BioSpectrum the business of Bio & Health Sciences

â€œOur technology caters to fast growing marketsâ€?

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Vivo Biosciences started its R&D operations in India at Lucknow Biotech Park in 2008 via funding from Toucan Capital, USA. Using its patented HuBiogel technology, the company has developed a series of new 3-D or tissue-like assay models emulating the biology of both normal and disease states. These novel human bioassay platforms are expected to accelerate drug discovery, preclinical and biomedical research.

BioSpectrum in a Q & A session with Dr Raj Singh, president and CEO, Vivo Biosciences discussed about the focus of its

research & services, collaborations, operations in India, future outlook and much more.

Q: What are the reasons that made you to choose Lucknow biotech park for your operations? What are your current activities at the park?

A: After positive meetings with director general, Council for Scientific and Industrial Research (CSIR) and officials at department of biotechnology (DBT), Vivo Biosciences India facility is planned at Lucknow Biotech Park. We are also appreciative of efforts of Dr. PK Seth, CEO, Lucknow Biotech Park for initiating research collaborations and drug discovery services with several Indian institutions. The company has taken 6,000 sq ft built up facility with lab/office space in the park for its operations along with its sister concern Cognate Bioservices. Along with office space, new lab facility and operational plan are in progress.

Vivo has showcased its innovative technology at many national and international conferences, especially exhibited at BIO-India pavilion for past 2 years. Current R&D activity is focused on oncology and tissue toxicity services for academic, private and government customers.

Q: What kind of collaborations have you entered in India as well as internationally?

A: The new collaborations in India involve metabolic, genomics and infectious disease research with Central Drug Research Institute (CDRI), Institute of Genomics & Integrative Biology (IGIB), New Delhi and CMC Hospital, Vellore. We are also actively exploring joint venture opportunity for business expansion with Indian, Europe and US biotech companies (signed CDA with 3 interested parties). Vivo has entered into product distribution partnership with Roche, Germany and Global Cell Solutions, USA and has negotiated co-marketing agreement with CROs (Southern Research, Jubilant Biosys, HuMurine). Multiple contracts have been completed or in progress for oncology services with large pharma companies such as Merck, J&J, OSI and Novartis.

Q: What is the focus and the business model of the company? How do you manage the fundings for R&D projects?

A: Vivo is developing novel 3D HuBiogel or Tissue-like bioassay platforms for high-value preclinical drug testing, toxicity analysis and diagnostic applications. Our two-tier business model involves global marketing of research products and fee-for-service contracts. Several top-scored SBIR grants are awarded by NIH and NASA for innovative R&D projects (totaling over $4M).

Q: Please tell us more about HuBiogel^{TM} technology and its role in drug discovery? Are there any new such technologies in the pipeline?

A: The 3D HuBiogel technology overcomes the limitations of standard 2D cell-based assays and animal models which fail to replicate human tissue biology and functions. The highly cost and time efficient HuTumor and HuLiver assay screens are developed to accelerate drug discovery pipeline by identifying 'good' drug candidates. This advanced 3D bioassay technology allows rapid parallel analysis of drug efficacy and toxicity endpoints, the major bottlenecks of current drug discovery pipeline. It is enormously valuable for providing 'go' or 'no-go 'decisions prior to expensive clinical trials. Vivo technology is available worldwide, and is easily adaptable to tissue engineering, cell therapeutics and functional genomics applications.

Currently the new patient-based cancer diagnostic test and integrated multi-tissue toxicity system are under development. Both are unmet needs highlighted under National Institute of Health (NIH)/ Food & Drug Administration (FDA) critical path initiatives.

Q: What was the revenue generated in last fiscal and the expectations this financial year?

A: Vivo revenues range $700-$1M per year and are expected to grow rapidly in future with development and integration of our advanced technology platforms (preclinical plus diagnostic). Also both R&D and business growth have been significant over past 7 years. (Vivo assets have grown from $500K to $6M after VC investment).

Q: What is the future outlook of the company?

A: In addition to unique oncology and drug toxicity models, Vivo technology offers high-value biomedical applications e.g. personalized medicine (chemotherapy prediction) and implantable devices for stem cell delivery (diabetes, tissue regeneration), the two fastest growing markets.

Q: How do you view the progress of biotechnology industry as far as drug discovery is concerned? What are the challenges before it?

A: All the major pharma and biotech companies have recognized the necessity of physiologically relevant preclinical bioassays or tools to reduce drug discovery failure costs. The transition from common cell-based testing to new tissue-based drug screening (Vivo technology) is a promising progress and it will also refine/reduce animal usage/cost. As with any new technology, validation and adaptation in market is a quite challenging pathway. We hope to address this via strategic partnership and joint venture globally with companies with complementary add-on technologies.