

SATIN como caso de éxito en la Jornada KBBE



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WEB

<http://www.um.es/ito-tecnologia-alimentos>

Investigación

Alimentos funcionales

- Hierro y calcio añadido a zumos "bienestar". Efecto de las vitaminas sobre su asimilación.
- Poder antioxidante de postres de frutas rojas.
- Optimización y eficacia de compuestos bioactivos en zumos y néctares.



Alimentos infantiles

- Optimización de la biodisponibilidad mineral y vitamínica en cereales y fórmulas infantiles.
- Simbióticos en fórmulas infantiles: Bifidus y oligosacáridos.
- Aseguramiento de la vida comercial de alimentos infantiles.



Compuestos bioactivos en la dieta

- Optimización de folatos en alimentos: Gazpacho y vegetales.
- Salud cardiovascular y folatos vs. ácido fólico a partir de zumos de frutas y sopas de hortalizas.

Q

Calidad-seguridad alimentos

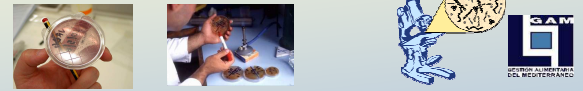
- Calidad de la carne de lubina cultivada y de pesca.
- Aminas biógenas en semiconservas de pescado de alto consumo en la Región de Murcia.
- Tomate y compuestos bioactivos.



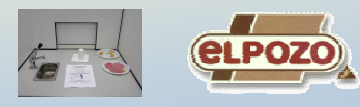
Estudios metabólicos: modelos humano y animal.

Servicios

SEGURIDAD MICROBIOLÓGICA DE ALIMENTOS



ANÁLISIS SENSORIAL



ANÁLISIS NUTRICIONAL





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cost 99

(1995-1999)



(1999-2004)



<http://www.ifr.ac.uk/folate/>



(2005-current)



(2007-2011)



<http://www.lyocard.com/>



(2012-2016)



<http://www.satin-satiety.eu/>



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IBFED (PL 96 3202)

Bioavailability of iron from European diets

European Commission. Research Directorates.
FAIR PROGRAMME 94-98.

Rating: B

Coordinator: IFR (H. Crews)

QLRT-2000-00267

Cardiovascular health in Europeans: improving consumer access to B vitamins.

•European Commission. Research Directorates.

•Quality of Life and Management of Living Resources.

•Key Action 1: Food, Nutrition and Health. 2000-2004.

•Rating: 3

•Coordinator: U Sheffield (H. Powers)

EUBVITS: Cardiovascular health in Europeans: improving consumption and access to B vitamins.

ALCHEL: Allergy in children and elderly in Europe: identification of risk factors for development and decrease of food allergy and experimental evaluation of probiotics supplementation as protective therapy.

MARFOOD: International database (o platform) for marine resources to be applied in the food industry.

289263 "Healthy Foods" FP7-KBBE-2011-5

Overcoming technical, consumer and industry barriers to salt, fat and sugar reduction in processed foods



Childhood Risk Factors for Adult Osteoporosis

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VEGETALES	ALIMENTOS FUENTE	ALIMENTOS A INCLUIR	EFFECTOS BENEFICIOSOS
• Folatos	Vegetales verdes y otros potenciales	Néctares	ECV reducción de homocisteína/Cáncer
• Licopeno	Tomate y alimentos de pigmentación rojo-anaranjada como sandía, papaya, pomelo rosa, guayava rosa,...	Zumos y néctares	ECV
• Fenólicos	Vegetales	Néctares	ECV/Envejecimiento
• FOS	Achicoria, legumbres,....	Néctares, lácteos	Efecto bifidogénico. Prevención de cáncer (muerte celular)

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LACTEOS	ALIMENTOS FUENTE	ALIMENTOS A INCLUIR	EFFECTOS BENEFICIOSOS
•GOS	Leche	Fórmulas infantiles	Efecto prebiótico/regeneración celular/ absorción de nutrientes (Ca/Mg)/mineralización
•Peptidos activos	Leche	Fórmulas infantiles	Relajante (actividad opioide)
□α-Lactoalbúmina	Leche	Fórmulas infantiles	Efecto prebiótico/regeneración celular/
•Nucleótidos		Fórmulas infantiles	Efecto prebiótico/absorción hierro/mejora sistema inmune
•DHA		Fórmulas infantiles	Mejora agudeza visual/desarrollo neuronal

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Nature of the call: Background

KBBE.2011.2.3-04: Satiety control through food structures made by novel processing

Background - Area 2.2.3 Food processing

Optimising innovation in the European food industry through the *integration of advanced technologies* into *traditional food production* including *fermented food, tailored process technologies* to *enhance the functionality, quality* and *nutritional value of food* including *organoleptic** aspects in food production *including new foodstuffs*.

