**Plasmid construction**

To create pET-oM plasmid producing 6HisOutM, the outM gene fragment was amplified using the OuMHis and OuMER primers and cloned into the NdeI/EcoRI sites of pET20b(+). To generate pTdB-oM expressing 6His-outM, under the control of PpelC, the BgII/EcoRI outM gene fragment preceded by an RBS was subcloned from pET-oM into the BamHI/EcoRI sites of pTdb-oC in the place of outC. pET-oL and pTdb-oL plasmids were constructed by a similar way using the OuLHis and OuLER primers. To create pTdb-oLoM plasmid, co-expressing outL-outM, the outL-M gene fragment was amplified using the OuLHis and OuMER primers and cloned as above.

To generate T18/T25-Out fusions, an appropriate out gene fragment was amplified by PCR and fused in frame to the 3’-end of cya gene fragments coding for either T18 or T25 domain of adenylate cyclase on the plasmids pUT18C and pKT25, respectively (Table S1). To generate T25/T18-TMS-BlaM fusions, the PvuII/EcoRI ‘blaM’ gene fragment (Broome-Smith et al., 1990) was in addition fused to the 3’-end of the outTMS gene fragment (Table S1 and Fig. 2A, top right). To create pKT-GST-oLp plasmid expressing T25-gst-outLp fusion, the gst-outLp gene fragment was subcloned from pGX-oLp plasmid into pKT-GST-oC[40-272] plasmid [13] by using the SfuI/EcoRI sites. To co-express the T25-OutLper fusion and the isolated OutMper region (pKT-oLp+Mp), the ‘outM’ fragment coding for OutM37-162 was cloned in a natural-like way, such that the beginning of outM overlapped the translation stop of the cya-outLp fusion and the natural outM RBS is located within the outLp coding region. Precisely, the outLp fragment was amplified using the OulNhE and RCOuLNdRI primers while the outMp fragment was amplified using the OuMNde5’ and OuMER primers and the two fragments were linked together via the generated NdeI sites (3’ of outLp and 5’ of outMp) and then cloned into the XbaI/EcoRI sites of pKT25.

**Strain construction**

The *D. dadantii* ΔoutL A3696 strain, carrying a deletion within the chromosomal outL allele, was constructed by marker exchange-eviction mutagenesis, as described previously [4]. Briefly, the *D. dadantii* A3688 strain, sucrose-sensitive and secretion-deficient since it carries the nptI-sacB-sacR (Km8) cartridge into the chromosomal outL, was transformed with a pTdb-oLp plasmid bearing an in frame deletion within the outL gene. Then, the mutant allele was exchanged for the chromosomal allele by selecting for sucrose tolerance and sensitivity to kanamycin. To construct *D. dadantii* outM::cat A5269 strain, first, a BamHI site was introduced into the outM gene using OuMBH2 and ROuMBH2 primers (Table S3). Next, the CmR gene cartridge was inserted into this site of outM onto the pTdb-oLoM plasmid and then, the outM::cat allele was introduced into the chromosome by gene exchange recombination. A correct recombination of the mutant alleles into the chromosome was checked by PCR.