

## **10 SECOND OVERVIEW**

» De novo synthesis of any double stranded DNA

- >> Your choice: Short double-stranded fragments, complex genes or complete gene libraries
- >> Free sequence optimisation
- » Express Genes up to 1000 bp in a Eurofins Genomics standard cloning vector delivered in only 4 days
- » Express GeneStrands up to 1000 bp as dsDNA fragment in 48 hours at your bench
- » Secure ordering, tracking and storage of your data
- >>> Strict confidentiality for every project

**DISCOVER ALL DETAILS OF OUR** PORTFOLIO BEHIND THE QR CODE

#### EUROFINS GENOMICS

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#### Genomics

# Synthesis

Fast Turnaround Times & Free Vector Storage

#### THE DNA UNIVERSE

### **HOW TO ORDER** SYNTHETIC GENES



#### SYNTHETIC GENES CAN EASILY BE ORDERED IN OUR ONLINE SHOP.

The gene synthesis order wizard comprises all the functionality needed to order a gene online:

- DNA or amino acid sequences as entry format
- Free, immediate codon usage adaption and codon optimisation using GENEius
- Customize your optimization by specifying "bad motifs to avoid"
- Subcloning into your vector of choice
- Various plasmid preparation scales
- Endotoxin-free preparation

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#### For routine orders we have great add-ons for you:

- Save your gene settings as templates for your next order
- Store your vector at Eurofins (Save time & costs)

#### **GENE SYNTHESIS –** Go Beyond

Optimise your research with Eurofins Genomics' high quality synthetic DNA products. Partial or full length genes, open reading frames (ORF), cDNAs, promoters, qPCR standards or artificial genes - any double stranded DNA sequence can be synthesised "de novo" and subsequently subcloned into a plasmid vector of choice.

#### Synthetic genes

- Available in any size
- Express option available
- Fast turnaround times
- Free, immediate online gene optimisation
- Special strategies for complex genes

#### GeneStrands

- Available up to 3000 bp
- GeneStrands are not cloned  $\rightarrow$  cost efficient alternative to genes
- Express option available (in 48h @ vour bench)



Gene optimisation is an important factor for successful protein expression. At Eurofins Genomics we have developed our own software tool for gene optimisation, called GENEius.\* Very often the optimisation of the sequence also leads to a standard sequence (faster TAT, lower price). GENEius uses codon usage tables of the heterologous expression host in order to improve protein expression:



#### **GENEius** – **Optimises Your Sequences**



- Usage of codons with high frequencies based on the selected organism • Avoidance of rare codons of the expressing organism
- Removal of unwanted motifs or secondary structures, for example
  - repeats or hairpin structures
- Evenly distributes G and C bases

ENEius optimised a human gene by comparing it to the input codon usage table codons are not present anymore in the gene sequence (bottom). The other codon frequencies match the value for optimal

\*GENEius has been designed in cooperation with BioLink GmbH, Planegg-Martinsried.