Title: IGNX001 Abrogates Peanut-mediated Mast Cell Degranulation and Murine Anaphylaxis

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Rationale: New treatment paradigms are urgently needed in peanut allergy where the standard of care is allergen avoidance and rescue epinephrine. While promising in some patient subsets, desensitization through chronic allergen exposure is challenged by compliance, adverse events, and long timelines for achieving desired outcomes. Peanut allergic individuals would greatly benefit from a therapeutic that avoids these challenges.

Methods: IgGenix developed IGXN001 as an allergen-specific, IgG4-based antibody treatment for peanut allergy starting from allergic-patient-derived monoclonal IgE antibodies. To assess the potency of IGNX001, in vitro and in vivo experiments were performed. The ability of IGNX001 to competitively inhibit polyclonal IgE in human peanut allergic plasma from binding recombinant Ara h 2 was assessed using a blocking ELISA. The ability of IGNX001 to inhibit cellular degranulation was evaluated in mast cell activation tests. Lastly, the efficacy of IGNX001 was evaluated in a model of peanut allergy wherein mice were sensitized and challenged with whole peanut extract via oral gavage.

Results: On average, IGNX001 completely inhibited rAra h 2 binding to IgE across 5 peanut allergic plasmas and significantly inhibited peanut-mediated mast cell activation for 19 peanut allergic plasmas. In the mouse peanut allergy model, IGNX001 significantly and dose-dependently prevented severe anaphylactic response to peanut challenge.

Conclusions: IGNX001 is a promising candidate for competitively inhibiting peanut allergen binding to IgE, thereby preventing IgE-mediated effector cell activation. Furthermore, as an allergen-specific IgG4-based antibody treatment, IGNX001 is expected to provide protection against accidental exposure to peanut within days of administration.

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