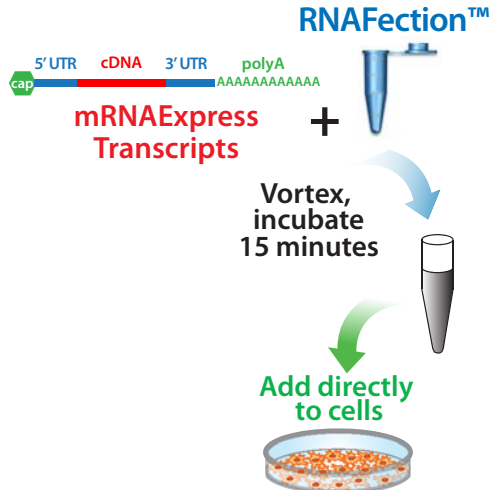
# RNAFection™ and Pluripotency Antibody Kits

## Efficiently transfect the mRNAExpress transcripts using RNAFection™

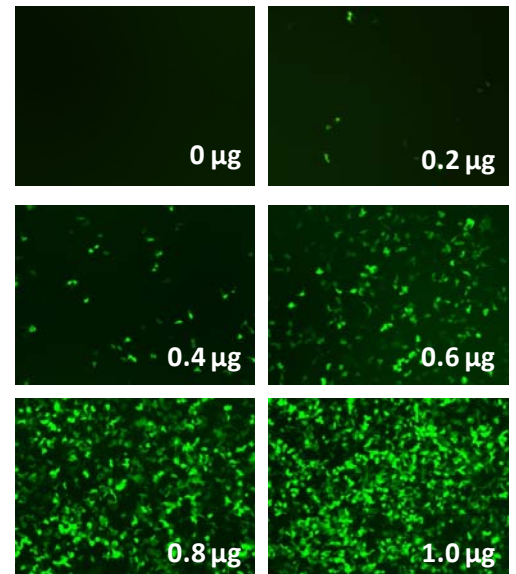
RNAFection is a nanotechnology-based transfection reagent that enables high efficiency transfection of modified mRNA transcripts. RNAFection has a low toxicity profile across a broad range of cell types. The reagent is simple to use - just mix and add to cells.

### Features of RNAFection

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



### Dose response of GFP mRNAExpress Transcripts



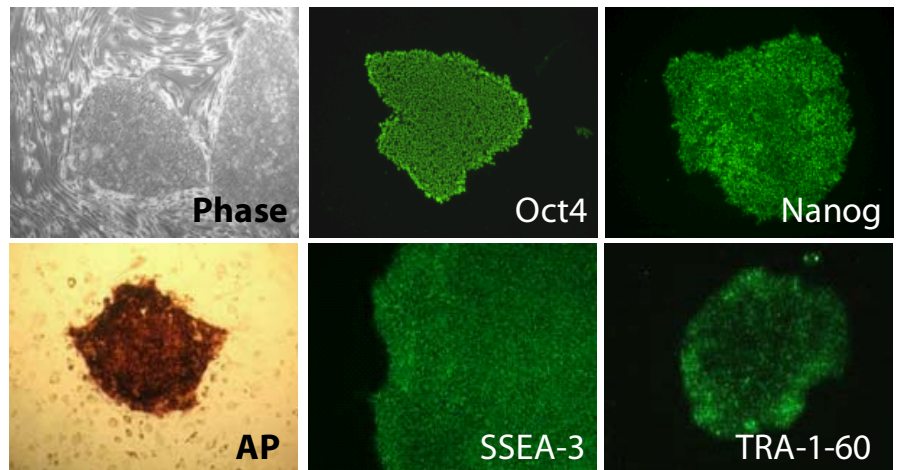
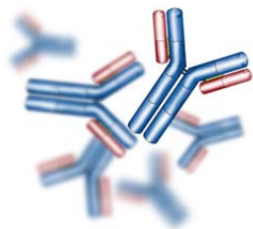
HEK293 cells transfected with increasing amounts of modified GFP mRNAExpress.

## 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](http://www.systembio.com/service) or call us at 888-266-5066.