TECHNOLOGY OFFER

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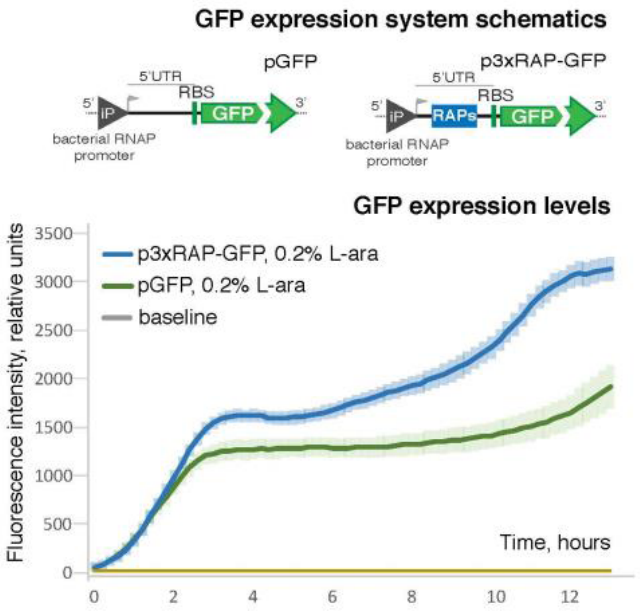
RNA polymerase binding Aptamers (RAPS) for Regulating RNA Production and Protein Expression

TECHNOLOGY

Yields of recombinant protein expressed under the control of bacterial RNA polymerase vary widely from protein to protein. One reason for low expression levels is the tendency for transcription to terminate prematurely due to poor processivity of the polymerase. A selection of specific RNA sequences having affinity to RNA polymerase were identified by SELEX and have now been shown to up-regulate (and in some cases, down-regulate) protein expression when incorporated in cis into RNA transcripts. These simple short sequences are easily engineered into untranslated regions of bacterial expression vectors and can dramatically improve rates of protein expression.



ADVANTAGES

- Significant improvements in protein expression levels
- Overcomes effects of RNA hairpins and other termination signals during transcription
- Alternative to use of T7 polymerase-based expression systems
- Selected sequences can also down-regulate transcription

REFERENCE:
2015/02

APPLICATION:
Recombinant protein expression in prokaryotic and eukaryotic cells

KEYWORDS:
RNA, transcription, protein, expression, recombinant, yield

DEVELOPMENT STATUS:
Proof of concept with specific commercial vectors

IPR:
PCT application WO 2016/156335, filed March 2016

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