BioSpectrum the business of Bio & Health Sciences

Tailoring reagents to R&D needs

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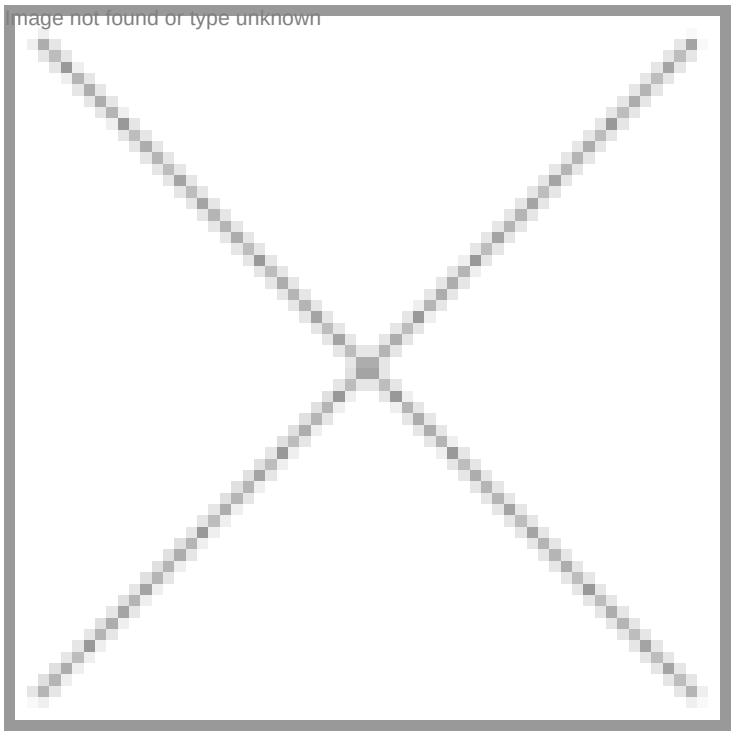
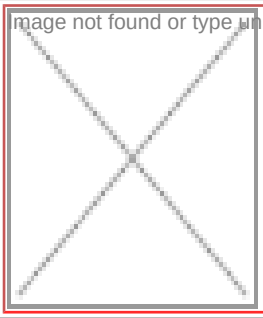
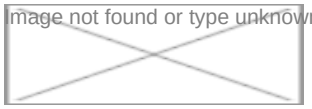




Dr Manjula Das
CSO, Abexome Biosciences, Bangalore

In a decade marked by many blockbuster drugs going off patent and the subsequent boom in biosimlars, the biopharma industry has displayed an accelerated pace of research in the field of biosimilars and biobetters. Leading from the front is Dr Manjula Das, chief scientific officer (CSO), Abexome Biosciences, who is also the co-founder and director of this company.

Dr Das has an unique distinction of having worked only with biotech start-ups after her post doctoral research at McGill University, Canada, and MIT, USA. On her return to India, after a brief stint at the Indian Institute of Science, Bangalore, Dr Das became one of the first employees of Metahelix, now a leading bioagri company, where she helped set up the bioinformatics division.



Dr Das then moved to another start-up, Connexios Life Sciences, as its CSO. Her experience at MIT, where she worked in a bioinformatics lab, helped her in using the software prediction tools and later validating those findings through experiments in the wet lab.

It was during this time that she realized that there was a serious gap in the availability of necessary reagents in the market in India. This sparked the entrepreneurial spirit in her. â€œThe quality of the existing reagents did not suit our kind of research. We spoke to a lot of people from the scientific community and found that the problem was everywhere. That is how we started synthesizing antibodies ourselves at Connexios,â€? she says. â€œLater, we realized its potential for the biopharmaceutical market, and floated a separate company with the same investor.â€?

Dr Das started Abexome Biosciences in 2007 along with Dr Sujan Dhar. According to Dr Das, Abexome Biosciences started out as an antibody company and then morphed into an assay company. Companies developing biogenerics or biobetters often need effective antibodies against the molecules they are developing at every step of the development pathway. This is where Abexome comes in offering services for the development of antibodies and assays for a protein. These antibodies are not humanized for therapeutic use but are used as reagents against peptides of 2kDa to 125 kDa for various functions, such as for detecting the distribution of the protein, its purity and its retention time in biological matrices.

Dr Das believes that the services aspect of the company not only guarantees a steady income but also helps them learn and improve their techniques apart from understanding what the market requirements are. This has led to the development of products such as an assay for pentosan polysulphate, a drug sold under the commercial name of Elmiron. It is the only drug approved by the USFDA for the treatment of interstitial cystitis or painful bladder syndrome.

â€œCurrently, there isn't any antibody available in the world against it. It took us almost a year to generate and standardize that assay where we synthesized a polyclonal antibody specifically for the pharmacokinetic analysis in human matrices and validated it in different labs all around the country. In this case even though the patent expired in 2010, no proper reagents were present and hence no generic molecule has come out yet,â€? she says.

Outlining Abexome's future plans, Dr Das adds, â€œWe have developed an antibody for PEG-GCSF, which will be launched this month along with an assay for any PEGylated molecules. Currently, there is no PEG-GCSF kit in the world. Most biobetters are molecules that are mostly PEGylated to improve their half life, thus offering a lot of scope for the assay.â€?

Manasi Vaidya in Bangalore