

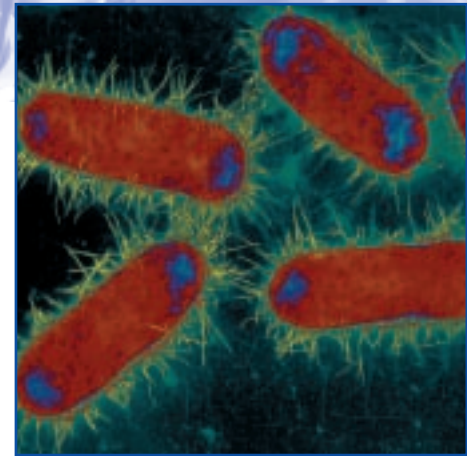
SYNTHETIC GENES FOR EFFICIENT EXPRESSION IN PROKARYOTES

Fields of application

- Expression of transgenes of procaryotic and eucaryotic origin
- High yield purification of transgenes
- Mutagenesis of recombinant proteins
- Structure – function analysis

The problem

Every single procaryotic species displays a marked bias in its codon usage amongst genes that are expressed at high compared to low levels. In addition there is a very prominent global bias between the utilization of codons in e.g. *E. coli* and mammalian cells. Consequently, mammalian genes to be expressed in *E. coli* usually tend to display an unfavorable codon distribution. This discordance is often associated with RNA instability, degradation or suboptimal translational efficiency and thus limited expression yields. Using its proprietary GeneOptimizer™ gene analysis software, GENEART provides the optimized gene to its customers in order to avoid potential pitfalls and to guarantee maximum yields from fermentation of human bioproducts in procaryotes.



The technical solution

- Avoid repetitive sequences
- Increased genetic stability of vector constructs
- RNA and codon optimization
- Increased translational efficiency
- Attachment of cleavable purification tags to facilitate affinity purification
- Generation of gene variants or randomized libraries for structural or functional analyses



Your success

De novo gene synthesis offers a variety of possibilities to increase protein yields, to modulate, fuse or completely shuffle genes and to investigate the function of newly identified genes. GENEART's proprietary, patent pending gene optimizing software GeneOptimizer™ allows the simultaneous adaptation of different parameters, together with additional requirements defined by the scientist, establishing an optimal basis for procaryotic expression.

Contact

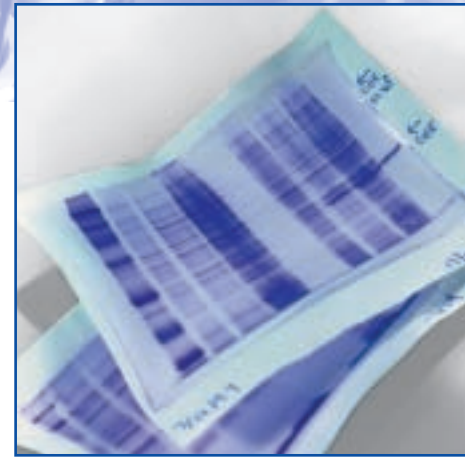
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References

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