Investigating the Binding of BH31-1 Derivatives to the Bcl-XL Protein

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In order to develop promising drugs for infectious disease, it is important to find molecules that specifically target the infectious agent without harming human cells. The Butler/Toenjes Lab has recently published an article showing that a small organic molecule called BH3I-1 and several of its derivatives have potent anti-fungal activity against Candida albicans, a common human pathogen. BH3I-1, however, is known to be toxic to human cells through binding to the Bcl-XL and Bcl-2 proteins. The goal of this project is to identify anti-fungal derivatives of BH3I-1 that do not bind the Bcl-XL and Bcl-2. Such BH3I-1 derivatives would have the potential for low human cell toxicity.