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Accelerated and Reliable Lead Discovery: Structure guided drug discovery ideal for collaborative projects

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With the goal of saving costs and time, the trend now is to outsource crucial components of drug discovery. While this seems to work in labor-intensive tasks such as chemical synthesis, GMP manufacturing, animal studies and clinical work, it is not always easy to find outfits for lead discovery with reliable and proven capabilities. This is becoming an important need for Pharma and Biotech companies since there are still large numbers of protein targets involved with several disease classes yet to be exploited. The abundance of potential drug targets is a challenge for the pharmaceutical and biotech companies that have to focus their resources. At least 50% of all targets that go into high-throughput screens do not generate significant leads and hence other cost-effective technologies are required to generate novel, patentable lead molecules. We have developed a structure-based approach to develop lead molecules in 60 to 90 days, which has resulted in validated lead molecules for a diverse set of drug targets. We utilize this lead generation technology, Genes to Leads®, in collaborative drug discovery project with universities, Pharma and Biotech companies as a highly costeffective means for augmenting their drug discovery pipelines. Essential ingredients of the technology are, X-ray crystallography, protein modeling, virtual screening, docking and scoring. In this presentation we will discuss our technology with specific application examples

Biography

Kal Ramnarayan (Dr. Ram) is the Founder, President, Chief Scientific Officer of Sapient Discovery. Previously, Dr. Ramnarayan Co-founded Structural Bioinformatics, Inc and Cengent Therapeutics, Inc. As part of the senior management team, he participated in raising more than US$ 50M. His technology leadership results in several leads for targets like ALF, PTP1B, SHP-2, DER, TNFR, Her-2, ZAP-70, IKKB, CD45, NY2R amongst others. He has had several successful grants from DARPA and SBIR. He has collaborated extensively with GSK, Novartis, J and J, DuPont, several Japanese, European and American companies in projects for lead discovery. Prior to Structural Bioinfofmatics, Inc., Dr. Ram was Head of Computational Chemistry at ImmunoPharmaceutics Inc., where he designed numerous drug leads, including highly specific endothelin-A receptor antagonists. This became Sitaxsentan, currently in Phase III clinical development by Encysive Pharmaceuticals. Dr. Ramnarayan holds a PhD in molecular biophysics from the Indian Institute of Science, Bangalore and has multiple papers and patents and several other patents pending. He is on the Advisory Board of the IBM BlueGene Initiative, Strand Genomics, Polyclone Bioservices and Keck Research Institute. He is on the Editorial Board of Current Proteomics. Dr. Ramnarayan is also Co-founder and Director of Focus Synthesis, LLC, in San Diego.

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