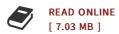




Characterization of a Fluorescent Protein Reporter System

By Air Force Institute of Technology (U. S.). Graduate School of Engineering and Management

Biblioscholar Sep 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x6 mm. This item is printed on demand - Print on Demand Neuware - Chemical and biological threats are ever present and attacks have occurred throughout the world in both war and peace-time. Multiple government agencies, academia, and private industry are developing detection capabilities to address such threats. The research presented in this paper supports development of a modular synthetic biologybased system that detects and reports the presence of a threat agent. Synthetic biology builds upon past research in genetic engineering and seeks to combine broad applications within biotechnology in novel ways. This basic research project will help to demonstrate a proof-of-concept design which will guide future studies on the development of a modular sensor platform. In this study, in vitro and in vivo techniques were used to evaluate a reporter system composed of the Tobacco Etch Virus (TEV) protease and an engineered fluorescent fusion protein for their combined effectiveness as a reporter system. The TEV protease demonstrated the ability to cleave the fusion protein construct to produce a measureable output signal. The coupling of this reporter system with a riboswitch recognition element showed that this system can be applied to detecting...



Reviews

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