



Genomics

## GENE SYNTHESIS & MOLECULAR BIOLOGY

High Quality Combined With Guaranteed Turnaround Times.

Easy and secure online ordering  
**Subcloning**

Guaranteed TAT for Standard Genes

Online gene optimisation using GENEius

Plasmid Preparation Service

**Synthetic biology**

Strict confidentiality

**Gene Evolution Libraries**

Express Genes – In only 4 business days

Site Directed Mutagenesis

[eurofinsgenomics.com](http://eurofinsgenomics.com)

## 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.

### Alternative for Cloning

Create new qPCR standards in one plasmid or design a cDNA without labour and cost intensive cloning procedures.

### Expression Improvement in Heterologous Systems

Positively influence the expression levels by optimising the codon usage of the respective gene or add the ideal promoter or enhancer elements to the coding sequence.

### Optimisation of Constructs

Rearrange protein domains, create new hybrid genes or remove bad motifs, like unwanted restriction sites.

We categorise our gene synthesis service in several groups:

### Standard Genes

- A range of available sizes
- Moderate GC content (40-65%)
- Without extensive repeats (> 20 bp) or critical hairpin structures
- Without extensive homopolymer stretches

### Complex Genes

For all challenging genes, regardless of size, GC content and structure, we apply specific protocols in our lab.

### Gene Evolution libraries

Gene Evolution Libraries are ideally suited for screening approaches to improve the properties of your protein of interest. We offer the introduction of mutations at single positions, multiple positions, within specific domains or random substitution using degenerated oligonucleotides.

## Express Genes & Guaranteed Turnaround Time.

### Express Genes

When we name something Express Gene we mean it. In order to reduce waiting times, especially for projects with a very tight schedule, our genes are available in 4 days.

Speed up your project and order Express Genes. Order before 2 p.m CET and we will ship your genes in 4 business days.

### Express Gene & G-TAT conditions apply for

- Standard Genes up to 1000 bp
- In-house standard vector only
- Mini-Prep only
- Free codon optimisation with our proprietary software GENEius

### Guaranteed Turnaround Time

Turnaround times (TAT) depend on the length of the gene. Over 90% of our Standard Genes up to 1000 bp subcloned in our in-house standard vectors with miniprep scale are shipped within 8 business days.

If synthesis exceeds 12 business days, you are guaranteed a 50% discount.

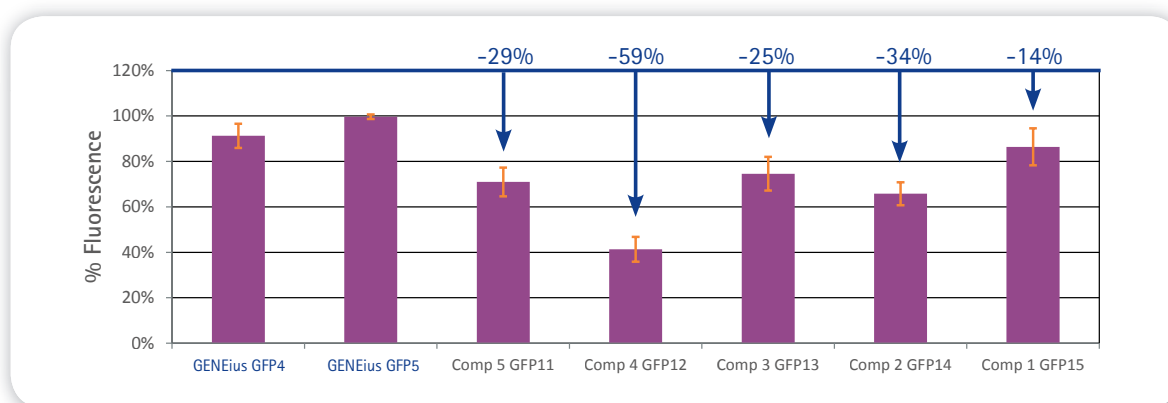


## GENEius – Optimises Your Sequence & Outperforms The Competition.

Gene optimisation is an important factor for successful protein expression. Eurofins Genomics has developed a proprietary software tool for gene optimisation, called GENEius\*.

GENEius uses codon usage tables of the heterologous expression host in order to improve protein expression:

- 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 like repeat or hairpin structures
- Evenly distributes G and C bases



We compared GENEius with five other software packages from competitors by optimising and expressing GFP in *E.coli*. GENEius shows the highest expression levels for optimised genes compared to its competitors. Read the GENEius application note for a detailed analysis of this experiment.

