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**Title.** Identification of new *Schizosaccharomyces pombe* adenylyl cyclase inhibitors

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The second messenger cAMP has been studied for half a century, however the regulatory mechanisms controlling cAMP synthesis in mammalian cells are yet to be discovered. Utilizing the fission yeast *Schizosaccharomyces pombe* (*S. pombe*) as a model organism, the Hoffman Lab intends to unravel these mysteries through the chemical genetic study of cyclic nucleotide phosphodiesterases (PDEs) and other cAMP pathway components from mammalian and pathogenic organisms. In other words, researchers in the Hoffman Lab intend to answer the question of, “how is it eukaryotic cells sense their environment and regulate biological processes in response to environmental signals?” This objective has been made feasible through the development of fission yeast-based high-throughput screens (HTS), which makes it possible to test large quantities of compounds for desired properties. Properties that could potentially allow for the discovery of new *Schizosaccharomyces pombe* adenylyl cyclase inhibitors, some of which could pose a large impact both in the context of genetic functionality and therapeutic benefits.