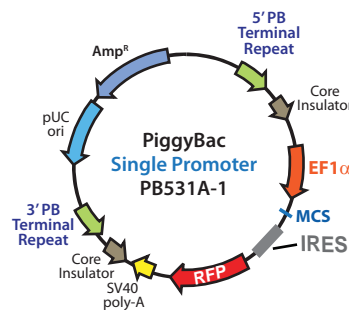
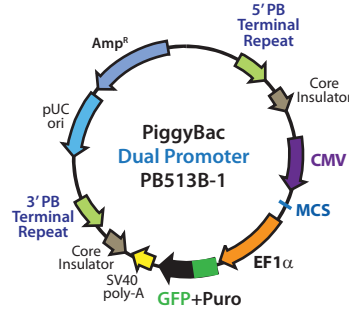
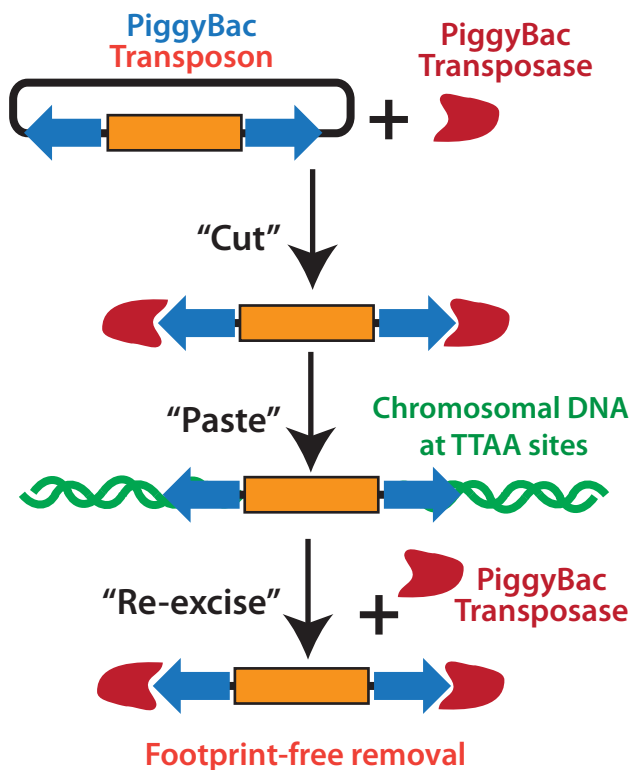


PiggyBac Transposon System

Instant, reversible and inducible transgenesis

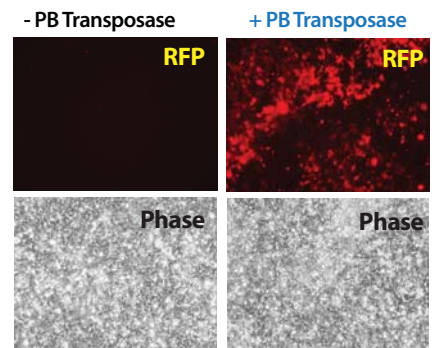
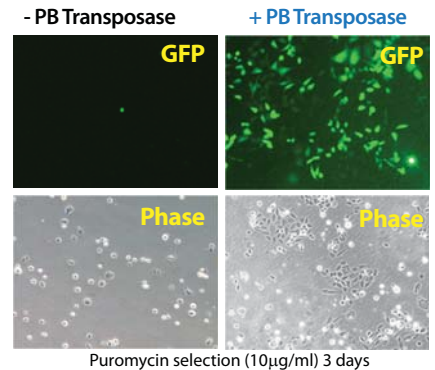
The PiggyBac (PB) transposon is a mobile genetic element that efficiently transposes between vectors and chromosomes via a "cut and paste" mechanism. During transposition, the PB transposase recognizes transposon-specific inverted terminal repeat sequences (ITRs) located on both ends of the transposon vector and efficiently moves the contents from the original sites and efficiently integrates them into TTA chromosomal sites. The powerful activity of the piggyBac transposon system enables genes of interest between the two ITRs in the PB vector to be easily mobilized into target genomes. PiggyBac vectors are available through a partnership between SBI and Transposagen.

Cut and Paste Integration using a Single Transfection



Highlights

- One transfection makes transgenic cell lines
- Effective in Human, Mouse and Rat cells
- No cargo limit - integrate 10-100kb
- Reversible integrations
- All-in-one inducible vector



The unique features of PiggyBac transposons are that there is no cargo limit and it is also reversible. Genomes containing an inserted PiggyBac vector can be transiently re-transfected with the PB transposase expression vector. The PB transposase will remove the transposons from the genome, footprint-free.



