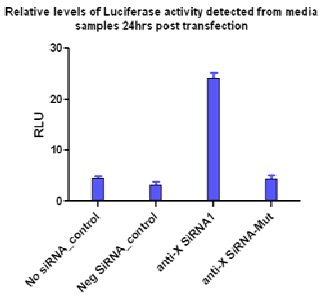
Recombinant protein expression enhancer

The Technology

Significant challenges remain in the production of proteins from mammalian cell expression systems and the ability to increase levels of recombinant protein production by mammalian cells would be an important advance for the biotechnology industry. The University of Sheffield has identified that knocking down the level of expression of a specific endogenous protein, ubiquitous in mammalian cells, results in a **significant increase** in recombinant protein production. This observation provides a novel route to increase recombinant protein production by mammalian cells either in rapid, transient format or potentially for continuous production from stably engineered cells.

- Knock-down of a single host cell protein results in a **4-5 fold increase** in recombinant protein production during transient transfection of mammalian cells.
- This effect is observed for both secreted and non-secreted proteins.
- The effect is independent of transfection reagent and target protein.



Mean relative luminescence units detected 48hrs post-transfection. 5X10^CHO-S cells were transiently transfected with 200ng of pMetLuc +/- 5pmols siRNA per well of a 24 well plate. Media samples were removed and filtered through a 0.45µM spin columns to remove cellular debris.

Intellectual Property

We have filed a patent application on these observations and are currently generating further intellectual property on the system.

The Opportunity

This technology has two clear applications in the biotechnology industry, (i) a research reagent to dramatically potentiate current widely used transfection reagents and (ii) a means to generate engineered mammalian cells or gene vectors with a significantly improved capability to produce recombinant proteins. We are currently seeking a licensee and development partner for this technology, in order to bring this product to the marketplace and realise its commercial potential.

For commercial enquiries on this expression enhancer system, please contact Andrew Tingey, quoting reference 28061.

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