

Development of reference materials: Objectives, deliverables and milestones

The Food Standards Agency (FSA) is an independent non-ministerial government department working across England, Wales and Northern Ireland to protect public health and consumers' wider interests in food. Food hypersensitivity (food allergy, intolerance and coeliac disease) is a key priority for the FSA. Since 1994, FSA (and its predecessor department) has invested over £20 million in funding over 60 research projects, as part of its Food Allergy and Intolerance Research (FAIR) Programme [2], [3]. The key themes in the current FSA strategy (2022 – 2027) are 'Food is safe', 'Food is what it says it is' and 'Food is healthier and more sustainable'[4] Food Hypersensitivity is a key element of the [FSA's Strategy 2022–2027](#) which notes "We work closely with food businesses to ensure they understand their responsibilities and embed the management of food hypersensitivity in a strong food safety culture. This means consumers can make safer choices about the food they buy." Hence, providing the means, through appropriate RMs, to improve food allergen analysis aligns with FSA priorities.

The objectives of the present study were as shown in Table 1. The project deliverables and milestones were as shown in Table 2. This report fulfils the final deliverable of the project.

Table 1: Project objectives

Objective	Objective description
1	Identification and characterisation of allergenic food ingredients for use in QC and RMs.
2	Production of the Reference Material kit according to the principles of ISO Guide 34, superseded by ISO 17034:2016
3	Characterisation of the incurred reference material
4	Promote the use of reference materials for method validation and/or calibration with users [dissemination/stakeholder engagement].

Table 2: Project deliverables and milestones

*By agreement with FSA certain deliverables target dates were relaxed.

Deliverable	Target date	Title of deliverable or milestone	Deliverable achieved
D1.1	31/02/2018	Publication regarding allergen targets including verified allergen sequence databases.	Achieved
D1.2	31/12/2018	Publication on characterization of exemplar tree nut ingredients (hazelnut, walnut, almond).	Achieved
M1.1	28/02/2018	Kick-off meeting and stakeholder workshop.	Achieved
M1.2	31/03/2018	Ingredients sourced	Achieved
M1.3	31/05/2018	Total protein determination completed	Achieved
M2.1	31/07/2018	Food matrix produced	Achieved
M2.2	31/10/2018, amended to 31/03/2019	Incurred material produced	Achieved

Deliverable	Target date	Title of deliverable or milestone	Deliverable achieved
M1.4	31/08/2018	2D-page characterization completed.	Achieved
M3.1	31/08/2018, amended to 30/04/2019	Homogeneity assessment for incurred material completed	Achieved
M1.5	31/10/2018	Immunoblotting characterization completed	Achieved
M1.6	31/12/2018, amended to 31/03/2019	MS profiling completed	Achieved
M3.2	31/01/2019, amended to 15/07/2019	Stability assessment for incurred material completed	Achieved
M3.3	31/01/2019, amended to 15/06/2019	Material characterisation completed	Achieved
M3.4	28/02/2019, amended to 01/08/2019	Certification meeting	Achieved
D3.1	31/03/2019, amended to 10/08/2019	Release of Reference Material Kit	Achieved
D4.1	31/03/2019, amended to 10/08/2019	Promotion of Reference Material Kit	Achieved and in progress
D4.2	31/03/2019, amended to 10/08/2019	Preparation of publication describing the production of the Reference Material. Delivery of final report to FSA.	Achieved