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“I relish the expertise that our Harrington advisors bring to our project.”

UNRAVELING A **BIOLOGICAL MYSTERY**

FOCUS: Exploiting novel small molecule pharmacology to treat inflammatory diseases.

In insects and vertebrates, nuclear factor kappa B (NF- κ B) and activator protein 1 (AP-1) are ancient regulators of the cell growth and differentiation, which allow for creation of all structures in the body. There is a great deal of support for the idea that their activities are especially important to the immune system, and their dysfunctions lead to devastating pathologies in cancer and immunity.

Mr. Chen and his team are working with SP100030—a lab-made small molecule inhibitor of NF- κ B and AP-1. SP100030 has been used for transplant rejections and lung fibrosis in animals and has great promise in the treatment of inflammatory

and autoimmune-related diseases.

“Traditionally we deal with an overactive immune system by shutting down all of the functions involved; this works reasonably well, but with very undesirable side effects,” Mr. Chen says.

“SP100030 is unique because of its remarkable efficacy with very few side effects compared to mainstream options. What is this magic that enables this molecule to treat various disease models with no apparent side effects?”

Mr. Chen is working with Harrington Discovery Institute to answer this question, and to design potent, safe

new molecules that behave like SP100030 but improve on its current limitations.

“To understand how the SP100030 molecule does what it does and discover new insights into our immune system would be exciting developments in drug discovery,” Mr. Chen says. “It would open the door to next generation therapies for many diseases with unmet clinical need.”

Harrington Discovery Institute

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