BioSpectrum the business of Bio & Health Sciences

"Fluorescents are replacing traditional dyes in protein detection assays,"

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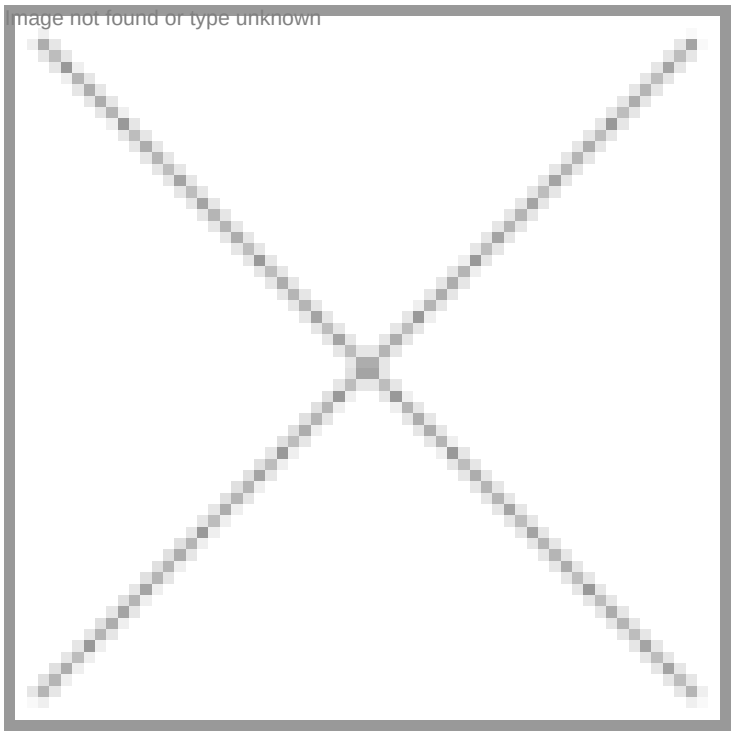

"Fluorescents are replacing traditional dyes in protein detection assays,"

-Dr Duncan Veal, CEO, Flourotechnics

Sydney-based biotechnology company, Fluorotechnics develops and manufactures fluorescent compounds and fluorescence-based kits for the global biotechnology industry. Fluorotechnics aims to build a portfolio of intellectual property in the area of fluorometrics that will be licensed to diverse sections of the biotechnology industry. The company owns the intellectual property to a new family of structurally related fluorescent molecules-the epicocconone family of fluorophores. These molecules have low molecular weight and long stokes' shifts. Fluorotechnics also owns IP governing the application of these and other fluorophores for various assays. In an interview with BioSpectrum Dr Duncan Veal, CEO Flourotechnics, shares the company's products and strategies. Some excerpts:

Can you elaborate on the bio-fluorescent industry as such and where is Fluorotechnics positioned in the industry?

Fluorescence is becoming increasingly important as a method of detection and quantification and is replacing traditional technologies based on colored dyes and radioactive isotopes in the life sciences, in areas ranging from research through to process and quality control. The market for fluorescent labels used for life-science research alone has grown rapidly over the past 10 years to about half-a-billion dollars. Many if not most of the latest diagnostic techniques are also based on fluorescence and the market for in vitro fluorescent diagnostics has grown in excess of $2 billion. I think we can expect to see: the market for fluorescent diagnostics continue to grow as fluorescence-based research tools transition into diagnostics

and as the installed-base of fluorescence-based instrumentation increases.

At this point in time, Fluorotechnics mainly supplies to the life science research tools market but increasingly our customers are applying our technology and products in areas such as diagnostics and quality control. I envisage that products in our current pipeline will expand our footprint outside of our current focus market of research tools.

How far has Fluorotechnics come since it came into existence in 2001?

Fluorotechnics, a spin-off from Macquarie University in Sydney, was founded in order to commercialize a new family of non-toxic fluorescent molecules derived from a filamentous fungus. The University had patented chemical structures of the fluorophores and this patent was transferred to the company.

