



Title: IgGenix Antibodies Enable Less Frequent Administration and Rapid Protection Against Accidental Exposure, Addressing the Challenges of OIT in Peanut Allergy

Authors: Thomas R., O'Konek J., Landers J., Lowman H., Croote D.

Current therapy for peanut allergy using OIT calls for daily ingestion of peanut protein which is associated with significant side effects. Successful OIT is a protracted process taking months to reach desensitization. These challenges hinder patient adherence to OIT protocols and discourage patients from seeking treatment.

IgGenix is developing a novel therapy employing engineered high-affinity IgG antibodies targeting immunodominant peanut proteins. IGX001, a two-antibody combination (IGX-0107 and IGX-0109), was tested in a C3H/HeJ mouse model of orally-induced peanut allergy. Following sensitization with intragastric (IG) peanut powder + cholera toxin, mice were treated with IGX001 (10mg/kg SC), vehicle or isotype IgG control. Forty-eight hours later, animals were challenged with 20mg peanut protein (IG). IGX001 showed significant protection against anaphylaxis. Following peanut protein challenge, the maximal drop in rectal temperature was reduced from -2.34 ± 0.46 (vehicle) to $+0.11 \pm 0.18^\circ\text{C}$ (IGX001); anaphylaxis score fell from 3.0 ± 0.27 (Vehicle) to 0.5 ± 0.27 (IGX001) and serum MCPT-1 levels decreased from 167 ± 32 (vehicle) to $33 \pm 13 \text{ng/mL}$ (IGX001) ($P < 0.001$). Responses to isotype control IgG were not significantly different from vehicle.

The pharmacokinetics of the two components of IGX001 were evaluated over 28 days following SC administration in cynomolgus monkeys. IGX-0107 and IGX-0109 had half-lives of 15.9 and 11.2 days, respectively. Using conventional allometric scaling these data predict human half-lives of 33.6 and 23.6 days.

IGX001 promises rapid onset of action and extended period of protection against accidental ingestion of peanuts in allergic patients, overcoming the challenges associated with OIT protocols and offering an attractive option to individuals who might otherwise avoid treatment.