



Next Generation Fluorescence Imaging

Smart Sensor Solutions

General Information

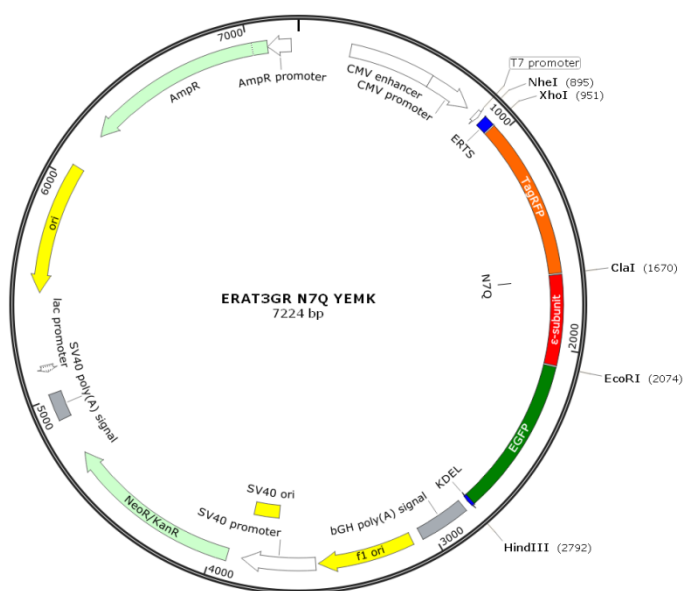
This product is non-toxic, non-contagious and is not intended for human use. The plasmid DNA in the package is synthetic and only for research and development purposes. It does not present any danger for humans, animals or the environment. The product is only for in vitro studies and is not for commercial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

ERAT3GR^{N7Q YEMK} 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

ERAT3GR^{N7Q YEMK} is a genetically encoded red-shifted FRET-based probe for imaging ATP with increased sensitivity ($K_d = 1.2\text{mM}$) within the endoplasmic reticulum (ER) of intact mammalian cells. In order to express ERAT3GR^{N7Q YEMK} in cells of interest, 20 μg of purified endotoxin-free plasmid DNA coding for ERAT3GR^{N7Q YEMK} is provided. The plasmid coding ERAT3GR^{N7Q YEMK} represents a mammalian expression vector with a strong viral promoter. For plasmid amplification in E.coli ampicillin should be used. 1 – 1.5 μg 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 ERAT3GR^{N7Q YEMK} 24 – 48 hours after cell transfection. Standard optical filters for GFP/RFP or alternatively GFP/OPF FRET imaging should be used. The vector can be also used as a source of ERAT3GR^{N7Q YEMK} coding sequence. Flanking restriction sites are convenient for excision of ERAT3GR^{N7Q YEMK} sequence and its further insertion into other expression vectors of choice.



Expression in mammalian cells

ERAT3GR^{N7Q YEMK} vector can be transfected into mammalian cells by any known transfection method. CMV promoter provides strong, constitutive ERAT3GR^{N7Q YEMK} 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 $\mu\text{g}/\text{ml}$) to E. coli hosts.

References

Vishnu N. (2014) "ATP increases within the lumen of the endoplasmic reticulum upon intracellular Ca^{2+} release" (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3907277/pdf/368.pdf>)

NGFI - Next Generation Fluorescence Imaging GmbH

Neue Stiftingtalstrasse 6/6, 8010 Graz, Austria

+43 316 385 71960

@ sales@ngfi.eu

www.ngfi.eu