cpFRET Biosensor Toolkit

Description: The circular permutation-based fluorescence resonance energy transfer (cpFRET) biosensor toolkit is a vector library for the generation and/or optimization of genetically encoded, unimolecular FRET sensors for ratiometric measurements. This toolkit aims to simplify and accelerate biosensor production and is intended for a broad community interested in spatio-temporal analysis of signal transduction processes.

The toolkit consists of two designs containing 25 biosensors each for biosensor expression in E. coli, insect and vertebrate cells. Within each design group, the wild type mTFP1 fluorophore and its four circular permutations are each combined with the wild type Venus fluorophore and its four circular permutations.

More information can be found at:
www.addgene.org/biosensors/cpFRET/Pertz/

Reference: **A Versatile Toolkit to Produce Sensitive FRET Biosensors to Visualize Signaling in Time and Space** Fritz RD, Letzelter M, Reimann A, Martin K, Fusco L, Ritsma L, Ponsioen B, Fluri E, Schulte-Merker S, van Rheenen J and Pertz O. Science Signaling. 2013 Jul 23;6(285):rs12. PubMed ID: 23882122

Handling and Storage: Store glycerol stocks at -80°C and minimize freeze-thaw cycles. To access a plasmid, keep the plate on dry ice to prevent thawing. Using a sterile pipette tip, puncture the seal above an individual well and spread a portion of the glycerol stock onto an agar plate. To patch the hole, use sterile tape or a portion of a fresh aluminum seal.

Note: These plasmid constructs are being distributed to non-profit institutions for the purpose of basic research.

Please contact Addgene at help@addgene.org with any questions.

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Plate Map

	1	2	3	4	5	6
A	EKAR2G_design1_ mTFP_wt_Venus_wt	EKAR2G_design1_ mTFP_wt_Venus_157	EKAR2G_design1_ mTFP_wt_Venus_173	EKAR2G_design1_ mTFP_wt_Venus_195	EKAR2G_design1_ mTFP_wt_Venus_229	EKAR2G_design1_ mTFP_105_Venus_wt
B	EKAR2G_design1_ mTFP_159_Venus_173	EKAR2G_design1_ mTFP_159_Venus_195	EKAR2G_design1_ mTFP_159_Venus_229	EKAR2G_design1_ mTFP_175_Venus_wt	EKAR2G_design1_ mTFP_175_Venus_157	EKAR2G_design1_ mTFP_175_Venus_173
C	EKAR2G_design1_ mTFP_227_Venus_229	EKAR2G_design2_ mTFP_wt_Venus_wt	EKAR2G_design2_ mTFP_wt_Venus_157	EKAR2G_design2_ mTFP_wt_Venus_173	EKAR2G_design2_ mTFP_wt_Venus_195	EKAR2G_design2_ mTFP_wt_Venus_229
D	EKAR2G_design2_ mTFP_159_Venus_157	EKAR2G_design2_ mTFP_159_Venus_173	EKAR2G_design2_ mTFP_159_Venus_195	EKAR2G_design2_ mTFP_159_Venus_229	EKAR2G_design2_ mTFP_175_Venus_wt	EKAR2G_design2_ mTFP_175_Venus_157
E	EKAR2G_design2_ mTFP_227_Venus_195	EKAR2G_design2_ mTFP_227_Venus_229				
F						
G						
H						

7	8	9	10	11	12
EKAR2G_design1_ mTFP_105_Venus_157	EKAR2G_design1_ mTFP_105_Venus_173	EKAR2G_design1_ mTFP_105_Venus_195	EKAR2G_design1_ mTFP_105_Venus_229	EKAR2G_design1_ mTFP_159_Venus_wt	EKAR2G_design1_ mTFP_159_Venus_157
EKAR2G_design1_ mTFP_175_Venus_195	EKAR2G_design1_ mTFP_175_Venus_229	EKAR2G_design1_ mTFP_227_Venus_wt	EKAR2G_design1_ mTFP_227_Venus_157	EKAR2G_design1_ mTFP_227_Venus_173	EKAR2G_design1_ mTFP_227_Venus_195
EKAR2G_design2_ mTFP_105_Venus_wt	EKAR2G_design2_ mTFP_105_Venus_157	EKAR2G_design2_ mTFP_105_Venus_173	EKAR2G_design2_ mTFP_105_Venus_195	EKAR2G_design2_ mTFP_105_Venus_229	EKAR2G_design2_ mTFP_159_Venus_wt
EKAR2G_design2_ mTFP_175_Venus_173	EKAR2G_design2_ mTFP_175_Venus_195	EKAR2G_design2_ mTFP_175_Venus_229	EKAR2G_design2_ mTFP_227_Venus_wt	EKAR2G_design2_ mTFP_227_Venus_157	EKAR2G_design2_ mTFP_227_Venus_173

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Please visit www.addgene.org/biosensors/cpFRET/Pertz/ for plasmid information.

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How to Cite your Addgene Plasmids in Future Publications (Save for reference)

These plasmids were created by your colleagues. Please acknowledge the Principal Investigator, cite the article in which they were created, and include Addgene in the Materials and Methods of your future publications.

Information pertinent to your requested plasmids:

Principal Investigator: Olivier Pertz

Article Reference: **A Versatile Toolkit to Produce Sensitive FRET Biosensors to Visualize Signaling in Time and Space** Fritz RD, Letzelter M, Reimann A, Martin K, Fusco L, Ritsma L, Ponsioen B, Fluri E, Schulte-Merker S, van Rheenen J and Pertz O. Science Signaling. 2013 Jul 23;6(285):rs12. PubMed ID: 23882122

Addgene: cpFRET kit

If you have any questions about how to cite these plasmids, please contact Addgene at help@addgene.org or call (617) 225-9000.

Best wishes for many successful publications!

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