* Enhancing sensory properties (taste, colour, odour and feel) of food through processing

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Nature of the call: Specific Aims

KBBE.2011.2.3-04: Satiety control through food structures made by novel processing

1. To **develop food products** that help regulate food intake by **accelerating satiation during a meal, enhancing satiety, and/or reducing appetite**.
2. The approach to food development should use **novel processing methods** and **guarantee food safety**.
3. The **efficiency** of the foods developed to satiate and/or reduce appetite has to be **proven in human trials** against **biomarkers** of satiety and/or appetite.
4. The **effect of the modified food structure** on **nutrient bioavailability** has to be measured.
5. Multidisciplinary collaboration by researchers in **food processing, nutrition** and **consumer science** with food producing enterprises will be instrumental in reaching the objectives of this topic.

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Nature of the call: Impact

- The European added value lies in **enhanced innovation** capacity in the field of **novel processing, broader application of the relevant technologies** by the food industry, and **improved competitiveness** of the European food industry.
- The expected project results should clearly be of **interest and potential benefit to SMEs. A strong participation of SMEs** in the project itself should help contribute to the realisation of that benefit.
- The development of food products for the control of satiety and/or appetite forms part of preventive strategies to **reduce the burden of chronic disease** among the European population.
- The research will contribute to **European health policy**, in particular the 'strategy for **European nutrition, overweight and obesity-related health issues**'.
- **New and/or improved food products** of high quality and **safety** will enlarge the range of processed foods in order to help consumers achieve a balanced diet.

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*Funding scheme: Collaborative Project
(large-scale integrating project targeted to SMEs).*

Additional eligibility criteria:

- The requested European Union contribution shall not exceed **EUR 6,000,000**.
- SME-targeted Collaborative Projects will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is **35 % or more** of the total estimated EU contribution for the project as a whole.
- *This will be assessed at the end of the negotiation, before signature of the grant agreement.*
- **Proposals not fulfilling this criterion will not be funded.**

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- *WHAT ARE THE GOALS OF THE CALL?*
 1. Develop safe and effective satiety-enhancing food products (**NEW OR IMPROVED**) using novel processes to modify food structure.
 2. Effects of changes in food structure on bioavailability have to be measured.
 3. The efficacies of foods have to be proven in clinical trials with valid biomarkers. Both fermentation (**gut**) and sensory properties (**head**) must be addressed.
 4. This must
 - 1) have clear impact on innovation and competitiveness,
 - 2) have substantial SME involvement,
 - 3) contribute to health and improve diet.

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- *EC Objective and Perspective*
 - Maximise **economic benefit from EC funded research**.
 - Policy driven by **knowledge based economy**.
 - Europe has too much research that does not deliver on its economic impact
 - Strengthening **funding to SMEs**.
 - This proposal has a particularly **high SME threshold**.
 - The more budget to impact. **SMEs the better**
 - **No** route forward to **economic outcome = no funding**.

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Consortium thinking

Individual mission distorts proposal

- Think goal / product first.
- How is this achieved by working together?
- What benefits does working together bring?

- All partners should make a significant contribution
- BUT we need to build consortium and allocate roles and budget to fulfil goal.

Balance

- Balance of budget
- Balance of roles
- Balance of EU partners
- Balance of effort
- Balance in work distribution
- What are the strengths (and weaknesses) of SME, academic and industry partners?
- What do we each uniquely bring?

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SMART OBJECTIVES

SPECIFIC:

Be precise about what is to be achieved.

MEASURABLE:

Quantifiable and verifiable.

ACHIEVABLE:

Must be possible to achieve with reasonable effort within the limits of what is practically possible (budget and timescale)

RELEVANT:

- Meaningful in relation to the work programme
- Related to the overarching project goal
- Sensible to all partners
- Relevant to the people the objective is targeted at

TIME-RELATED:

Define deadlines (e.g. month 12 or Q4 2013)

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- *Deliverables*
- Tangible results of a project task's activities directly linked to the objective.
- Simply list the deliverable and month of delivery.
- Should be goal-oriented not just performing a task.
- Are used by the EU to monitor progress.

