



Increasing patent activity and company investment in vaccine R&D signals long-term confidence in sector

LONDON, UK----24 April 2008----ExpertREACT. Recently two major vaccine companies, Novartis Vaccines and Sanofi Pasteur have announced plans to step-up recruitment in vaccine research and development. Previously Pfizer had already announced it was building vaccine R&D capability in both the US and the UK. Against the backdrop of increasing vaccine patent activity and substantial job losses in Pharma, this news again signals long-term confidence in vaccines and biologic-based product strategies.

It is well documented that the vaccine industry is growing. **VacZine Analytics** has published previous **ExpertREACT** articles focusing both on sales growth of the top five vaccine players and the current number of clinical programs (Phase I to Phase III). Based on the current pipeline we predicted that 35-40 new vaccines will be launched by 2015 signaling longer-term growth of the industry (1).

Beyond looking at the number and type of vaccine programs within clinical stages, other measures that can be used to predict long-term trends are investment in R&D capability and the level of vaccine patent activity (intellectual property) at the preclinical stages. Coupled with recent company press releases and latest analysis conducted by **VacZine Analytics** both measures also appear to be increasing (2).

Significant investment in R&D is an expensive and long-term strategy. Usually rewards gained from scientific investigation "at the bench" are not seen until 12-16 years in the future or seldom realized at all. In order to commit significant financial investment in R&D, it is likely that vaccine company senior management both recognize the importance of new product innovation and/or cannot source external assets to drive revenue growth in the near term. At the moment both of these considerations are apparent within the industry. Novel products are predicted to drive most future revenue growth and in our view, few unpartnered vaccine programs of significant value actually exist (1).

To indicate the level of investment required Sanofi Pasteur recently announced it will be investing around C\$100m in a new facility in Toronto, Canada. The company, which received incentives from a Biopharmaceutical Investment Plan (BIP), states that the facility (15,000 square meters) will be ready for occupancy in 2010. The investment is in addition to C\$300 million spent in Canada since 2000. Interestingly, Sanofi states that a research focus of the new facility will be on new pneumococcal vaccines (3). According to **VacZine Analytics** Sanofi currently has both conjugate and recombinant protein based pneumococcal programs at preclinical and Phase I testing respectively (1). Although the company is far behind Wyeth and GSK, this open announcement suggests the company views the pneumococcal vaccine market with high priority despite intense competition.

The second key announcement(s) regarding investment in vaccine R&D arise from Novartis Vaccines (formerly Chiron). Firstly in 2007, the company announced the opening of a new Vaccine Institute for Global Health (NVGH) to be located on the existing campus in Siena, Italy. This facility, alongside existing R&D and manufacturing, has a mission to address global enteric diseases which receive little attention from the commercial sector. Recently the company also announced that it is actively recruiting R&D scientists in its new global HQ located in Cambridge, USA. The global HQ which opened summer, 2007 currently houses most company functions and is in close proximity to Novartis Pharma R&D or NIBR (National Institutes of Biomedical Research). Novartis Vaccines appears to be committed to strengthening its R&D capability in virology based research which would complement the strength of its intellectual property portfolio in bacterial pathogens.

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New entrant to the vaccines industry, Pfizer has been actively recruiting R&D scientists into its new Biotherapeutics line in Pfizer Research based in Sandwich, UK and La Jolla, USA. **VacZine Analytics** has already commented in previous **ExpertREACT** articles regarding Pfizer's apparent strategy of making targeted acquisitions around immunomodulation (Coley), delivery technology (Powdermed) and more recently, therapeutic cancer vaccines (AVANT, CDX-110). It is clear from level of financial investment and diverse nature of assets being acquired Pfizer is committed to vaccines in the long-term.

Lastly, recent analysis of over 5000 patents held World Intellectual Property Organization (WIPO) also suggests that the number of unique patents pertaining to potential vaccine antigen(s) for commercial use is increasing (2). Analysis indicates that in 2007 approximately 3-4 times the amount of patents were granted to commercial sponsors than in 2004. Simplistically vaccine R&D scientists are either becoming more productive in generating vaccine IP or their numbers are increasing. Looking at the current climate, both conclusions are likely to be correct.

References:

- (1) **VacZine Analytics**. Vaccine Pipeline Review (CAT No: VAVS001), March 2008
- (2) **VacZine Analytics**. Vaccine Commercial IP Review (CAT No: VAVS007), April 2008
- (3) Sanofi Pasteur. Corporate Press Release. April 15, 2008. Available at http://198.73.159.214/sanofi-pasteur/ImageServlet?imageCode=22758&siteCode=SP_HQ. Accessed April 2008.

Websites:

www.novartisvaccines.com
www.pfizer vaccines.com
www.sanofi-pasteur.com

For more information about this research please visit www.vacZine-analytics.com
Or e-mail us at info@vacZine-analytics.com

About VacZine Analytics:

VacZine Analytics is a new strategic research agency based in the United Kingdom. Its aim is to provide disease and commercial analysis for the vaccine industry and help build the case for developing new vaccines.

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