iGEM

Team name : TU_Kaiserslautern

Title : Revolutionizing plastic degradation by introducing Chlamydomonas reinhardtii as a eukaryotic secretion platform

wiki : https://2019.igem.org/Team:TU_Kaiserslautern

problem : plastic degradation

solution : use Chlamydomonas reinhardtii

part

Name	Type	Description
BBa_K3002000	Coding	Spectinomycin Resistance for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002004	Coding	Wildtype PETase for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002005	Coding	Wildtype MHETase for Chlamydomonas reinhardtii Part 1 (Phytobrick)
BBa_K3002014	Coding	Mutant PETase for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002029	Coding	Wildtype MHETase for Chlamydomonas reinhardtii Part 2 (Phytobrick)
BBa_K3002037	Coding	Wildtype MHETase for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002100	Composite	Level 1 - Mutant PETase + cCA + SP20 HA (Phytobrick)
BBa_K3002101	Composite	Level 1 - Mutant PETase + HA (Phytobrick)
BBa_K3002102	Composite	Level 1 - Spectinomycin Resistance Gene for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002103	Composite	Level 1 - Wildtype PETase + His (Phytobrick)
BBa_K3002104	Composite	Level 1 - Wildtype PETase + cCA + HA (Phytobrick)
BBa_K3002105	Composite	Level 1 - Mutant PETase + HA (Phytobrick)
BBa_K3002106	Composite	Level 1 - Mutant PETase + cCA + HA (Phytobrick)
BBa_K3002107	Composite	Level 1 - Mutant PETase + GLE + HA (Phytobrick)
BBa_K3002108	Composite	Level 1 - Mutant PETase + ARS + HA (Phytobrick)
BBa_K3002109	Composite	Level 1 - Mutant PETase + cCA + SP20HA (Phytobrick)
BBa_K3002110	Composite	Level 1 - Mutant PETase + GLE + SP20HA (Phytobrick)
BBa_K3002111	Composite	Level 1 - Mutant PETase + ARS + sp20-HA
BBa_K3002112	Composite	Level 1 - MHETase + HA
BBa_K3002113	Composite	Level 1 - MHETase + cCA + HA
BBa_K3002114	Composite	Level 1 - MHETase + cCA + sp20-HA
BBa_K3002119	Composite	Level 1 - Hygromycin resistance + Tub2 Promoter + Tub2 Terminator
BBa_K3002120	Composite	Level 1 - Mutant PETase + cCA + sp20-His
BBa_K3002121	Composite	Level 1 - Mutant PETase + ARS + sp20-His
BBa_K3002122	Composite	Level 1 - Mutant PETase + GLE + sp20-His
BBa_K3002007	Protein_Domain	cCA secretion signal for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002008	Protein_Domain	GLE secretion signal for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002009	Protein_Domain	ARS secretion signal for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002010	Protein_Domain	Sp20 HA tag for Chlamydomonas reinhardtii (Phytobrick) Dorothée Klein
BBa_K3002001	Regulatory	PSAD promoter for Chlamydomonas reinhardtii (Phytobrick)

Name	Type	Description
BBa_K3002003	Regulatory	pAR promoter for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002011	Regulatory	Tub2 promoter for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002027	Regulatory	pAR promoter for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002034	Regulatory	Tub2 promoter for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002036	Regulatory	PSAD promoter for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002301	Scar	MoClo connector A3-B1 Dorothée Klein
BBa_K3002302	Scar	MoClo connector B1-B2 Marlene Schlosser
BBa_K3002303	Scar	MoClo connector B2-B3 Dorothée Klein
BBa_K3002304	Scar	MoClo connector B4-B5 Marlene Schlosser
BBa_K3002305	Scar	MoClo connector B5-B6 Dorothée Klein
BBa_K3002306	Scar	L1 connector position 2 Dorothée Klein
BBa_K3002307	Scar	L2 connector position 1-2 Dorothée Klein
BBa_K3002308	Scar	L2 connector position 2-3 Dorothée Klein
BBa_K3002017	Tag	3xHA tag for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002018	Tag	Sp20 8xHis tag for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002028	Tag	6xHis tag for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002002	Terminator	PSAD terminator for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002006	Terminator	RPL23 terminator for Chlamydomonas reinhardtii (Phytobrick)
BBa_K3002012	Terminator	Tub2 terminator for Chlamydomonas reinhardtii (Phytobrick)

```
v1 <- c("Team name", "Title", "wiki", "problem", "solution")
v2 <- c("Rice", "Expand the range of synthetic biology applications by developing tools which would faci
v_df <- data.frame(v1, v2)
v_df
```

```
##          v1
## 1 Team name
## 2     Title
## 3      wiki
## 4   problem
## 5  solution
##
## 1
## 2     Expand the range of synthetic biology applications by developing tools which would facilitate
## 3
## 4                         The majority of biological parts have only been characterized in specific m
## 5 We have chosen to test our designs in a number of organisms relevant for applications in areas such
```

part

Part #	Name	Type	Description
BBa_K2540011	Universal bacterial expression resource (UBER)	basic	 Universal Bacterial Expression Resource (UBER) is a system containing T7 RNA Polymerase (T7 RNAP) which can be used for the expression of genes under T7 promoter. UBER includes T7 RNAP and TetR repressor which provides negative feedback on the polymerase levels to help reduce toxicity. The part was modified from Kushwaha & Salis.[1]
BBa_K2540010 BBa_K2540002 BBa_K2540004 BBa_K2540003 BBa_K2540001 BBa_K2540012 BBa_K2540006 BBa_K2540007 BBa_K2540009	Broad host range regulatory elements	basic	 Broad host range regulatory elements consist of a constitutive promoter and a ribosome binding site which can be used for gene expression across different bacterial species. The part sequences were obtained from Johns ***et al.***[2]
BBa_K2540015	Orthogonal ribosome binding site	basic	 This orthogonal RBS was designed using RBS calculator for orthogonal 16S rRNA predicted to function across a variety of bacterial strains. Prediction was done by algorithm written by our team based on previous work by Chubiz & Rao.[3]

Figure 1: part