Novel assays for assessing protein-protein interactions in Alzheimers disease

https://neurodegenerationresearch.eu/survey/novel-assays-for-assessing-protein-protein-interactions-in-alzheimers-disease/

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USA

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Research Abstract

Abstract Cell-based assays more closely mimic biology than direct inhibition studies. Therefore, drug discovery companies are increasingly utilizing cellular screening assays. Current reporter systems are unable to reliably measure in-cell transient protein-protein interactions. Furthermore, many are based upon split enzyme systems, which require long incubation steps,

are not real-time and are typically low throughput. In order to improve on these existing technologies, we will develop a split SUMOstar system engineered to contain a tetracysteine recognition motif for a biarsenical-based fluorophores. There are several advantages for using split a SUMOstar fluorescent reporter system, including relatively small fusions (~6 Kda) to the target proteins of interest, lower non-specific interaction with native proteins and the ability to take real-time measurements in high-throughput applications. Furthermore, using structural based mutagenesis, we can engineer the kinetics and binding affinity of the split SUMO interaction, allowing us to fine-tune the reporter assay to measure transient protein-protein interactions.

Further information available at:

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