ATG:biosynthetics
Solutions
in biosynthetics

CODO NEWS

Issue63

flexTEC: a most flexible modular solution for multi-protein expression - by use of synthetic genes.

24 July 2014

Dear customers,

"Everything should be made as simple as possible but not simpler"

Albert Einstein (1879-1955)

This philosophy was the relevant idea leading to the ATG - development of the most basic modular *flex*TEC – vector systems.

Four boxes: **A, S, T** and **M**.

A = expression boxes determining the specific intended **a**pplication (species specific)
S = **s**election marker box (any negative or positive selection marker)
T = **t**arget host DNA maintenance functions (your genetic system)
M = construction host DNA **m**aintenance functions (e.g. E. coli, Yeast etc.)
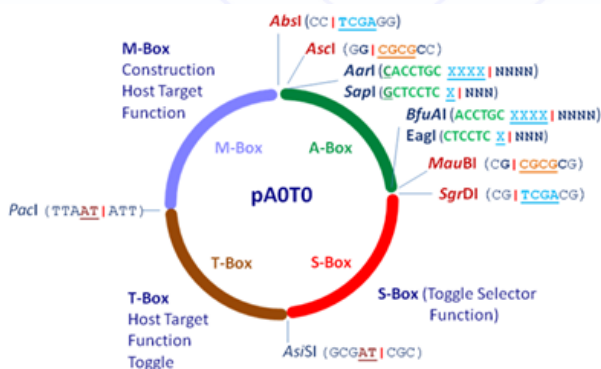
The basic vector pA0T0:

Figure-1. Most simple minimal basic vector: pA0T0 - *ToP* – Vector. This backbone provides a simple basis for all highly flexible combinatorial vector constructions. There are no limits in your personal design of *flex*TEC constructs. Serving for all species – just inquire for your combination.

The **standardized** ensemble of restriction sites serves for general **modular** compatibility of all half- and quarter elements of the *flex*TEC - vector system building blocks.Gene-CDS and simple dsDNA assembly can be performed by TypeIIS and classical restriction ligation pattern, SLIC and exonuclease assembly, **LCR** – assembly and *in vivo* recombination. The landing sites are between **AbsI**(*XhoI*):**AscI**(*BssHII)* and **MauBI**(*BssHII):***SgrDI**(*SalI*).

If your choice is *flex*TEC the most advantagous result is compatibility for all constructs you ever designed and in addition there is a de- and re-assembly opportunity of all your A-expression-boxes you ever used. The *flex*TEC - system-conform deassembled elements are are fully compatible with each other and are exactly like they were built in before.
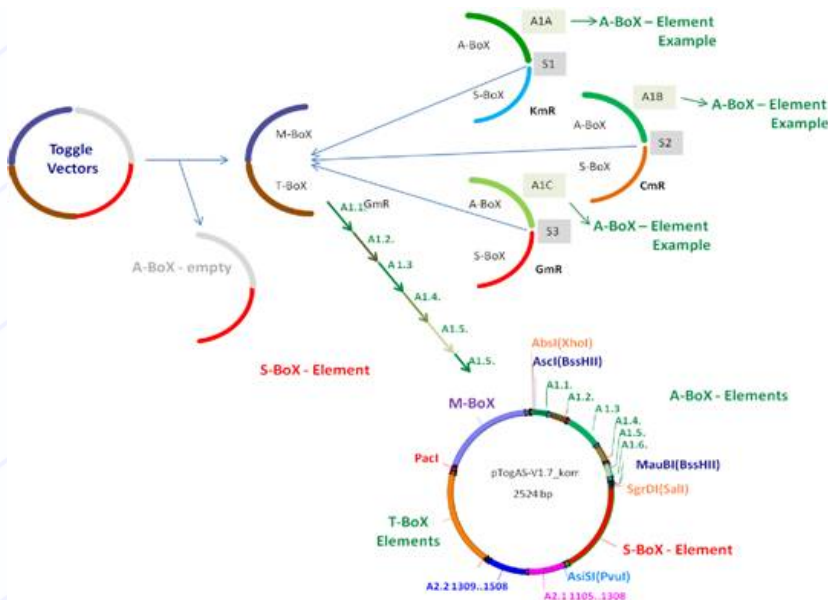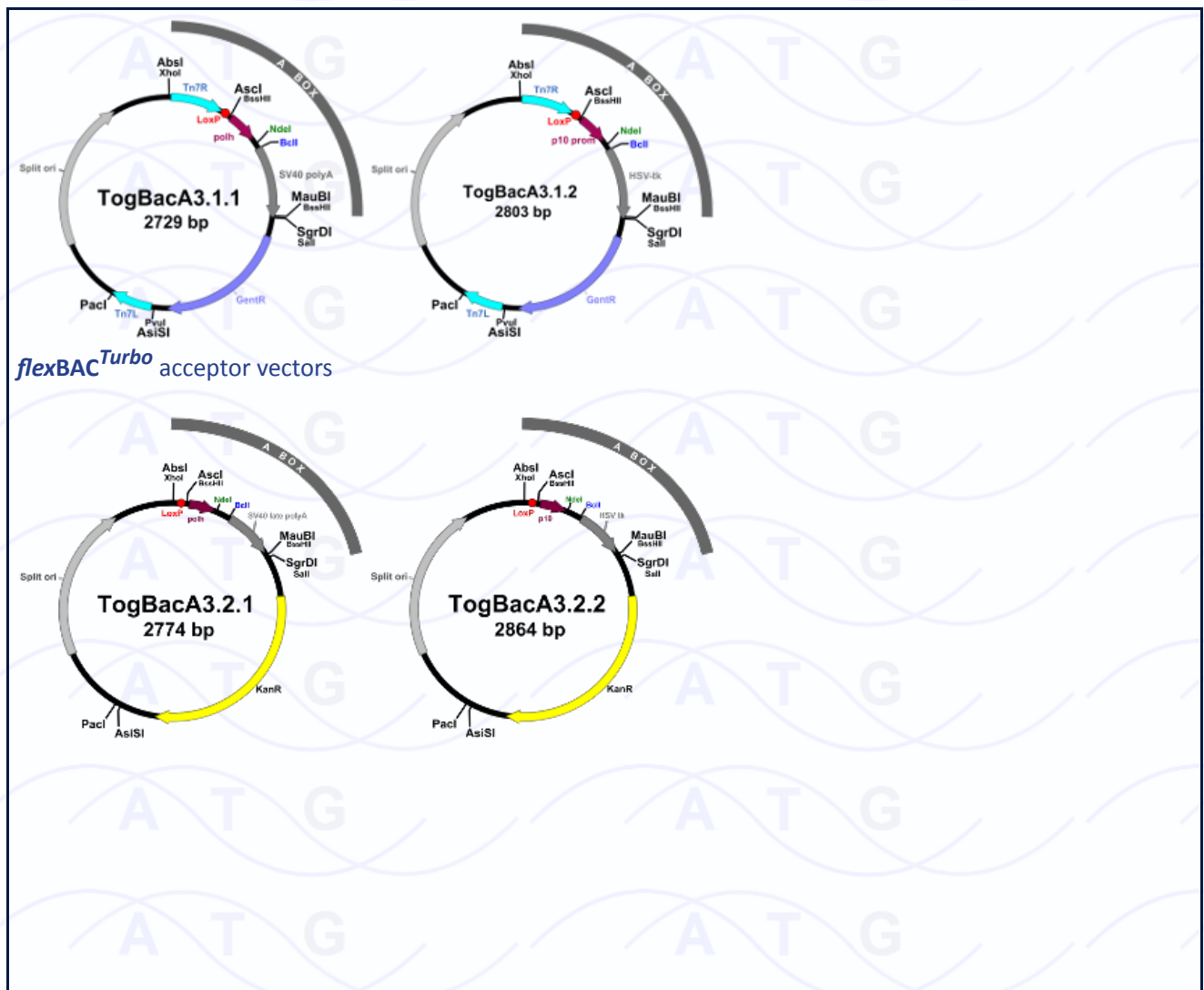
Figure-2. Half and quarter parts of the *flex*TEC - vector system and A-expression-box assembly.

