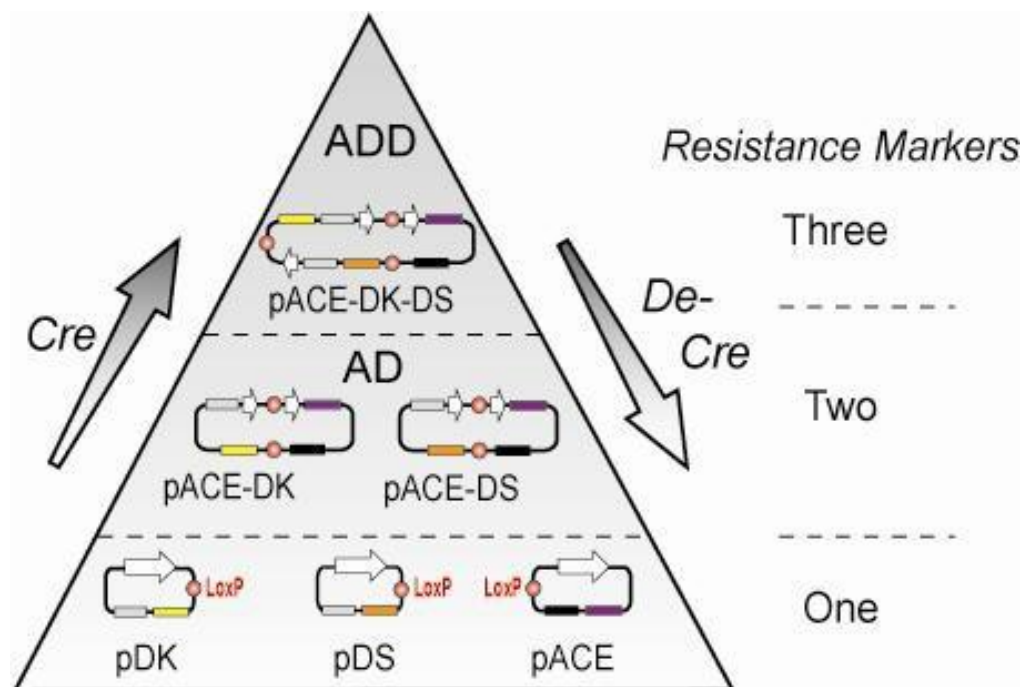


Cre-ACEMBLER Version 3.0

This application program carries out *in silico* Cre-recombination of Donors and Acceptor plasmids to generate multigene expression fusion plasmids (Donor-Acceptor fusions). Likewise, a Cre-excision can be carried out of a fusion plasmid to re-generate the educts.

Input files can have FASTA or GenBank format.

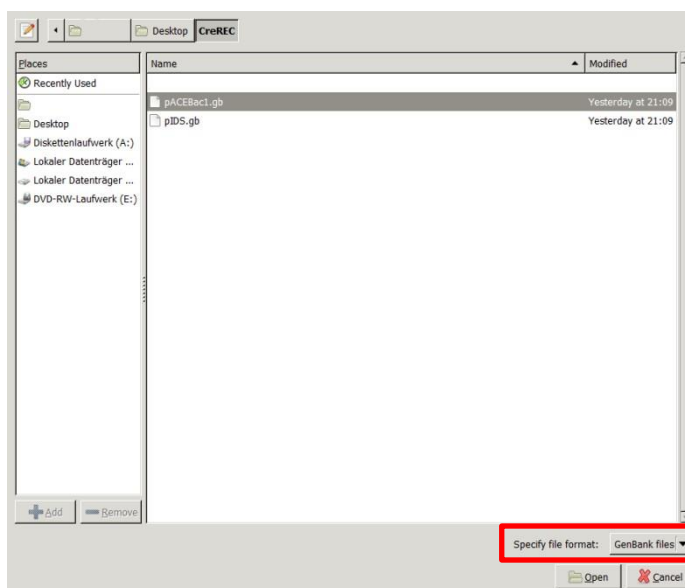
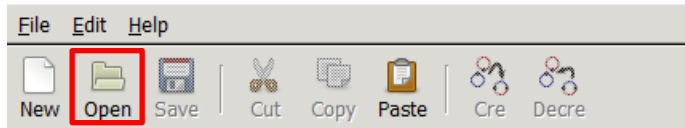


Schematic of Cre-fusion and De-Cre reaction (excision) of multigene fusion plasmids by Cre-ACEMBLER [1,2]

