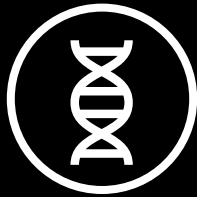


# CELLTHEON suPRE™ ELEMENT

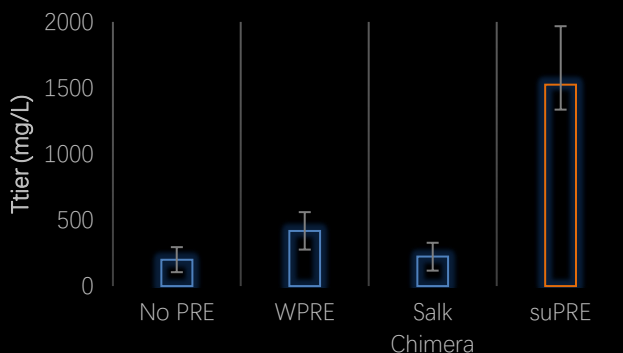
ADVANCING GENETIC OPTIMIZATION



The Celltheon suPRE™ Element is a novel and proprietary post-transcriptional regulatory element that has mRNA transcript stabilizing properties and promotes increased nuclear export. Common PREs widely used in industry such as WPRE, only provide modest improvement in transient expression, <2-fold. Using the Celltheon suPRE™ Element, expression is consistently 1-2 g/L or a 4-8 fold increase in transgene expression.

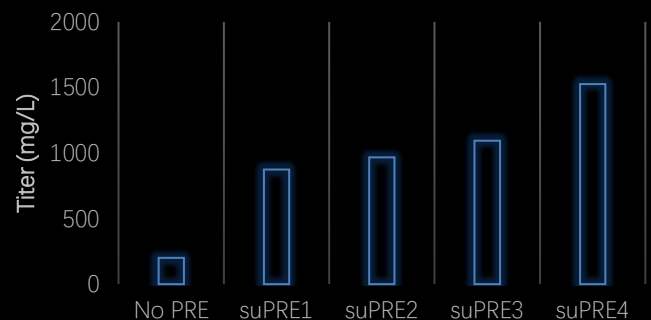
The Celltheon suPRE™ Element does not increase DNA copy number, an expression enhancement mechanism notorious for increasing expression at the detriment of cell line stability. By improving mRNA transcript stability, the Celltheon suPRE™ Element inherently improves expression without sacrificing stability. Celltheon has a library of suPRE™ elements that can be tested with any host cell type, thus these suPRE™ elements have the potential to enable the development of vectors for high gene expression and RNA stability for gene therapy applications as well.

Transient Expression with PRE Elements (n=3)



*2-4 fold improvement in expression over industry PREs*

Expression of 4 suPREs in CHO



*Library of suPRE™ Elements can be tested in your host cells*