What can they be?

Functional demonstrator (prototype, test bed, validated model, software, pilot project, material samples)

Process (recipe, manufacturing process)

Document (report, manufacturing protocol, SOP)

Data (data log, database, algorithm)

IPR (patent application, trade secret)

Dissemination (training material, video, slides, website)

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- *Milestones*

Indicate points in time when important deliverables need to be finalised and important decisions on further work made.

Deliverable = tangible result

Risk assessment

What are the likelihoods of failure and how will they be dealt with?

1. What is the potential risk?
2. What is its severity?

Milestone = time related (Go / No Go)

Risk should be linked to milestones and go / no go decision contingencies

3. What is its probability?
4. How will solved.

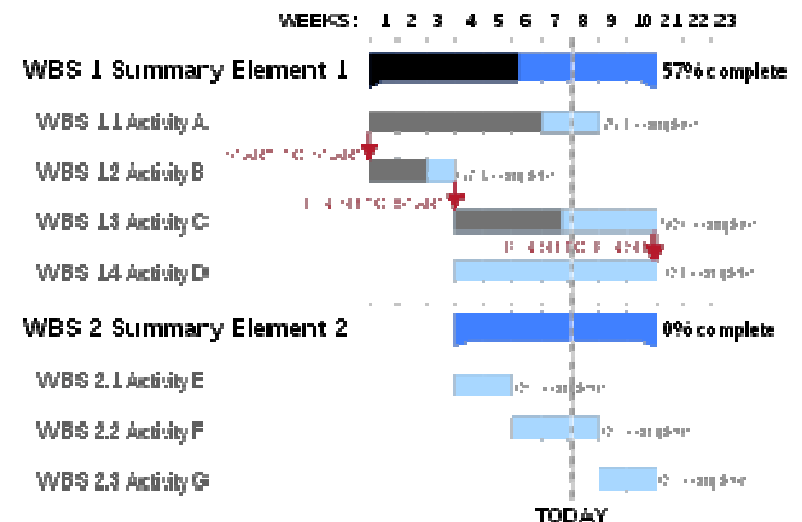
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- *Work Package Leaders*
- Ask members to think of the end goal of the work program
- Don't start by planning full package but work back from end goal
- Define a series of deliverables and their associated tasks - capture info on 'postits' as we go
- Organise post-its into logical order, highlighting any discrepancies and, if possible, task responsibilities and durations
- Formulate a GANTT chart that should inform costs etc.

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Partners

- Familiarise yourself with EU FW7 goal.
- Think goal, then objectives, then deliverables and tasks.
- We know you are interested in more than one WP.
- You can change group half way though the session
- You can also introduce yourself to the WP chair at the end of the session and ask to be included in post meeting discussions.
- Whatever session you finish in help formulate a GANTT chart that will inform costs etc.
- Engage and interact.



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SATIN Participants and Advisory Board

Participants from nine EU countries plus three more represented on advisory board

Participant no. *	Participant organisation name	Participant Short Name	Status	Country
1 (Coordinator)	University of Liverpool	UNILIV	Academic	UK
2	AXXAM S.p.A.	AXXAM	SME	Italy
3	BioActor	BIOACT	SME	Belgium
4	Cargill	CARG	Industry	Belgium
5	Coca-Cola	CC	Industry	Belgium
6	CTAEX	CTAEX	SME	Spain
7	CTC	CTC	SME	Spain
8	Karolinska Institutet	KI	Academic	Sweden
9	NIZO	NIZO	SME	Netherlands
10	ProDigest	PRODI	SME	Belgium
11	RTD Services	RTDS	SME	Austria
12	University of Aberdeen	UNIABN	Academic	UK
13	University of Copenhagen	UCPH	Academic	Denmark
14	University of Leeds	UNILDS	Academic	UK
15	University of Murcia	UMUR	Academic	Spain
16	University Rovira I Virgili	URV	Academic	Spain
17	Naturex	NATRX	Industry	Spain
18	Juver Alimentación S.L.U.	JUVER	Industry	Spain

7 Academia

7 SMEs

4 Industry



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SATIN Participants and Advisory Board

Industry Advisory Board	Participant organisation name	Country
1	Beneo	Germany
2	Cargill	Belgium
3	Fonterra	Netherlands
4	GlaxoSmithKline	UK
5	Kemin	Portugal
6	Sensus	Netherlands
7	Kraft	France

7 Advisory Board



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SATIN Concept

- **Despite advances in**
 1. measurement of appetite expression and its biomarkers
 2. understanding of processes underpinning the satiation and satiety,
 3. understanding the impact of nutrient composition and the physical characteristics of food on eating behaviour,
- **Few satiety enhancing products have successfully remained in the European market**
- Traditional product development, reformulation and incorporation has largely failed to produce effective and appealing products.
- Need to find more innovative ways of enhancing the satiating properties of foods.
- Aim to develop novel foods products through processing innovation for European consumers that will enhance satiety, helping them achieve a balanced diet.



