

Supplementary Table S1. Definition of the main immunological reactions, IgE mediated and not.

REACTION	DEFINITION
Allergy	Hypersensitivity to a substance, causing the body to react to any contact with that substance. Individuals are considered to have clinically significant allergy or allergic disease when they have both allergen-specific IgE and develop symptoms following exposure to the allergen [13]
Atopy	Genetic predisposition to exaggerated immune response to allergens, leading to CD4+ Th2 differentiation and overproduction of IgE [13]
Sensitization	Production of allergen-specific IgE, not necessarily resulting in allergic reaction since individuals may produce IgE to allergens in a given substance, without developing symptoms upon exposure to that substance. The reason why some individuals are only sensitized whereas others develop active allergic disease is still unclear [13]
Hypersensitivity	Unintended, exaggerated or inappropriate response of the immune or inflammatory cells against harmless antigens (also by a medication or vaccine), potentially causing consequent tissue damage [14]
Asthma	Chronic inflammatory disease of the airways, associated with hypersensitivity and airway hyper-responsiveness to allergens or physical exercise, leading to recurrent symptoms due to airflow obstruction as wheezing, dyspnea, cough, chest tightness [15,16]
Allergic rhinitis	Common long-standing disorder (often undetected) strongly associated with asthma and conjunctivitis. Classic symptoms include nasal congestion, nasal itch, rhinorrhea and sneezing [15,16]
Anaphylaxis	A severe allergic reaction. Symptoms start very quickly (usually within minutes) and almost always within 4 h of vaccination and typically include hives; swelling of mouth, lips, tongue, or throat, shortness of breath, wheezing, or chest tightness; or low blood pressure or loss of consciousness [15,17]
Anaphylactoid reaction	Severe systemic reactions clinically identical to anaphylaxis, not mediated by over-production of IgE, but through direct activation of complement or non-immune-mediated release of mediators from mast cells and/or basophils [17]
Angioedema	Acute temporary swelling beneath skin or mucosae (lip, tongue, throat, other) [15]
Atopic dermatitis	Chronic, highly pruritic inflammatory skin disease, resulting from interplay between defects in skin barrier function, environmental and infectious agents, and immune abnormalities [15]
Contact dermatitis	Erythematous-papulous persistent skin rash 2–3 days since contact or exposure to an antigen [16]
Urticaria	Transient weal and flare reaction of several skin sites, typically accompanied with itching and usually resolving within 24 hours. Acute urticaria refers to lesions occurring < 6 weeks, whereas chronic urticaria to lesions occurring > 6 weeks. Urticarial lesions usually are present most days of the week [15,16]