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Mitra Biotech keeps focus on personalized cancer care

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Using its proprietary platform technology Oncoprint, India-based Mitra Biotech is developing personalized treatment options for cancer, by studying the key drivers of cancer progression and metastasis.

The company won the BioSpectrum Asia Pacific Bioscience Industry Emerging Company of the Year Award for 2012.

Oncoprint was initially developed at Harvard University, where one of its founders, Dr Pradip Majumder, studied various models for cancer in order to understand cancer biology. During the course of this study, he worked on developing an explant technology which effectively mimicked the micro-environment observed in the cancerous cells. The explant technology incorporates the necessary signaling pathways along with other factors such as ligands and paracrine factors that are derived from the patient.

On realizing the potential of this technology, Dr Majumder and his colleagues at Harvard and Massachusetts Institute of Technology Dr Mallik Sundaram and Dr Shiladitya Sengupta co-founded Mitra Biotech and decided to base its operations in India in order to make the technology truly affordable. Mitra Biotech has since then received funds from three groups of investors, namely Accel Partners, a global venture capital fund; India Innovation Fund and Kitven. The representatives from each of these agencies are part of the board at Mitra Biotech, along with the founders.

On the potential of Oncoprint technology, Dr Mallik Sundaram, CEO, Mitra Biotech says, "Oncoprint has high relevance for both diagnostics as well as translational biology application. Oncoprint is a platform technology and is not database-driven like a biomarker. Hence it is applicable for a wide range of drugs (both chemotherapeutics as well as biologics) in a wide range of cancers. By partnering with a large hospital group such as HCG, we continue to collect a large amount of clinical as well as pre-clinical data and this helps improve the clinical relevance of Oncoprint. Oncoprint's relevance in translational biology can be gauged from the low success percentage (less than 10 percent) of a candidate drug reaching the market. Fundamental reason for this is the mismatch between the drug and the patient. Oncoprint helps take lot of the guess work from the clinical trial design and hence is expected to play a crucial role in cancer drug development in the near future."

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In addition to culturing the tumor samples, the genomic component of the tumor is also thoroughly profiled at Mitra Biotech. This data is further being used to aid in the drug discovery process as well. Mitra Biotech is in collaboration with pharma companies for the development of three anti-cancer molecules. They are trying to determine the specific epigenetic markers and gene signatures against which the drug molecules are effective. This will not only save money but also valuable time for the companies.

Even though it currently offers personalized services to cancer patients, Dr Sundaram insists that Mitra Biotech is not a services company, but rather a discovery company, which is developing novel innovative technologies to help combat cancer. This platform has so far been validated in over 400 patients clinically and the founders plan to continue work for the next few years till they have over 2,000 clinical validations. This data can then be presented to the FDA for approval, paving the way for revolutionizing cancer treatments.