GENEius is integrated in our online ordering system, meaning that you can directly enter and optimise your sequence. You can immediately place your order or request a quote.



## Molecular Biology.

Lighten your work load by using one of our molecular biology solutions. Below are some of our main applications to help reduce time spent on selecting solutions.

### Site Directed Mutagenesis (SDM)

SDM can help in a wide range of applications. To alter the sequence you can either

- Incorporate single /multiple base substitutions
- Add insertions or deletions
- Perform random mutagenesis

### Plasmid Preparation

If you need large quantities of high quality endotoxin free and/or sterile plasmid DNA. Up to 20mg DNA with various quality controls (restriction enzyme digest, DNA sequencing) in only 5-10 business days.

### DNA Cloning

Our spectrum of cloning techniques can be used for a multitude of applications like cloning of PCR products, vector inserts or full length DNA.

### LILIS-PCR

- Determining the sequence of cosmid inserts or other integration vectors
- Identify the integration site of transposons
- Suitable for genomic DNA of bacteria, fungi and smaller eukaryotic genomes of up to 10<sup>8</sup> bp

Experience The Power Of DNA.

## Why Choose Eurofins Genomics For Your Synthetic Genes?

Founded in 1990, Eurofins Genomics is part of the Eurofins Scientific Group with laboratories across 37 countries with more than 15,000 employees.

### Global Network

Eurofins Genomics has a strong global presence enforced by its 600 highly skilled employees, production facilities and service centres based in Europe, USA, Japan and India.

### Customers & Markets

Eurofins Genomics supplies thousands of customers in various different markets. Our services are tailored for **pharma, diagnostics, agriculture, food, biotechnology and research applications** worldwide.

### Combined Expertise

Eurofins Genomics' European site in Germany uses state-of-the-art technology from all areas related to DNA applications, testing, analysis and research.

### Quality Management

Our QM/QA-system is certified according to ISO 9001, including the requirements of ISO 13485 (medical devices requirements). Furthermore we are accredited according to

ISO 17025. We are also compliant to the principles of Good Laboratory Practice (GLP) and Good Clinical Practice (GCP).

### Service Offerings

We offer a wide-range of genomic services based on the core business lines:

- DNA & RNA Oligonucleotides
- Genotyping / Gene Expression
- Custom DNA sequencing
- Gene Synthesis / Molecular Biology
- Next Generation Sequencing

### Confidentiality

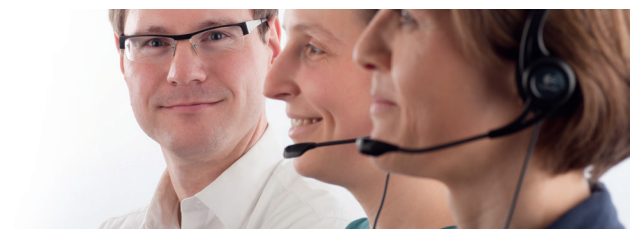
Strict confidentiality is guaranteed with every project we complete. The excellence of our service is overseen by a quality management procedure.

### High quality standards & security

The oligos used for gene synthesis are manufactured at the Eurofins Genomics division in Ebersberg, Germany. All genes are 100% sequence verified in our DNA sequencing facility.

Secure online ordering, status tracking and document download is available on our secure Ecom system.

## Service Is More Than Just A Word For Us.



Our mission is to deliver first class products together with professional, fast and competent customer support whenever you need it. Find your customer service contact number according to your country below:

#### Email:

genes-eu@eurofins.com

#### Phone:

+49 8092 8289-77

#### Official business hours:

8 a.m. – 6 p.m. CET

#### Toll free phone numbers in Europe:

Austria	0800 296 562	Luxemburg	8002 6418
Belgium	0800 77862	Netherlands	0800 0226215
Denmark	8088 1262	Norway	800 138 44
Finland	0800 112 744	Sweden	020 798 148
France	0800 903 807	Switzerland	0800 562 013
Ireland	1800 555 056	UK	0800 0323 135
Italy	800 785 950		

Feel free to contact us via email and a member of our customer support team will be happy to assist you. To contact **Eurofins Genomics' headquarters** in **USA, Japan, India** or to locate a **distributor in your area**, please have a look on our website: [eurofinsgenomics.com](http://eurofinsgenomics.com)

