

# Allergen Immunotherapy

## History and Future Developments



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### KEYWORDS

- Subcutaneous immunotherapy • Sublingual immunotherapy • Indications
- Allergen immunotherapy • Efficacy • Safety • History • Molecular diagnosis

### KEY POINTS

- Allergen immunotherapy (AIT) is a cornerstone in the management of respiratory allergic diseases because it is allergen-specific and immunomodulating and may affect disease progression.
- Sublingual immunotherapy (SLIT) represents a significant advance, offering patients an excellent safety and acceptance profile.
- From a historical viewpoint, in the past three decades there has been an impressive development in this form of treatment, which has lasted more than 100 years.
- The most promising fields are the use of AIT in food allergy, preventative effects, and improvement of routes of administration and standardization of extracts and protocols.

### THE HISTORICAL PERSPECTIVE

AIT was introduced into clinical practice more than a century ago by Leonard Noon,<sup>1</sup> with the aim of “vaccinating” against hypothetical “aerogenic toxins”. Despite the wrong rationale, the subcutaneous immunotherapy (SCIT) with pollen extracts was effective in reducing hay fever symptoms. Subsequently, the use of SCIT gradually increased and was progressively extended to other allergens. SCIT remained the only mode of administration for more than 70 years, and its use remained totally empirical until 1965 when IgE was discovered (Fig. 1).<sup>2</sup> The first randomized controlled study on AIT was published in 1954 by Frankland and Augustin,<sup>3</sup> and a few years later, Johnstone and Dutton<sup>4</sup> suggested that AIT could modify the natural history of respiratory allergy, but this fact was not considered for another 40 years. In 1978, the first randomized, double-blinded, placebo-controlled (RDBPC) trial with AIT for hymenoptera venom allergy appeared,<sup>5</sup> showing the superiority of purified venoms over whole-body

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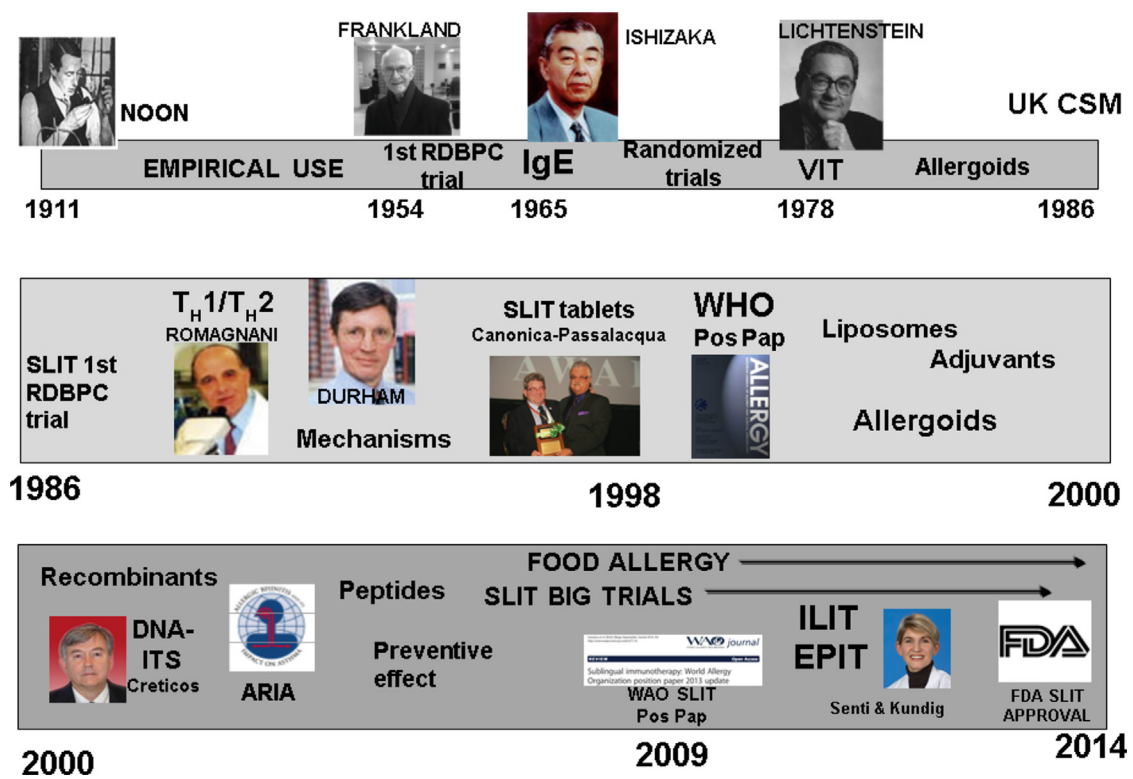
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**Fig. 1.** The history of AIT. ARIA, Allergic Rhinitis and its Impact on Asthma; CSM, Committee on the Safety of Medicines; ITS, immunotherapies; Pos Pap, Position Paper; WAO, World Allergy Organization.

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