Designing Photoswitchable Peptides Using the AsLOV2 Domain

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http://dx.doi.org/10.1016/j.chembiol.2012.07.009

(Chemistry & Biology 19, 507–517 April 20, 2012)
We previously reported an unusually fast photocycle lifetime, 2.3 s, for our LOV-SsrAC switch. Upon further characterization of LOV-SsrAC, we have determined that the presence of ~1 mM imidazole in the buffer was responsible for the fast relaxation time. Imidazole has previously been shown to shorten the photocycle relaxation time of the LOV2 domain from Avena Sativa (Alexandre et al., 2007).

In the absence of imidazole, we measure a relaxation time of 28.4 ± 0.1 s for LOV-SsrAC (phosphate buffered saline: 137 mM NaCl, 2.7 mM KCl, 10 mM Na2HPO4, 2 mM KH2PO4 (pH 7.4), room temperature).

REFERENCE