Fluorotechnics rapidly developed a number of products, based on the IP. These are used for fluorescently staining proteins and peptides in electrophoresis gels and on blots. In addition, we developed fluorescence-based products for protein and peptide quantification and for live cell imaging. We are the only company worldwide that produces fluorophores from filamentous fungi.

Australia is a small market and as a start-up company our approach was to appoint global distributors such as Amersham Biosciences (subsequently acquired by GE-Healthcare), Sigma-Aldrich and Active Motif as sales and distribution channels to our market. In North America and Europe we are currently establishing our own sales and marketing team to focus on our products and increasingly we are selling products directly via our website (www.fluorotechnics.com).

We have developed a new technology for measuring enzyme activity and the first product for measuring protease activity-LavaDigest-was launched last year. Recently, we also launched a very rapid and simple to use fluorescent protein gel stain â€“ LavaBlue â€“ that is suitable for use on widely available gel documentation systems. LavaBlue enables labs that do not have access to expansive gel imaging systems to move into the world of fluorescence.

Fluorescence is becoming an increasingly popular detection and quantification technique in the area of proteomics and most of our fluorescence-based kits are used by scientists involved in this field, especially in the area of gel electrophoresis. Last year, we acquired a German electrophoresis company, Elektrophorese-Technik (ETC) (www.etcelpho.com) that specializes in the development and manufacture of high-end electrophoresis consumables for research, quality control and diagnostics applications.

What is Fluorotechnics USP vis-a-vis your competitors?

We offer a unique technology, based on a fluorophore called epicocconone, that enables the ultra-sensitive detection and quantification of proteins against a zero fluorescent background and yet still leave the proteins unmodified for down-stream processing. This is particularly important in proteomics where it is essential not to modify proteins to enable subsequent identification using techniques such as mass spectrometry. Epicocconone has the unique property of becoming fluorescent on reversible conjugation to proteins and peptides.

Although it is a relatively simple molecule it remained unknown to scientists, as it is very difficult to chemically synthesize. The most convenient source is from our filamentous fungus.

Epicocconone is a non-toxic, readily biodegradable molecule in contrast to many competitor fluorophores in the proteomics market that are toxic and/or based on heavy metals.

In your current product portfolio, what would you classify as "star products"?

Undoubtedly our protein stain LavaPurple is a star product. It is the best protein stain in terms of sensitivity, quantification, and mass spec compatibility. It is versatile and can be used for both gel and blot staining and unlike most competitors is non-toxic making it safe to use and environmentally friendly. We have formulated LavaPurple into a kit that contains all the buffers and fixatives required for staining making it a very simple and convenient product to use.

Are you looking at expanding your product portfolio?

Yes, of course. The major markets for our protein electrophoresis product portfolio is dominated by a few big players and in reality there have not been a lot of new products in this area in recent times. We see significant opportunities to be identified as the innovative company in protein electrophoresis and to bring new products and technologies to this market. We are particularly interested in those products that facilitate the transition from traditional visualization techniques such as Coomassie and Silver staining to fluorescence.

What is Fluorotechnics outlook for the next five years?

Fluorotechnics is focused on bringing to market a number of new products and applications and continuing to improve and expand its sales and distribution channels. Thus the company will grow organically at a fast rate. We are seeing substantial benefits from the last year's acquisition of German Company, Elektrophorese-Technik (ETC) who make complementary products, and have identified that there is a major opportunity to 'roll-up' a number of companies in the research-tools field and we will be concentrating on this.

Do you have an Asia Pacific strategy? What kind of growth do you expect from these markets? What are the countries you are looking at?

Asia Pacific is a very large and diverse market and one single strategy to cover this market is probably not appropriate. However, many countries in the region have had a tradition of being very strong in life sciences at a tertiary level and this is now being translated into a dynamic biotechnology sector and these markets are certainly experiencing double-digit growth.

We have recently appointed distributors to cover Korea, China, Singapore, Thailand and Malaysia and will be focusing the appointment of distributors to cover Taiwan and India over the next month or so.

Ajeesh Anand