



Next Generation Fluorescence Imaging

Smart Sensor Solutions

General Information

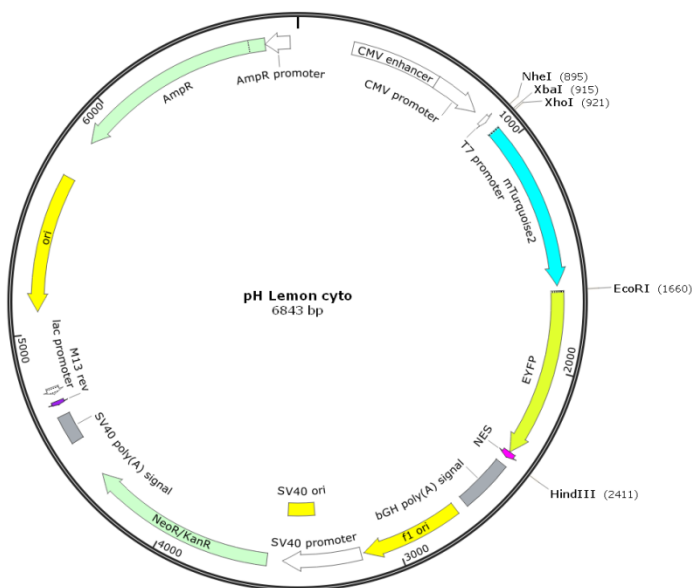
This product is non-toxic, non-contagious and is not intended for human use. The plasmid DNA in the package is synthetic and only for research and development purposes. It does not present any danger for humans, animals or the environment. The product is only for in vitro studies and is not for commercial use.

pH Lemon cyto vector

This vector has not been completely sequenced. All provided information regarding the vector composition was compiled using the information from published literature, other sources together with partial sequences obtained by NGFI.

Vector description

pH Lemon cyto is a genetically encoded FRET-based probe for imaging cytosolic pH. pH Lemon is a highly sensitive pH sensor for visualizing $[H^+]$ especially within acidic compartments ($EC_{50} = 6,3$) of intact mammalian cells. In order to express pH Lemon cyto in cells of interest, 20 μ g of purified endotoxin-free plasmid DNA coding for pH Lemon cyto is provided. The plasmid coding for pH Lemon cyto represents a mammalian expression vector with a strong viral promoter. 1 – 1.5 μ g DNA is required for cell transfection in a single well of a standard 6-well dish following standard transfection procedures. Usually cells express high amounts of pH Lemon cyto 24 – 48 hours after cell transfection. Standard optical filters for CFP/YFP-FRET imaging should be used. The vector can be also used as a source of pH Lemon cyto coding sequence. Flanking restriction sites are convenient for excision of pH Lemon cyto sequence and its further insertion into other expression vectors of choice.



Expression in mammalian cells

pH Lemon cyto vector can be transfected into mammalian cells by any known transfection method. CMV promoter provides strong, constitutive pH Lemon cyto expression in eukaryotic cells.

Propagation in E. coli

Suitable host strains for propagation in E. coli include DH5alpha, HB101, XL1-Blue, and other general purpose strains. The vector confers resistance to ampicillin (100 μ g/ml) to E. coli hosts.

References

Burgstaller S. (2017) "pH-Lemon, a Fluorescent Protein-Based pH Reporter for Acidic Compartments. ACS Sens. 2019; 4(4): 883-891." (<https://pubs.acs.org/doi/10.1021/acssensors.8b01599>)