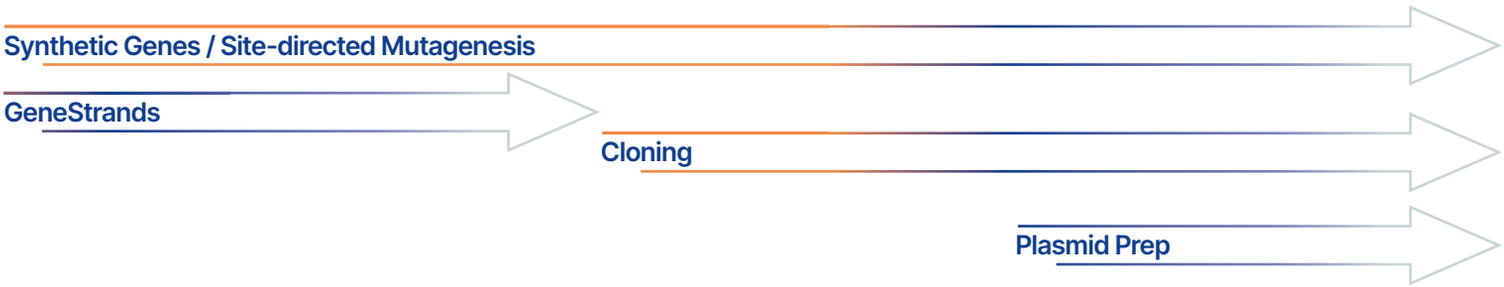
eurofins | Genomics

Gene Synthesis & Molecular Biology

– Portfolio Overview –



Product	Service Workflow	Ideal for	Typical Applications
Synthetic Genes *A fully cloned, sequence-verified DNA construct delivered in the vector of your choice.*	1. Sequence Analysis 2. Experimental Design 3. Gene Synthesis 4. Subcloning 5. Plasmid Preparation 6. Gene Verification 7. Delivery	• Outsourcing challenging or unsuccessful cloning projects • Lab with limited cloning experience, time or equipment • Difficult, repetitive, GC-rich or custom, de novo designs • Increasing or optimizing protein expression (codon usage, promoters, enhancers) • Replacing traditional cloning workflows or accessing non-commercial genes	• Codon-optimized gene expression • Synthetic biology and construct design • Functional protein studies • Assay development (PCR/RT-PCR standards) • Replacement for cloning-, PCR-, or cDNA-based workflows
GeneStrands *Purified, linear dsDNA fragments ready for direct use in downstream applications.*	1. Sequence Analysis 2. Experimental Design 3. Gene Synthesis 4. Quality Control 5. Delivery	• A faster, cheaper, and more flexible alternative to full gene synthesis • Subcloning into your own vector • PCR or amplification templates • Providing inserts for cloning projects	• Cloning and vector construction • PCR and qPCR assay development • Expression studies using codon-optimized fragments • Fast creation of custom inserts without full plasmid synthesis
Cloning Service *A complete molecular cloning service using customer-provided inserts and vectors.*	1. Prepare Insert 2. Molecular Cloning 3. Plasmid Preparation 4. Quality Control 5. Delivery	• Outsourcing subcloning to save internal lab time • Labs with no experience in cloning or subcloning • Unsuccessful or slow cloning attempts • Cloning competitor fragments/ genes into own vector	• Subcloning for sequencing or expression studies • Functional studies using full-length cDNA • PCR-based gene construction workflows • Preparing expression constructs for downstream assays
Site-directed Mutagenesis Service *Introduce precise sequence changes into customer-supplied plasmids.*	1. Experimental Design 2. In-Vitro Mutagenesis 3. Plasmid Preparation 4. Gene Verification 5. Delivery	• Generating multiple gene variants • Labs with no experience in mutagenesis techniques • Optimizing functional efficiency • Correcting PCR-introduced errors	• Protein engineering • Structure-function studies • Functional optimization • Variant generation for screening or selection experiments
Plasmid Preparation *Purified plasmid DNA prepared at the scale of choice.*	1. Sequence Analysis 2. Transformation 3. Overnight Culture 4. Scaled-up Bacterial Culture 5. Preparation 6. Quality Control 7. Delivery	• Obtaining high-quality plasmid DNA as starting material • Adding extra services such as bioburden testing, animal-origin- or endotoxin-free prep • Workflows requiring strict contamination-prevention measures	• Production of antibodies, recombinant proteins, or DNA vaccines • Cell or gene therapy studies • Standard references for assay validations • Assay controls

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