PiggyBac Transposon System

Integrate multiple PB vectors simultaneously

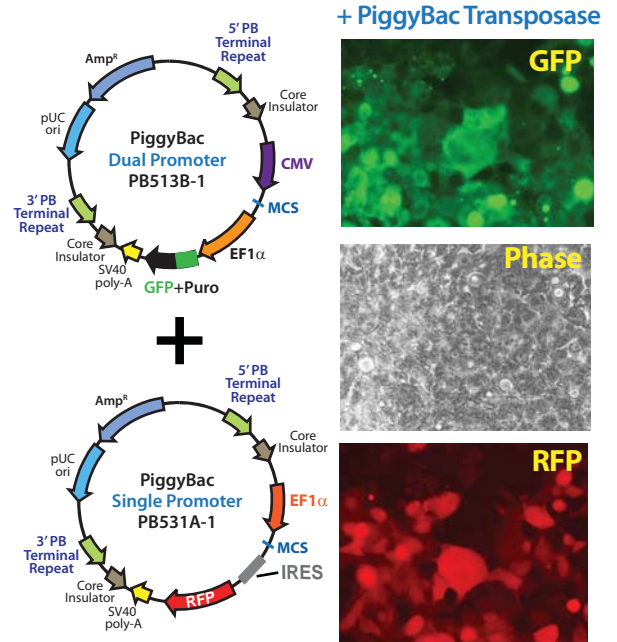
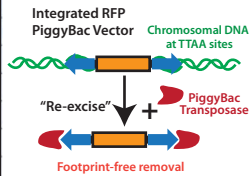
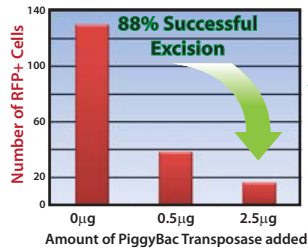
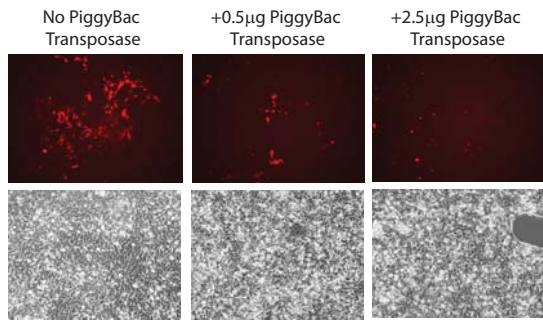
The Super PiggyBac transposase transient expression vector and PB513B-1+PB531A-1 were co-transfected into Human 293 cells and puromycin selection applied for 7 days (2ug/ml). The transposed cells were Puro resistant, GFP positive and RFP positive. Easily make novel cell lines and animal models with PiggyBac multiplexed transpositions.

The resulting cell line was **GFP⁺**, **Puromycin Resistant** and **RFP⁺**.

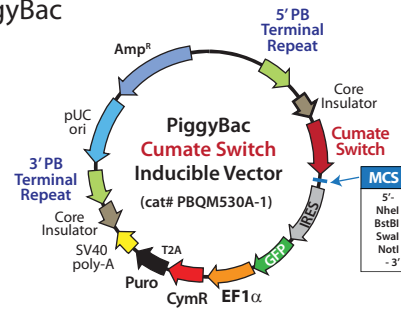
PiggyBac Transposon Re-excision

The integrated PiggyBac transposons can be successfully removed, footprint-free. Simply re-transfect your stably transposed cell line with increasing amounts of the Super PiggyBac transposase expression vector to mobilize and excise the integrated transposons. Shown below is an example of excising PB531A-1 RFP transposons from HEK293 cells using increasing amounts of re-transfected Super PiggyBac plasmid DNA (PB200PA-1). Greater than 88% removal of the integrated RFP transposon using 2.5ug of re-transfected Super PiggyBac transposase expression vector plasmid was achieved.

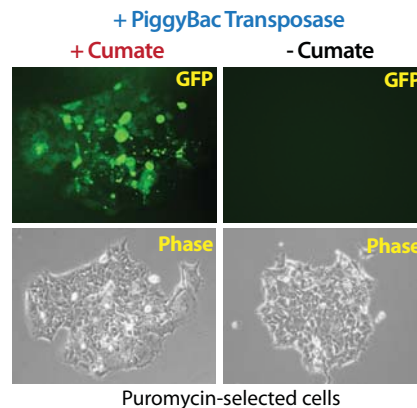
Pop-out the Transposon



PiggyBac Inducible All-in-one Vector



The inducible PiggyBac vector features the ultra-tight cumate switch combined with the EF1-CymR repressor-T2A-Puro cassette to establish stable cell lines. Expression of your cDNA or microRNA of interest can be switched on simply by adding cumate to the cells. The all-in-one single vector format offers superior control of induction with no background leakiness.



Absolutely leak-proof

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