pMAL-c2X vector with
Ptac promoter,
No MBP-tag,
No IPTG, lactose 0.01%.

**SF1. SETMAR transposase domain is totally defective for transposition *in vivo*.**

Papillation assay performed with an empty vector control or wild-type SETMAR exon 3 (Hsmar1 transposase domain, pRC802 from (24)). Representative field of view of the papillation plates are shown.
**SF2. Multiple sequence alignment of PLTetO1 and p2 to p6.**

The multiple alignment was performed with Clustal Omega. The locations of the Tet operators, -35, -10, TSS, and RBS are indicated by boxes and taken from ref. 30 and 32.
Supplementary Figure 3

**Cell sorter assay for amount of EGFP produced from the respective plasmids**

**SF3. FACS profiles of the vectors used in this study**

Example of FACS profile for each vector expressing the *eGFP* gene. Neg corresponds to Ip0, a negative control (empty vector).
**SF4. Effect of lactose on the modified papillation assay.**

A/ Representative colony of the Ip3++ untagged Hsmar1 vector on different concentration of lactose.

B/ Quantification of the number of papillae per colony based on pictures of single colonies. Average ± standard deviation of six representative colonies from the same biological replicate.
### SF5. Effect of lactose and sucrose on the papillation assay.

The papillation assay was performed with Bp2++ untagged Hsmar1 vector and different sugars, glucose, maltose, lactose, and maltose and lactose. Representative field of view of the papillation plates are shown.