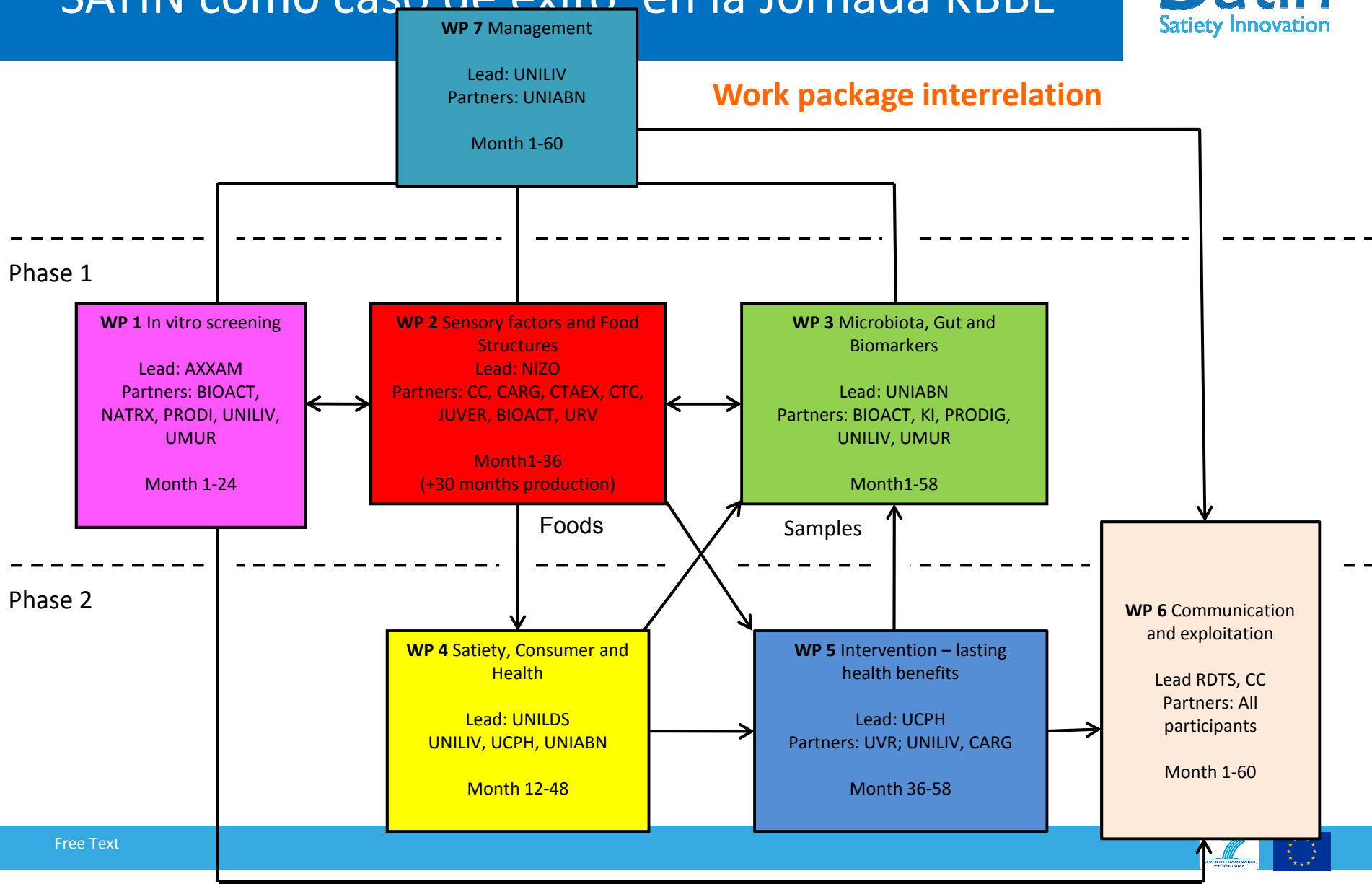
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SATIN Objectives

