

James & Esther King Biomedical Research Program

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Chemistry
The Scripps Research Institute

2010 Program
Research Project Grant
(5-year project)

Project Title: A Future for Natural Product-Inspired Hsp90 Inhibitors in the Search for Clinically Relevant Chemotherapeutic Agents

Project Summary: This project is a collaborative effort to enable the discovery of therapeutically relevant anticancer compounds. Hsp90 is a validated, therapeutic target that has been recognized as the most novel and broadly applicable anticancer target being explored today. That said, no Hsp90 inhibitors have made it to the market. While the search for clinically relevant Hsp90 inhibitors is a focus of numerous pharmaceutical and academic laboratories, the project described here defines an innovative and powerful pathway to the discovery of natural product-inspired Hsp90 inhibitors. The expertise of organic chemists will provide a means to design and prepare natural product-inspired Hsp90 inhibitors that will avoid the well-understood limitations of derivatives in clinical trials through the application of state-of-the-art chemical methods. Thorough biochemical analysis will guide the search for a collection of the most potent and selective Hsp90 inhibitors. The significance of the project is in the ability to open a pathway to chemotherapeutic discovery that is not currently available. As such, the efforts described define an innovative entry to the discovery of new therapeutically relevant anticancer agents.