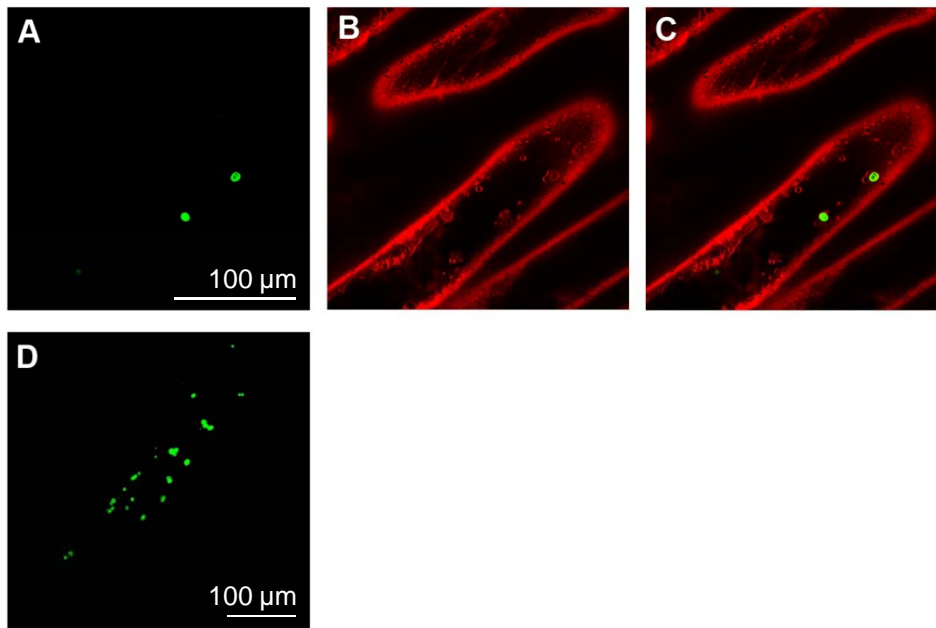uridine

uracil

A   B   C   D   E   F

Supplemental Figure 1. Thin layer chromatography (TLC) of reation products after incubation of radiolabeled nucleosides with *PLUTO* expressing *E. coli* cells.
Metabolites seperated by TLC were visualized by autoradiography. **(A)** [^{14}C]-uridine standard **(B)** [^{14}C]-uracil standard **(C-F)**
 supernatant and pellet fraction of *E. coli* cells incubated with [^{14}C]-uridine [20 µM] for 10 min **(C)** pellet fraction of induced cells **(D)** pellet fraction of non-induced cells **(E)** supernatant of induced cells **(F)** supernatant of non-induced cells. …

Supplemental Figure 2. Transient expression of *PLUTO-GFP* in onion epidermal cells.
(A-C) confocal slices of transformed onion epidermal cell **(A)** GFP fluorescence **(B)** fluorescence of FM 4-64 dye, labeling cell wall, plasma membrane and internal membranes **(C)** merge of A and B. **(D)** maximum projection of individual confocal slices showing GFP fluorescence of PLUTO in plastids.

Table S1 Primers used in this study

Quantitative RT-PCR Primers

PLUTO-RT_fwd	5'-TTCTTGACCGCAGTTCTCGG-3'
PLUTO-RT_rev	5'-CCTTCCCAGACGAGACATTATG-3'
Ef1α-RT_fwd	5'-GAGACCAAGTACTACTGCAC-3'
Ef1α-RT_rev	5'-GTTGGTCCCTTGTACCAGTCAAG-3'

Primers for heterologous PLUTO expression in *Escherichia coli*

PLUTO_pTACMAT2_fwd	5'-TTTCTCGAGTGGTCTCCAATTGCTTAAGC-3'
PLUTO_pTACMAT2k_fwd	5'-TTTCTCGAGTGACCGGCTCAGAAATTAATG-3'
PLUTO_pTACMAT2_rev	5'-TTTGGTACCAAAGCGGATGTGAAGAAG-3'

Primers for GFP constructs

PLUTO_pGFP2_fwd	5'-TTTTCTAGAATGGTCTCCAATTGCTTAAGCC-3'
PLUTO_short_pGFP2_fwd	5'-TTTTCTAGAATGACCGGCTCAGAAATTAATGACC-3'
PLUTO_pGFP2_rev	5'-TTTCTCGAGCAAAAGCGGATGTGAAGAAG-3'
Pyd1_pGFP2_fwd	5'-TTTTCTAGAGCTTCCATGATGTTCGCC-3'
Pyd1_pGFP2_rev	5'-TTTCTCGAGGTTAGAAACCATACTCTCAGTCTCC-3'
DHODH_fwd	5'-TTTTCTAGAATGGCCGGAAGGGCTGCGACG-3'
DHODH_rev	5'-TTTCTCGAGTCTGTGATCAGCACCAATTGC-3'
NSH1_pGFP2_fwd	5'-CTGAGAGTTTCTAGAGGTTTTAT-3'
NSH1_pGFP2_rev	5'-AAACATCATCTCGAGTGGCTTCAT-3'
ATCase_pGFP2_fwd	5'-TTTTCTAGAATGTCTATTGCATCATCACTTACTTCA-3'
ATCase_pGFP2_rev	5'-TTTCTCGAGTACCAACCGACAAGCAGTAGC-3'
DHOase_pGFP2_fwd	5'-TTTTCTAGAATGATAAAGACTTTGGTCTC-3'
DHOase_pGFP2_rev	5'-TTTCTCGAGTTTCAACGGTTGCCATTG-3'
UMPSase_pGFP2_fwd	5'-TTTTCTAGAATGTCAGCCATGGAAGCACTGATTCTC-3'
UMPSase_pGFP2_rev	5'-TTTCTCGAGCTGAGAGCATTTCTCC-3'
NTT1_pGFP2_fwd	5'-TTTTCTAGAATGGAAGCTGTGATTCAAACC-3'
NTT1_pGFP2_rev	5'-TTTCTCGAGTTATAAGTTGGTGGGAGCAGA-3'