Technology Offer

TwinCatcher

TWINMER is a versatile modular system that allows the detection of protein homodimerization in *Escherichia coli*.

Potential use cases and/or markets (applications): Detection and modulation of protein homodimerization for research purposes (basic research, drug development, protein engineering, etc.)

Current state of technology: Technology validated in Lab

Intellectual property: Patent application submitted

Developed by: University of Ljubljana, faculty ...

Reference: 821-4/2023

Contact:

Knowledge Transfer Office

Phone: +386 1 241 85 33 E-mail: gospodarstvo@unili.si



Background

Most proteins in the cell form homodimers or homotetramers. No experimental systems exist for rapid detection and modulation of protein homodimerization.

Technology overview

The present invention is two new homodimerization assays constructed on the basis of bacterial transcription factors LexA and ToxR and the plasmids used for such assays. The assays of the present invention are user-friendly as well as very cost- and time-efficient. Furthermore, the assays have a wide range of applications from engineering of oligomeric proteins to discovery of inhibitors of protein-protein interactions and basic study of homodimerizing interactions. The system is modular and can be adapted to a wide variety of reporter systems enabling diverse screening methods, such as fluorescence, blue-white screening, selection with antibiotics, etc. We are currently at TRL 4 of development.

Benefits

TwinCatcher is the only modular system that enables the detection of homophilic protein-protein interactions in both the cytoplasm and periplasm of E. coli.

Opportunity

We are looking for opportunities to offer the products commercially as reagent kits, ondemand screening service and/or sale of intelectual property rights.