1. **Integrate advanced technologies to screen novel food structures** through *in vitro* models to isolate and refine products according to their satiating potential
2. **Develop novel food processing technologies** that combine active ingredients and change food structure to produce a range of novel satiety enhancing ingredients.
3. **Produce finished food products** that pass through safety analysis, early sensory evaluation and consumer testing.
4. **Demonstrate the effects of prototype products on biomarkers** of satiety and on nutrient bioavailability using *in vivo* studies and validating new *in vivo* approaches.
5. **Demonstrate the effects of final food products on** within-meal satiation, post-meal satiety and/or reduced appetite and biomarkers of **satiety**.
6. **Demonstrate the enduring effects** of individual food products **on satiety** and potential to induce **weight loss**.
7. **Demonstrate** the long-term **consumer and health benefits** of adhering to a diet containing satiety enhancing products.
8. **Validate health claim** endpoints and **commercialise technologies** and **products**.

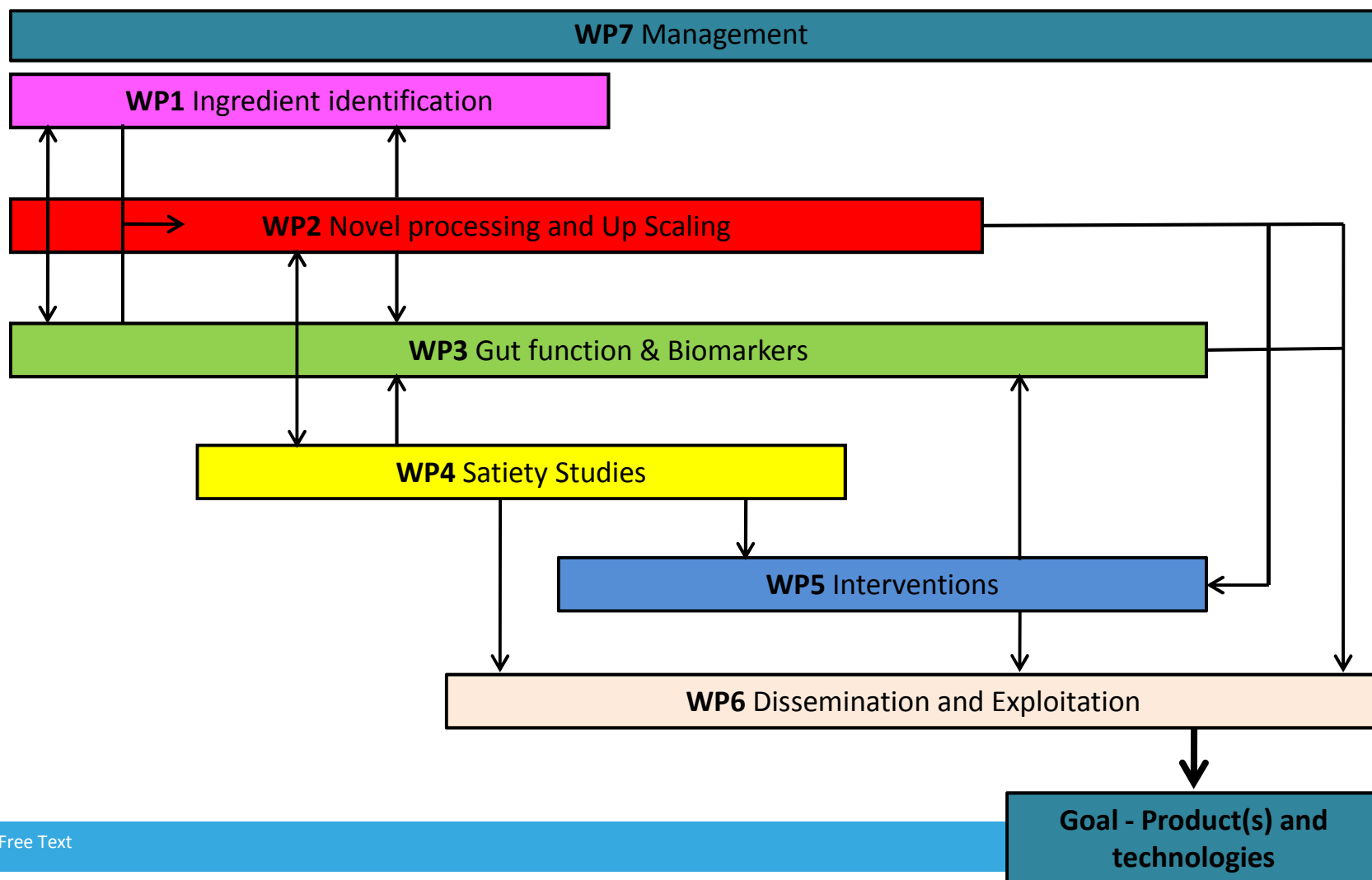
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Work package interrelation

