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Potential role of vitamin D in asthma



The active metabolite of vitamin D [1,25-dihydroxyvitamin D₃ (1,25(OH)₂D₃)] is a recognized modulator of Th1-

driven immune disease in experimental models which is thought to be the net result of a shift towards an upregulated Th2 response. However, the role of vitamin D in Th2-driven immune disease has only

recently become a subject of investigation.

In a series of novel experiments, Wittke *et al.* have investigated the role of the vitamin D receptor in a Th2-driven model of allergic asthma by using vitamin D receptor knock-out mice (VDR KO) [5]. Following a prime and challenge with ovalbumin (OVA), wild-type mice developed severe symptoms of asthma, including elevated airway hyperresponsiveness (AHR) plus increased mucous secretion and influx of eosinophils and inflammatory T-cells in the lungs. In direct contrast, priming and challenge with OVA in VDR KO mice had relatively few eosinophils and inflammatory T-cells in their lungs, did not produce mucous and only developed an AHR similar to unprimed wild-type mice.

The failure of VDR KO mice to develop experimental asthma did not appear to be related to an inability to generate a Th2 response, as levels of serum IgE were

increased and splenocytes from these mice released Th2 cytokines IL-5 and IL-13 following OVA stimulation. The authors discussion postulates that the vitamin D receptor might, therefore, have some role in the trafficking of inflammatory cells to the lung in this model of allergic asthma, although there is limited data to support this. This article suggests that the vitamin D receptor does have some role in the development of experimental asthma but the precise mechanism by which this occurs has yet to be fully elucidated.

- 5 Wittke, A. *et al.* (2004) Vitamin D receptor-deficient mice fail to develop experimental allergic asthma. *J. Immunol.* 173, 3432–3436

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Business

Announcements

PediaMed Pharmaceuticals acquires Protein Therapeutics

PediaMed Pharmaceuticals Inc. (<http://www.pediamedpharma.com/>) has recently announced the acquisition of Protein Therapeutics (<http://www.protein-therapeutics.com>), a company that specializes in the development of novel therapies against immunological diseases. This acquisition also incorporates Protein Therapeutic's current investigational immunoglobulin drug that has demonstrated promising results for treating gastrointestinal (GI) dysfunction in autistic children and will be entering Phase II clinical trials shortly.

Cameron Durrant, President of PediaMed Pharmaceuticals, explained the significance of this drug and the company's latest acquisition, 'Gastrointestinal symptoms associated with autism are debilitating physically, emotionally and socially. Our acquisition is an important step in building our capacity to conduct clinical research in this significant therapeutic area, one with a very important unmet medical need'. The President and CEO of Protein Therapeutics,

Leon Barstow, replied that 'This transaction will enable our technologies and products to thrive in a fast-growing pediatric market'.

PediaMed, The Pediatrics Company, focuses on providing safe and effective medicine to pediatric patients, parents and associated healthcare professionals. In particular, PediaMed is investigating opportunities in areas that are currently poorly served by therapies, such as anti-infectives and treatments for respiratory and allergy complications.

Collaborations

New partnership established between SGX and Roche

SGX (Structural GenomiX; <http://www.stromix.com>), a biotech company specializing in the discovery and development of innovative therapeutics, has announced its new alliance with Roche to initiate an antiviral therapeutics programme.

As part of the collaborative partnership, SGX's leading high-throughput structural biology technology, FAST™ technology, will be used to generate new lead

candidates for Roche to develop and commercialize globally.

'We seek partners that will help build our pipeline in areas of strategic focus,' said Peter Hug, the Global Head of Pharma Partnering at Roche. 'SGX will be generating new antiviral leads for Roche, further strengthening our commitment to developing novel medicines in virology' Hug added. The Chief Scientific Officer at SGX, Stephen K. Burley, commented the collaboration: 'This partnership with Roche is consistent with our integrated business strategy, which is to apply FAST™ to generate novel lead candidates in key therapeutic areas for strategic partners, as well as oncology candidates for further development by SGX.'

SGX has developed a preclinical pipeline leveraging FAST™ lead generation, a proprietary fragment-based method of characterizing novel drug candidates based on the core expertise of SGX in high-throughput protein crystallography, computational chemistry and automated parallel synthesis. One of the lead product candidates at SGX is a novel cancer treatment for acute myelogenous leukemia and other malignancies that is at Phase 1/2 clinical trials.

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