

ResearchE-user06-igem_new

5. Rmarkdown practice 2021.03.18

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iGEM teams summary

Team: NEFU-China

Organization: Northeast Forestry University

Project title: BOLD

Wiki: https://2020.igem.org/Team:NEFU_China

Description of project: Sulfuric acid production from degraded algae

Problem: Green algae overgrowth on water: green tides produce H₂S which causing toxic effects resulted several deaths of dogs, horses, humans

Solution: Enzyme cocktail for algae cell wall degradation, sulfate reduction into H₂S and chemical conversion of the latter into sulfuric acid

Parts used:

Number	Type	Length
BBa_K1316002	Promoter	240 bp
BBa_K2559005	Coding	699 bp
BBa_K3457012	Coding	702bp
BBa_K3350857	Coding	897bp
BBa_K2913020	Terminator	158 bp
BBa_K2913022	Promoter	330 bp
BBa_K216008	Coding	2110 bp
BBa_K322312	Coding	3590 bp
BBa_K1316006	Coding	2795 bp
BBa_K3350859	Promoter	240 bp
BBa_K3350860	Promoter	240 bp
BBa_K3350862	Promoter	240 bp
BBa_K3350858	Coding	897 bp

Team: Moscow

Organization: Moscow State University

Project title: HaploSense

Wiki: <https://2020.igem.org/Team:Moscow>

Description of project: Hepatit C virus genotype detection

Problem: Expensive testing or the impossibility to perform tests in peripheral regions. Clinical importance of genotype differentiation, often wrong genotype determination

Solution: CasX-based portable detection system

Parts used:

Number	Type	Length
BBa_K3636000	Coding	980 aa

Team: EPFL

Organization: EPFL

Project title: Espresso'EAU

Wiki: <https://2020.igem.org/Team:EPFL>

Description of project: Pesticides detection in drinkable water using yeasts

Problem: Determination of trace amount of pesticides is usually performed in analytical laboratories, thus villagers cannot easily on-site assess quality of water

Solution: Low-cost, easy-to-use on site yeast based biosensor

Parts used:

Number	Type	Length
BBa_K3600000	Regulatory	2177 bp
BBa_K3600001	Regulatory	2177 bp
BBa_K3600002	Regulatory	3764 bp
BBa_K3600003	Regulatory	2177 bp
BBa_K3600004	Regulatory	2177 bp
BBa_K3600006	Cassette	3764 bp
BBa_K3600007	Cassette	3764 bp
BBa_K3600008	Cassette	3764 bp
BBa_K3600009	Cassette	3764 bp
BBa_K3600010	Reporter	2448 bp
BBa_K3600011	Cassette	3764 bp
BBa_K3600012	Cassette	4221 bp
BBa_K3600013	Cassette	3764 bp
BBa_K3600014	Cassette	3764 bp
BBa_K3600015	Cassette	4439 bp
BBa_K3600016	Cassette	3764 bp
BBa_K3600017	Cassette	3764 bp

Team: Queens-Canada

Organization: Queens university

Project title: Velcriston

Wiki: https://2020.igem.org/Team:Queens_Canada

Description of project: Biosensor for monitoring in vivo levels of phosphate, potassium, parathyroid hormone, FGF23 and glucose

Problem: Lack of real-time and fast detection of phosphate levels

Solution: Complex of biomarker binding proteins and fluorophore pairs (for FRET)

Parts used:

Part ID	Name
BBa_K3515000	E coil alpha helix with cysteine to be used with a K coil alpha helix for protein immobilization.
BBa_K3515001	K coil alpha helix with cysteine to be used with a E coil alpha helix for protein immobilization.
BBa_K3515002	Synechococcus Phosphate Binding Protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515003	Troponin C, a calcium binding protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515004	Potassium binding protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515005	Glucose binding protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515006	Synechococcus Phosphate Binding Protein with cysteine modification(s) and FRET to monitor phosphate levels using a biosensor.
BBa_K3515007	Troponin C, a calcium binding protein with cysteine modification(s) to bind to a biosensor and FRET to monitor calcium levels using a biosensor.
BBa_K3515008	Potassium binding protein with cysteine modification(s) to bind to a biosensor and FRET to monitor potassium levels using a biosensor.
BBa_K3515009	Glucose binding protein with cysteine modification(s) to bind to a biosensor and FRET to monitor glucose levels using a biosensor.
BBa_K3515010	Vitamin D Receptor Binding Protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515011	Vitamin D receptor binding protein with cysteine modification(s) to bind to a biosensor and FRET to monitor vitamin D level using a biosensor.
BBa_K3515012	Parathyroid Hormone Receptor with cysteine modification(s) to bind to a biosensor.
BBa_K3515013	Parathyroid Hormone Receptor with cysteine modification(s) and FRET to monitor PTH levels using a biosensor.
BBa_K3515014	Alpha-Klotho Binding Protein with cysteine modification(s) to bind to a biosensor.
BBa_K3515015	Alpha-Klotho Binding Protein with cysteine modification(s) and FRET to monitor phosphate levels using a biosensor.

Team: Nantes

Organization: Nantes university

Project title: The A3 project

Wiki: <https://2020.igem.org/Team:Nantes>

Description of project: Sulfuric acid production from degraded algae

Problem: Green algae overgrowth on water: green tides produce H₂S which causing toxic effects resulted several deaths of dogs, horses, humans

Solution: Enzyme cocktail for algae cell wall degradation, sulfate reduction into H₂S and chemical conversion of the latter into sulfuric acid

Team wasn't able to participate in competition