

SYNTHETIC LIBRARY CONSTRUCTION SERVICE

BaseClear can construct high quality synthetic DNA libraries in order to optimise even the most complicated genes.

Synthetic DNA libraries can be used as an in vitro molecular evolution strategy. This is the most efficient method for creating proteins and regulatory sequences with improved or novel properties. A library might help for example to:

- increase or adjust promoter strength or specificity,
- enhance or modulate protein stability,
- modify or combine enzyme properties,
- increase binding affinities of receptors, ligands and antibodies,
- optimise or alter signal peptide efficiencies,
- destroy protein function whilst retaining immunogenicity,
- combine and select natural polymorphisms,
- increase protein half-life,
- adjust thermal stability.

In contrast to conventional protocols for creation of diversity, the synthetic libraries limit the introduction of mutations only to those sites and with the exact frequencies that are determined by the scientist.

Optimal results for complicated libraries

BaseClear is able to synthesise large libraries with the highest degree of accuracy in the non-random, constant part of the genes of interest, and an equal distribution of nucleotides in the randomised parts. BaseClear has extensive experience with a wide variety of libraries, including very complicated ones. We are even able to construct libraries of large genes or large constructs (2-3 kb), due to several in-house specialist technologies.

We offer the following options:

- **Site-Mutated Libraries:** One or more specified mutations at a specific location.
- **Site-Saturated Libraries:** One location mutated in all possible variants.
- **Combinatorial Libraries:** Several locations mutated in one or more (or all) possible variants.

Combinations of these options are also possible. In all cases, the genes are cloned into a standard vector that is optimised for DNA libraries, or into a vector of your choice.

Automatic colony picking

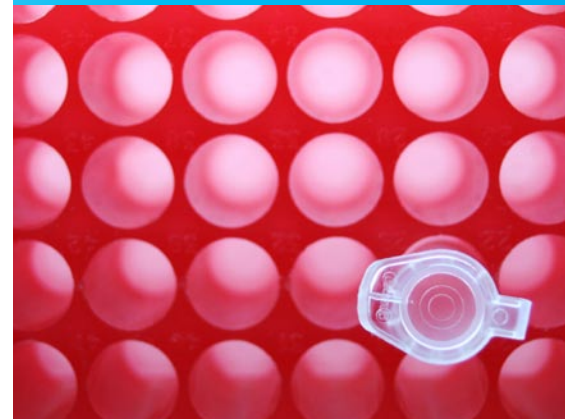
After cloning and transformation into E. coli, the colonies can be picked by our automatic colony-picking equipment and transferred into microtiter plates. This allows for fast automatic screening of the libraries. In combination with our in-house equipment for sequencing and gene synthesis, this results in short time-lines and high quality libraries.

BASECLEAR

FOR 100% DNA RESULTS

Accredited service laboratory for

- DNA-based Research
- Quality Assurance
- Forensics



BaseClear offers services both for standard and specialist DNA Technologies, in the field of DNA sequencing, genome analysis, genotyping, DNA synthesis and protein expression.



BaseClear's technical team consists of experienced product specialists, who optimise experimental procedures in order to obtain optimal results.

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SYNTHETIC LIBRARY CONSTRUCTION SERVICE

You submit ...

- Sequence of the gene of interest with the positions of interest indicated.
- DNA of the target gene and vector

You receive

- A DNA library as:
 - isolated DNA or
 - colonies on plates or
 - colonies picked and transferred into microtiter plates as glycerol stocks.
- Report of the library construction including several control steps.
- The exact delivery time will depend on the specifications of your project.



**FOR 100%
DNA RESULTS**