One example is *flex*BAC^{*Turbo*} system in insect cells:

*Flex*BAC^{*Turbo*} is the *flex*TEC family member for baculoviral expression of multigene constructs in insect cells.

Easy, flexible, adaptable.

The basic system comes with 6 transfer vectors (shown below) that allow you to build your multi-protein expression constructs quickly and easily.

*flex*BAC^{*Turbo*} acceptor vectors

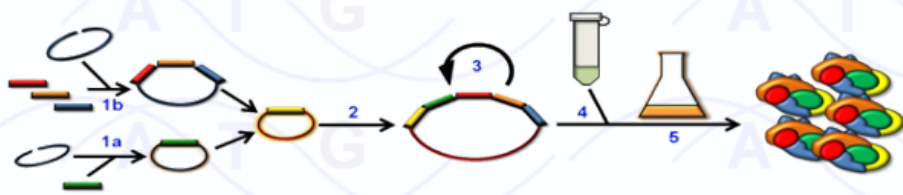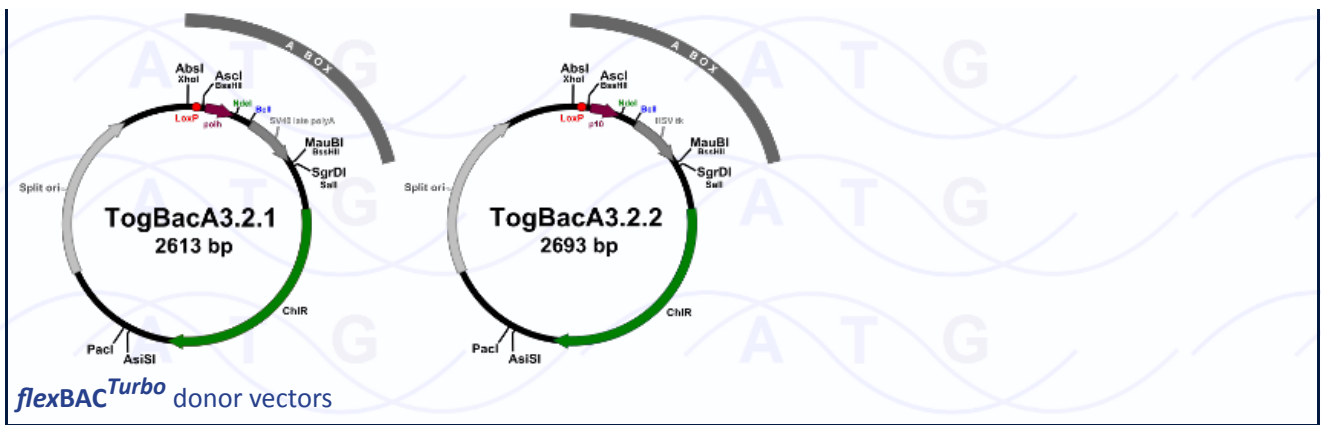*flex*BAC*Turbo* donor vectors

Figure-3 & 4. Multi-gene transfer vector constructs can then be transferred to the baculoviral genome for expression in insect cells (see figure below, steps 3 through 5).

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