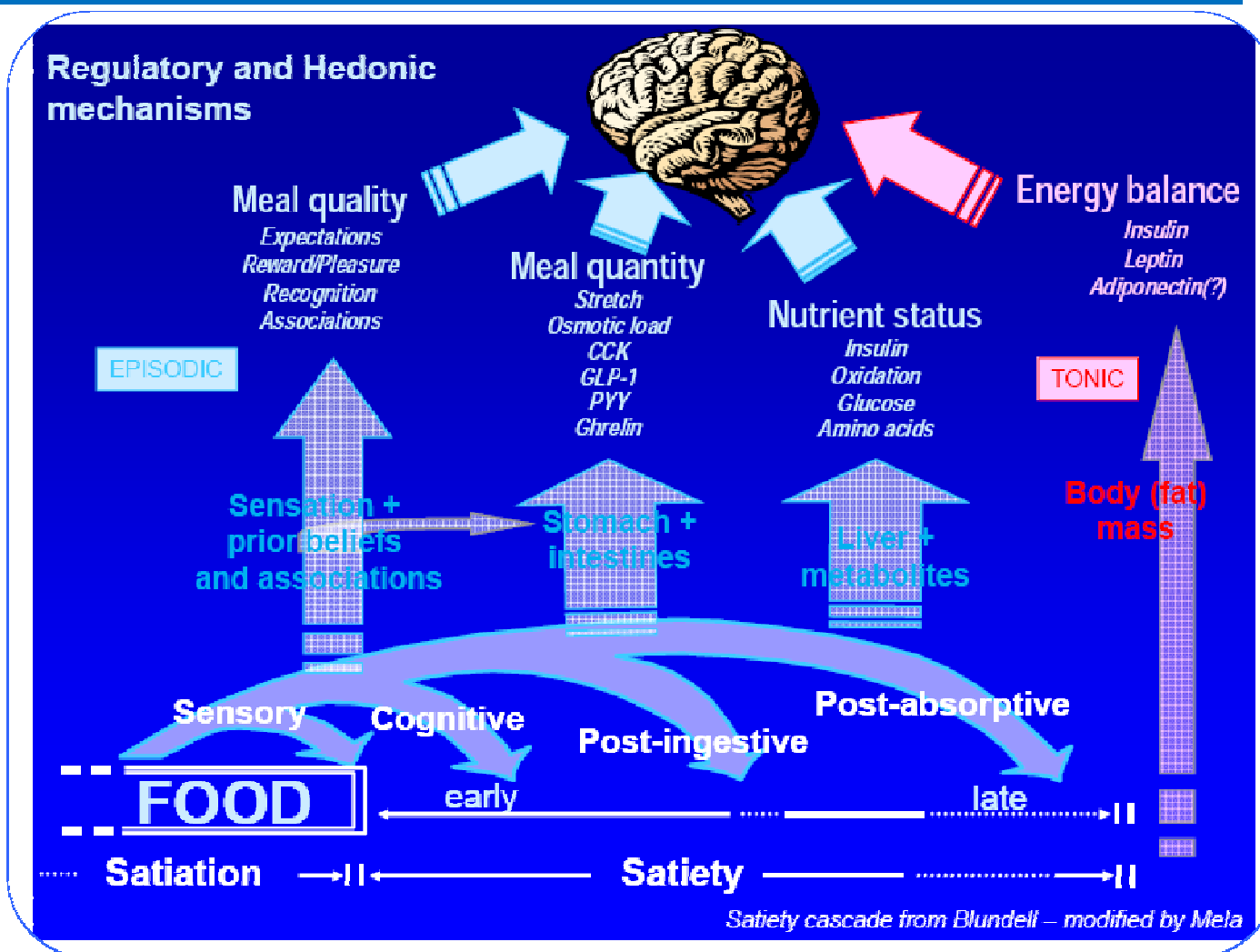


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Work Package Time Lines



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