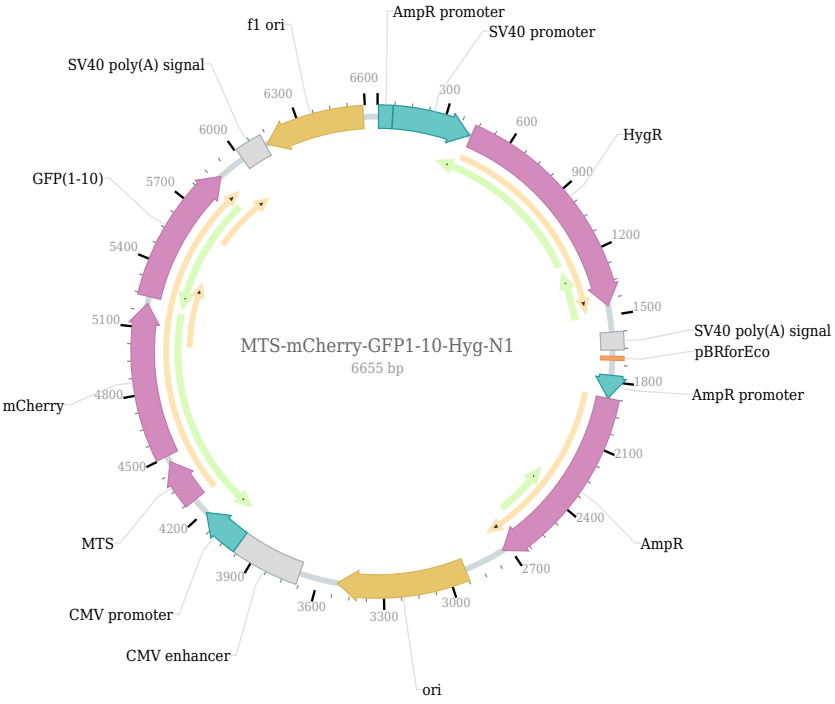
MTS-mCherry-GFP1-10-Hyg-N1

Vector ID	V001370
Antibiotic Resistance	Ampicillin
Length	6655 bp
Vector Type	Mammalian Expression

Product Information

Replication Origin	ori
Copy Number	High Copy
Promoter	CMV
Cloning Method	Restriction Enzyme
Growth Strain(s)	DH10B
Comment	This mammalian split-GFP reporter plasmid is modified from the pDsRedMonomer-Hyg-N1 backbone. It encodes a fusion protein consisting of a mitochondrial targeting sequence (MTS), mCherry, and the non-fluorescent $GFP_{1–10}$ fragment, alongside a hygromycin resistance cassette for stable cell selection. MTS directs $GFP_{1–10}$ exclusively into the mitochondrial matrix. When co-transfected with plasmids carrying aggregation-prone proteins tagged with GFP_{11}, $GFP_{1–10}$ reassembles with GFP_{11} to generate green fluorescence only if the target protein is imported into mitochondria. The mCherry signal serves as an internal mitochondrial marker to normalize and quantify split-GFP intensity, enabling visual and quantitative detection of cytosolic misfolded protein translocation into mitochondria to verify the conserved MAGIC proteostasis pathway in human RPE1 cells.

Vector Map



Plasmid Resuspension Protocol

1. Centrifuge at 5,000×g for 5 min.
2. Carefully open the tube and add sterile water to dissolve the DNA: add 20 µl for 5 µg plasmid, and 100 µl for 100 µg plasmid.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin to concentrate the liquid at the bottom. Speed is less than 5000×g.
5. Store the plasmid at -20 ℃.