

Abstract Submitted
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Analysis of AtCry1 and Mutants¹ DEREK BURDICK, ADAM PURVIS, Xavier University, Cincinnati, OH, MARGARET AHMAD, Institut de Biologie, Paris, France, JUSTIN J LINK, DOROTHY ENGLE, Xavier University, Cincinnati, OH — Cryptochrome is an incredibly versatile protein that influences numerous biological processes such as plant growth, bird migration, and sleep cycles. Due to the versatility of this protein, understanding the mechanism would allow for advances in numerous fields such as crop growth, animal behavior, and sleep disorders. It is known that cryptochrome requires blue light to function, but the exact processes in the regulation of biological activity are still not fully understood. It is believed that the c-terminal domain of the protein undergoes a conformational change when exposed to blue light which allows for biological function. Three different non-functioning mutants were tested during this study to gain insight on the mechanism of cryptochrome. Absorbance spectra showed a difference between two of the mutants and the wild type with one mutant showing little difference. Immunoprecipitation experiments were also conducted to identify the different c-terminal responses of the mutants. By studying non functioning mutants of this protein, the mechanism of the protein can be further characterized. This two-month research experience in Paris allowed us to experience international and interdisciplinary collaborations in science and immerse in a different culture.

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