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Synthetic genes, clusters, gene assemblies and multi-genic constructs:

The first 100 orders get a basic-pA0-vector for free for your species specific A-BoX-Element.
A-BoX-elements are available for *E. coli*, Polyhedrin, p10-Baculovirus - promoters and mammalian promoters.

How the Design works:

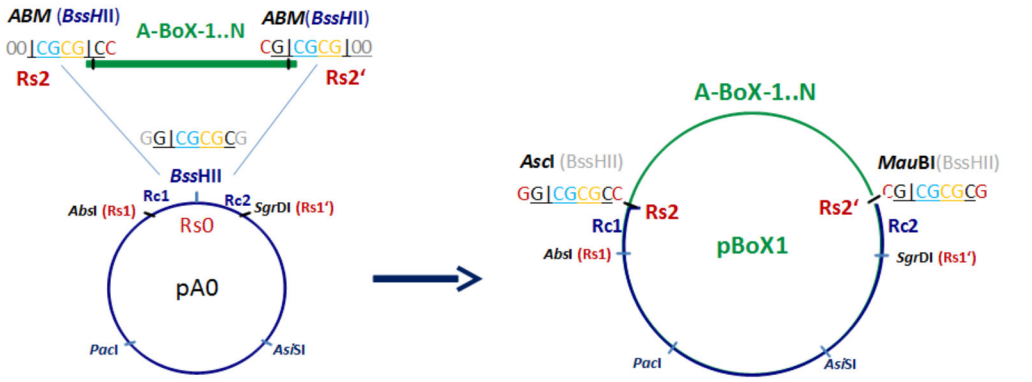
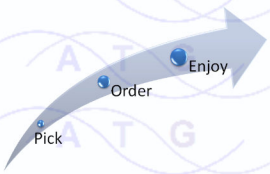


Figure 1. The *flex*BoXes R^{c1} and R^{c2} are located between *AbsI*(*XhoI*) - *AscI*(*BssHII*) and *MauBI*(*BssHII*) - *SgrDI*(*SalI*) respectively and are freely designable intermediate sequences. These are part of the **A-BoXes**. In these sequence elements construction relevant sequence motives can be placed like specific site directed, general recombination site sequences or homing nuclease sites for the transfer of whole clusters. In addition to simple cloning these can individually be adapted for **recombination** and **exonuclease cloning** or **assembly** strategies like toggle assembly. After recovery cleavage from multi-gene constructs with ***BssHII***-sites DNA-fragments can be sequence identically restored by cloning it into **pA0**-vectors.

All basic Design is built on the pA0 - backbone, without an A-BoX element. Multiple expression A-BoXes can be assembled into *Flex*TEC - Vector systems for all genetic systems are all pre-designed according to the same basic principle

It uses **powerful biocomputation** to accomodate all the design requirements, some of which are default and others that are optional or customer-specific.



Basically, it is like ordering a la carte in a restaurant:

- pick your main course and side dishes from our menu,
- order your selection and
- let our chefs put together a palate pleaser for you.
- and enjoy your (multi-)gene assembly

The below graphic gives you an idea of what the design can look like. It can be designed to fully comply with the design parameters of the **Toggle plasmid system** but it can also be adjusted to any specific cloning / expression system you have, e.g. by considering specific restriction sites and eliminating duplicates computationally from the overall design.

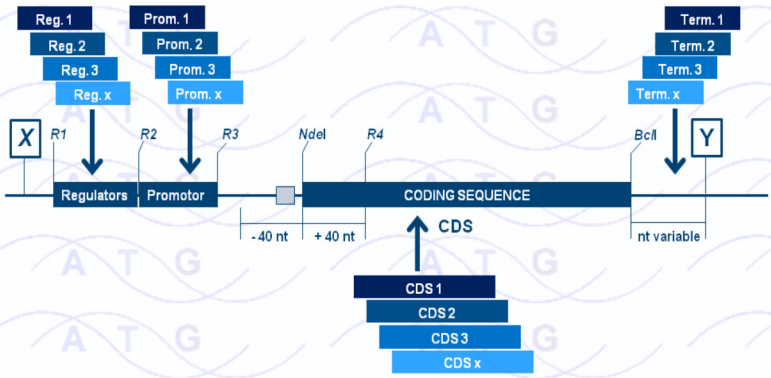


Figure 3. Principal A-BoX-design. Gene Cluster design strategy of DNA – assembling with de-assembling option and partial sequence substitution opportunity *(ACDCS)*. **X** and **Y** are ***Asc*I(*BssH*II)** and **MauBI(*BssH*II)** respectively. Combined by ligation ***BssH*II** reconstitutes at the position of ligation. This provides the opportunity for to generate multiple ***BssH*II** sites at the expression – box junction which further allows you to de-assemble multi-genic constructs (gene clusters) which were generated this way. **R1..Rn** are sites calculated out of all the coding sequences and also not present in the intergenic regions by design. These are positioned only at desired locations in one of the individual gene constructs for the exchange of specific parts of the intergenic regions (promoters, leaders, RBSs) and individual CDS or variants thereof. 3'-of X and 5'-of Y specific recombination sites are serving for the option of recombination strategies for assembly of pathways.

For more information or a quote, just ask our experts at
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