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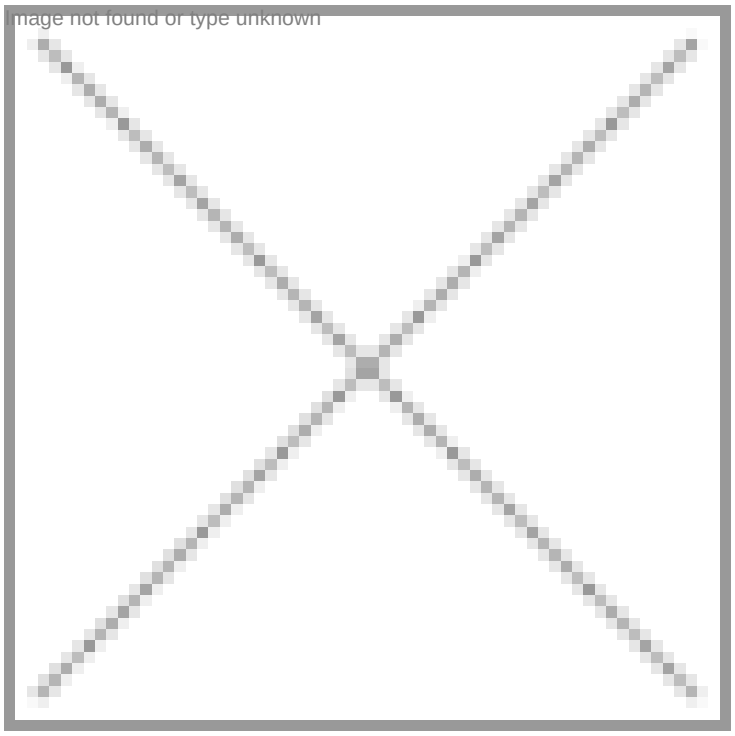
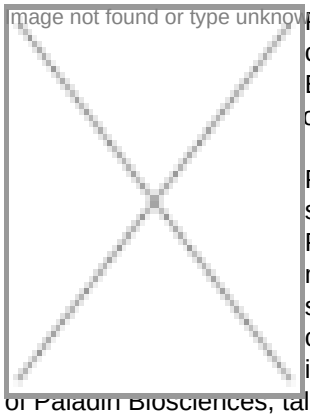
"India has a wealth of scientific expertise"

05 May 2010 | News



Dr Rajan George, *executive VP and chief technology officer, Paladin Biosciences, Canada*



Paladin Biosciences is a division of Paladin Labs, a publicly-traded specialty pharmaceutical company listed on the Toronto Stock Exchange. Paladin Biosciences has been in operation in Edmonton, Canada, since 2001, originally under the name ViRexx Medical Corp and in 2008, it one of the Canada's leading specialty pharmaceutical companies.

Paladin Biosciences has been developing innovative targeted therapeutics for individuals who suffer from infectious diseases and cancer. Using its proprietary Chimigen Platform Technology, Paladin Biosciences has developed a portfolio of biotherapeutic agents to meet major unmet medical needs such as treatments for chronic hepatitis B and hepatitis C virus infections, avian and swine influenza, alphavirus infections, malaria and cancer. The company is now on the look out for co-development as well as licensing opportunities with companies in Asia, especially in India. In an interview with BioSpectrum, Dr Rajan George, executive vice president and chief technology officer of Paladin Biosciences, talks about his company and its expansion strategies.

Q Which are the major therapeutic areas of focus for Paladin Biosciences?

Paladin is targeting various infectious diseases, mainly hepatitis B and hepatitis C. The lead product of the company is a therapeutic vaccine for the treatment of patients with chronic hepatitis B virus infections. Chimigen HBV Therapeutic Vaccine is currently in late stage preclinical development and there are plans to initiate a phase-I clinical trial soon. The company is actively looking for partners in Asia to advance this program, as it is a major unmet medical need in Asia.

Other product candidates in development are Chimigen HCV therapeutic and prophylactic vaccines, prophylactic vaccinesfor influenza (H5N1 and H1N1), alphaviruses such as encephalitis, chikungunya, and malaria. We are also developing a bionanoparticle technology to deliver siRNA molecules to various cell types for RNAi and antiviral/ immunotherapy combinations.

Q Can you elaborate on the technological aspects of Chimigen platform?

The company's proprietary Chimigen platform, which incorporates functional elements of both antigen and antibody-based technologies, is a unique, versatile and highly adaptable platform that can be used for developing immunotherapeutic agents, RNAi and for cell-specific delivery of biologicals including siRNA.

The Chimigen platform is a versatile vaccine technology designed to target vaccines to specific receptors on antigen presenting cells, especially dendritic cells, to elicit both cellular and humoral immune responses in hosts. It is used to develop therapeutic vaccines for patients with chronic viral infections as well as prophylactic vaccines to prevent infections. Chimigen vaccines are recombinant proteins that have selected antigens fused to the Fc fragment of a murine monoclonal antibody through proprietary peptide linkers. This approach allows efficient substitution of a desired antigen in the Immune Response Domain (IRD) on the Target Binding Domain (TBD) backbone, permitting the production of very effective multivalent vaccines.

TBD contains the antibody portion of the fusion protein and it allows the vaccine to bind with specific receptors on thesurface of dendritic cells and other antigen presenting cells, facilitating antigen uptake, processing and the appropriate antigen presentation. This results in the induction of a broad immune response, both cellular (T cell) and humoral (B cell, antibody) immune responses, against the selected antigen(s). Induction of a broad and balanced immune response allows the technology to be used to develop both prophylactic and therapeutic vaccines and is a key advantage of the Chimigen technology. This technology is designed to overcome host tolerance to chronic infections and cancer, and this will allow Paladin to develop a wide range of biotherapeutic agents targeting major unmet medical needs.

Q Does Paladin has APAC specific strategy and what are its partnership plans in the region?

Paladin's lead program targets hepatitis B virus infections, which are prevalent in many Asian countries, and its technology has broad application in other diseases afflicting the region. The company is not keen on expanding its operations in Asia, but it is looking for partners in major Asian markets to develop Chimigen HBV Therapeutic Vaccine and other therapeutic products. This partnership could be in the areas of clinical trials and licensing. The ideal way is to partner with companies in Asia, especially in India, which have established vaccine and biotherapeutics development expertise.

Q Why do you think India is the most suitable place for your company to establish partnerships?

India has a wealth of scientific expertise and is already emerging as a biotech powerhouse. To realize its full potential, the Indian economy must continue to grow and bring more and more of its people to the global platform, and the Indian government must recognize the importance of a strong, innovation-based life sciences industry. Other than this, building partnerships with non-Indian biotechnology enterprises that have technologies applicable to the unmet medical needs of India would be an ideal approach to make India a leading player in the life sciences sector.

Q What are the business strategies of Paladin for the Asian market?

Paladin focuses on region-based product development. The company carries out preclinical studies as well as clinicalsample evaluations. It expects manufacturing, product development and clinical trial expertises from the prospective partner. The Asian partner could take the preclinical product to either global or regional markets, as Paladin is very flexible in these areas.

The company anticipates very limited competition in the therapeutic areas which it is actively involved in.

Ajeesh Anand in Bangalore