

Allergy studies

Advances in the understanding of the pathophysiology of the immune response have led to the discovery of many new molecules that need testing in patients with allergic disease. We have tested around 30 such molecules, in patients with either asthma or rhinitis. We have a large database of such patients and substantial experience of research procedures, such as:

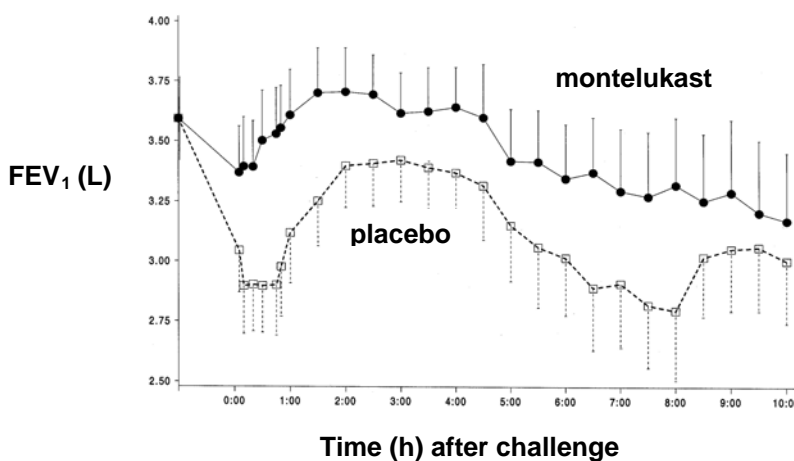


- wheal and flare response;
- nasal challenge and washings;
- nasal and respiratory peak flow rate;
- acoustic rhinometry;
- exhaled nitric oxide;
- several types of spirometry;
- bronchio-alveolar lavage and bronchial biopsy;
- sputum induction by hypertonic saline inhalation;
- bronchial challenge with allergen, AMP, histamine or methacholine;
- sputum and nasal washings, processed for cells, proteins and cytokines;
- lung function tests, such as transfer factor by CO single-breath method, total lung capacity by helium dilution and flow loops; and
- flow cytometry of whole blood for specific cell populations.

We have tested a wide range of new molecules, including:

- IL-5 monoclonal antibody;
- recombinant IL-12;
- antisense: adenosine A₁ receptors;
- integrin VLA-4 ($\alpha_4 \beta_1$) antagonists;
- leukotriene antagonist;
- PDE₄ antagonists;
- 'soft' steroids;
- mast cell stabiliser;
- IL-4 antagonist; and
- mast-cell tryptase / trypsin antagonist.

Montelukast inhibits the early and late responses to allergen inhalation in mild to moderate asthma (mean & SD; n=13)





We can provide a full service – from design through to report writing – for a ‘proof-of-principle’ study of most types of new molecule in patients with asthma or rhinitis. Our track record shows that we can complete these demanding and complex studies to a high standard and on time. We have close links with other units with whom we collaborate on large studies.

Some of our publications

1. Bryan S, O’Connor B, Matti S, Leckie M, Kananbar V, Khan J, Warrington S, Renzetti L, Rames A, Bock J, Boyce M, Hansel T, Holgate S, Barnes P. Effects of recombinant human interleukin-12 on eosinophils, airway hyper-responsiveness, and the late asthmatic response. *Lancet* 2000; 356: 2149–2153.
2. Carey W, Warrington S, Boyce M, Luria X. Inhibition of the histamine wheal by ebastine compared with cetirizine, fexofenadine and loratidine at steady state. *Drugs Exp Clin. Res* 2002; 28: 243–247.
3. Erin E, Leaker B, Zacharasiewicz A, Higgins L, Jose P, Williams T, Boyce M, de Boer P, Durham S, Barnes P, Hansel T. Single-dose topical corticosteroid inhibits IL-5 and IL-13 levels in nasal lavage following grass pollen challenge. *Allergy* 2005; 60: 1524–1529.
4. Norris V, Choong L, Tan D, Corden Z, Boyce M, Arshad H, Holgate S, O’Connor B, Millet S, Miller B, Rohatagi S, Kirkesselli S. Effect of IVL745, a VLA-4 antagonist, on allergen-induced bronchoconstriction in patients with asthma. *J Allergy Clin Immunol* 2005; 116: 761–767.

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