

A GREAT TOOL FOR INVESTIGATING HUMAN IgE INHIBITION

- Human IgE (ϵ , κ) Knock-In mice

IgE plays a central role in mediating type I hypersensitivity reactions that are responsible for causing allergic diseases, including allergic asthma, allergic rhinitis, atopic dermatitis, and others.

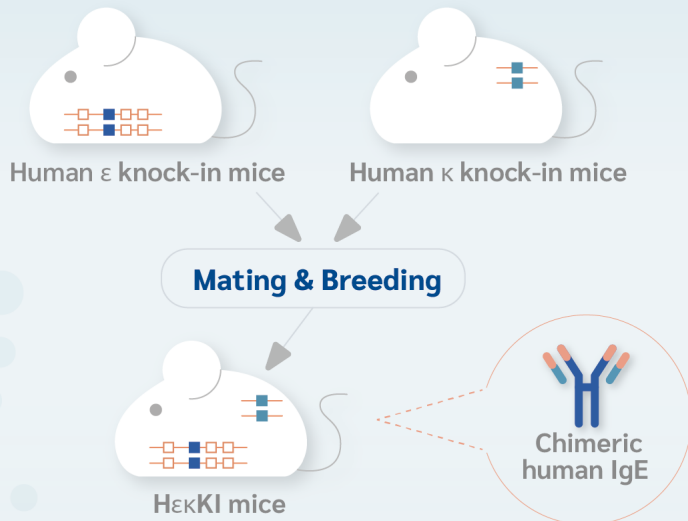
The H ϵ κ KI mice produce humanized IgE-secreting B cells and humanized IgE that is specific to an antigen after immunization. The H ϵ κ KI mice are employed to perform chimeric human IgE inhibition by antibodies, small molecules, or vaccines.

Application

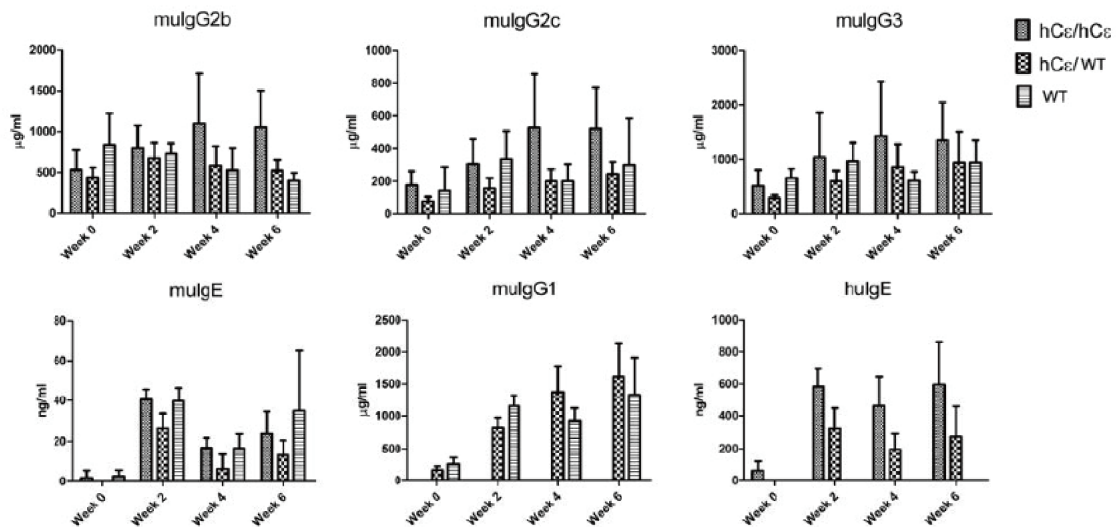
- Contract research or drug development
- Chimeric human IgE inhibition animal model

Features

- 30-fold higher human IgE response than mouse IgE
- Not produce mouse IgG₁



The transgenic animal is mouse, in whose genome the C γ 1 constant regions are replaced by the human immunoglobulin C ϵ constant regions and the C κ constant region is replaced by the human immunoglobulin C κ constant region.



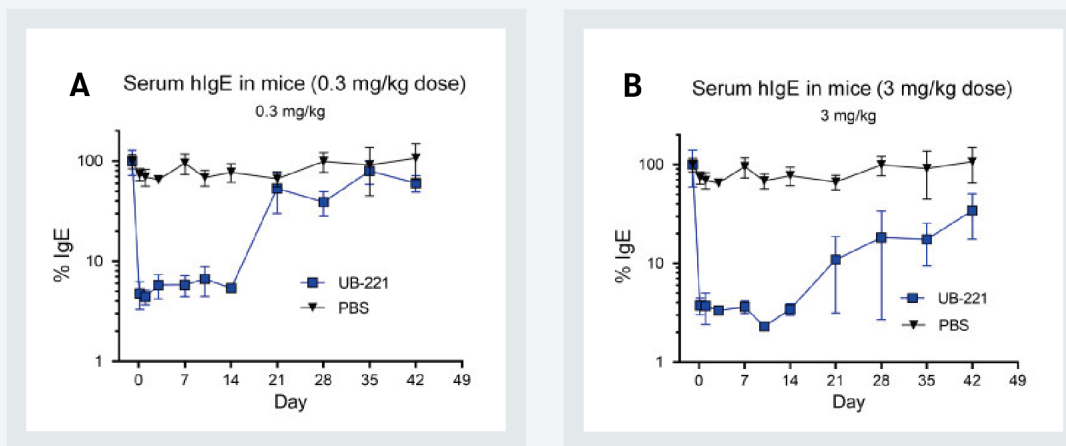
Serum levels of immunoglobulins of different isotypes in the three genotypes of mice that were immunized at day 1 and day 29. The data shows H ϵ κ KI mice were with a higher level of hIgE and similar levels of other IgG isotypes.



Case study – Drug development

The customer who worked on chronic spontaneous urticaria (CSU) drug development utilized the hIgE transgenic mice model to comprehend the level of serum free-chimeric-IgE.

In these mice (N=6), UB-221 can significantly lower the elevated serum free-chimeric-IgE level by more than 90% after a single intraperitoneal injection of 0.3 mg/ kg (Figure. A) or 3.0 mg/ kg (Figure. B).



Kuo BS, et al. IgE-neutralizing UB-221 mAb, distinct from omalizumab and ligelizumab, exhibits CD23-mediated IgE downregulation and relieves urticaria symptoms. *J Clin Invest.* 2022 Aug 1;132(15):e157765.

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