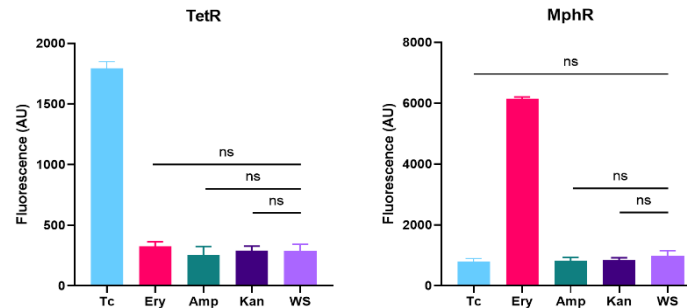
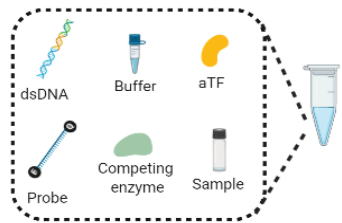


Portable Solution for Small Molecule Biosensing



Application

Detection of small molecules is necessary in many fields, such as molecular diagnostics, food industry, and environmental science. Conventional chromatographic and spectroscopic methods are not scalable enough to meet current needs.



Technology

A novel signal transducer and amplifier DNA circuit actuated by small molecules. The circuit is triggered by the formation or release of an endonuclease's DNA recognition site after the dissociation of a sensor molecule, such as allosteric transcription factor or aptamer, from a DNA template in the presence of the sensor's cognate ligand. The method is robust, modular, and programmable as one can design biosensors for a variety of ligands under the same principle, and parameters such as sensitivity and kinetics can be fine-tuned.



Talk to Us

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Advantages

- No expensive equipment (e.g. chromatography and spectroscopy) is needed
- On-site detection
- High performance methods
- Reliable real-time monitoring
- Automation, miniaturization
- Simple indicator-type, no trained user

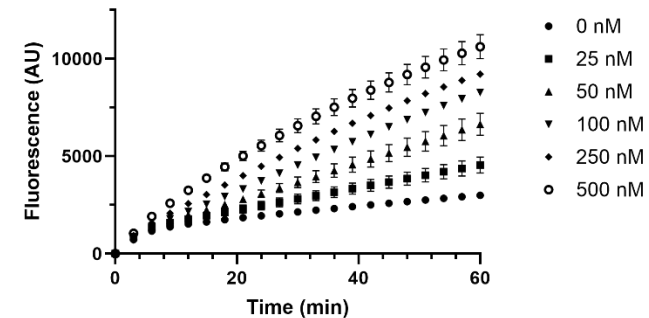


Fig. (left): TetR-based biosensor responds to different concentrations of tetracycline (0, 25, 50, 100, 250 and 500 nM)

Fig (right): Prototype: Deployable tests using compact, inexpensive, easy-to-use devices



Intellectual Properties

US Patent Application: 63/103,492

