

Crystallization of Heme Dioxygenases IDO and TDO Facilitate Structure-Based Design of Cancer Immunology Therapeutics

A Oh¹

**¹Genentech, South San Francisco, CA
angelao@gene.com**

The heme dioxygenases IDO and TDO catabolize tryptophan into kynurenine using the heme iron as a central binding component of the substrate. Multiple tumor cells have been shown to over express IDO and TDO, and the elevated kynurenine metabolite is thought to suppress the host immune response, promoting tumor cell survival and proliferation. These metalloproteins are thus targets for cancer immunology, as inhibition of IDO and TDO restores tryptophan levels, relieving the immune suppression. This presentation describes our work on the purification and crystallization of heme-bound IDO and TDO to facilitate selective structure-based drug design and the discovery of tool compounds.