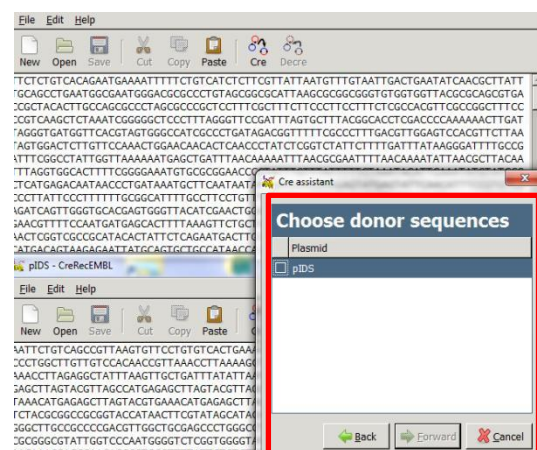
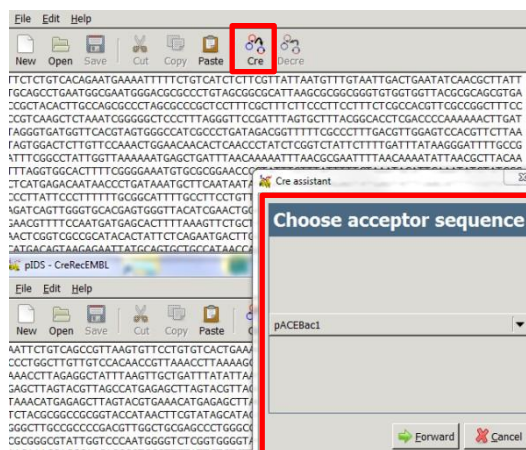
- [1] Bieniossek, C., Nie, Y., Frey, D., Olieric, N., Schaffitzel, C., Collinson, I., Romier, C., Berger, P., Richmond, T.J., Steinmetz, M.O. & Berger, I. *Nat Methods* 6, 447-450. (2009)
- [2] Nie, Y., Bieniossek, C., Frey, D., Olieric, N., Schaffitzel, C., Steinmetz, M.O. & Berger, I. *Nat Protocols*, doi: 10.1038/nprot.2009.104 (2009)

1. Cre-recombination by Cre-ACEMBLER

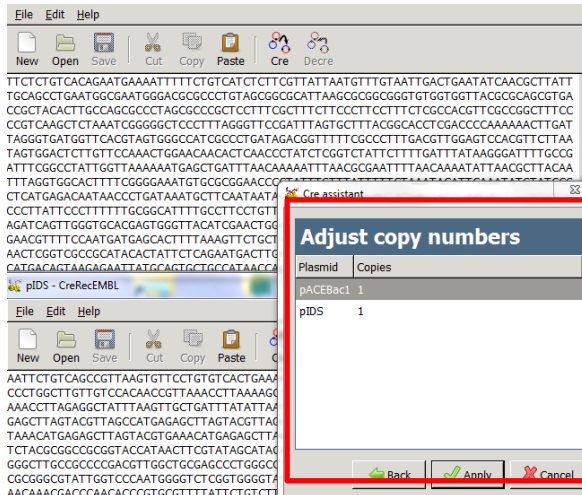
- 1.) Open all Acceptor and Donor plasmid sequence files (prepared for example in VectorNTI) which are to be recombined *in silico*. (It is important to specify the file format e.g. FASTA or GenBank by selection from the drop down menu)



- 2.) Press the “Cre” button and specify the Acceptor respectively Donor plasmids.



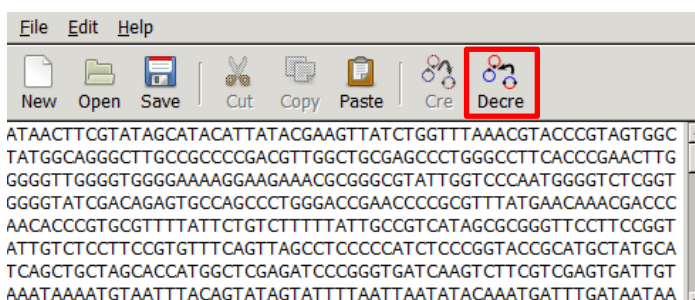
- 3.) Enter the number of copies of each type of plasmid to be fused. Note that Cre-recombination of multiple Acceptor and Donor plasmids results in numerous variants of fusion plasmids. These variants will open as a new window.



- 4.) Save the *in silico* Cre-recombined multigene Acceptor-Donor fusion sequences as FASTA or GenBank files.

De-Cre reaction (decatenation) by Cre-ACEMBLER

- 1.) Open a multigene fusion plasmid sequence (Acceptor-Donor fusions) file *in silico*. (It is important to specify the file format e.g. FASTA or GenBank by selection from the drop down menu)
- 2.) Press the “Decre” button.



- 3.) Sequence files containing the Acceptor and Donor plasmid sequences will be opened in new windows.
- 4.) Save the *in silico* Cre-decatenated Acceptor/Donor plasmid sequence files as FASTA or GenBank files.