

AdMIR
*Targeting the Adaptated colonic Microbiota
for a better recovery after Intestinal Resection*



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**INSERM UMR 1149 "Plasticity of gastro-intestinal mucosa in
nutritional pathologies and after surgery (PIMS) "
Inflammation Research Center (CRI)**

2nd FHU Doctoral & Post-Doctoral Seminar
APHP - Hospital Saint-Antoine, Paris

Intestinal failure : Short Bowel Syndrome

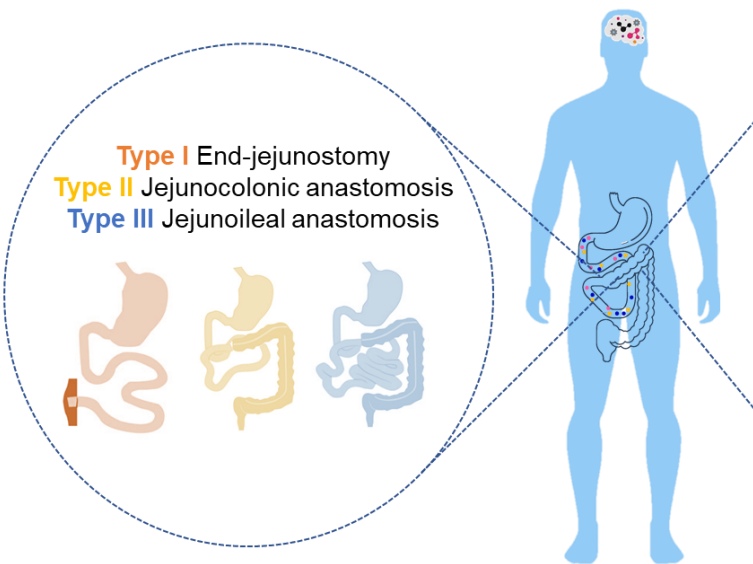
Background

- Intestinal failure is the inability of intestine to maintain energy and absorb nutritional needs.

Short bowel syndrome (SBS)

- Surgical resection with small intestine less than 200cm in length, characterized by diarrhea, nutrient malabsorption and dysmobility.

Surgical Resection



Intestinal failure : Short Bowel Syndrome

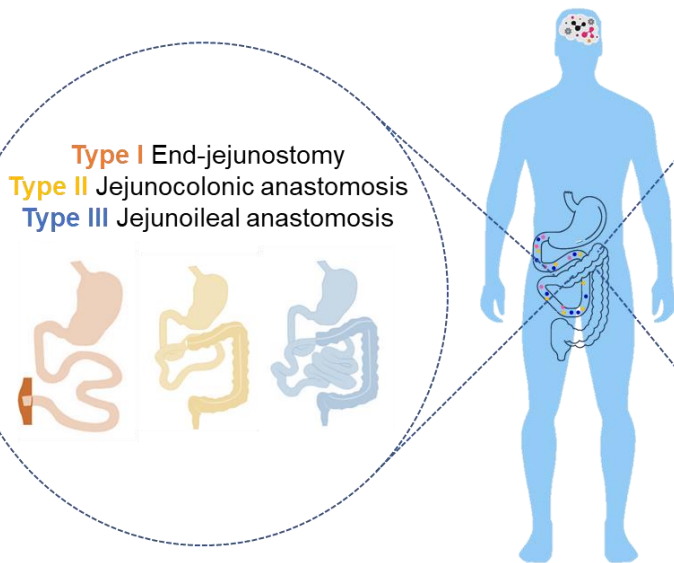
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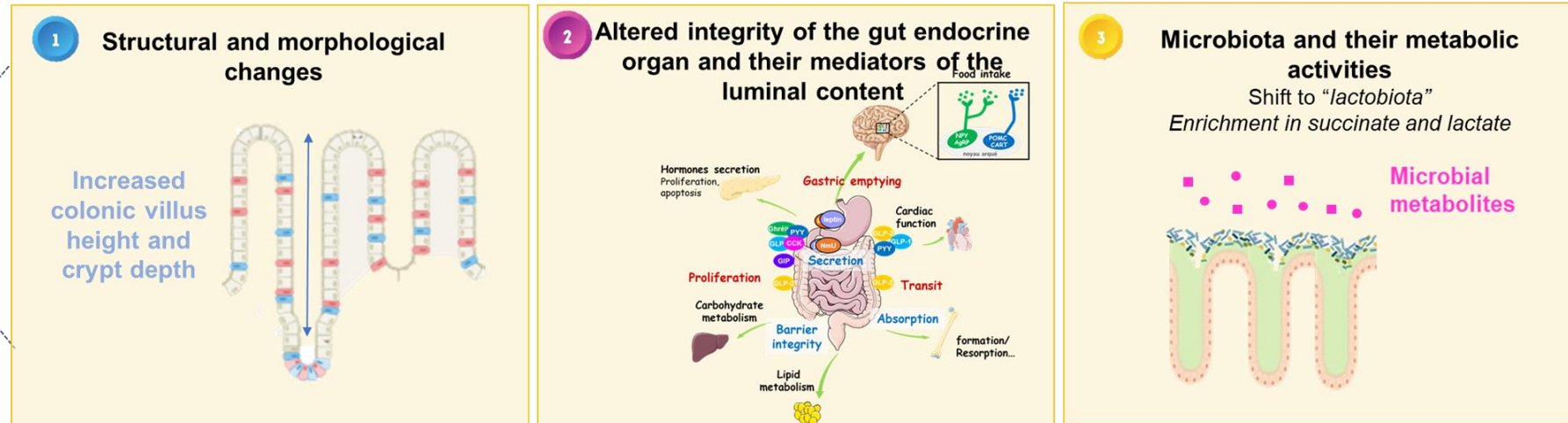
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Surgical Resection

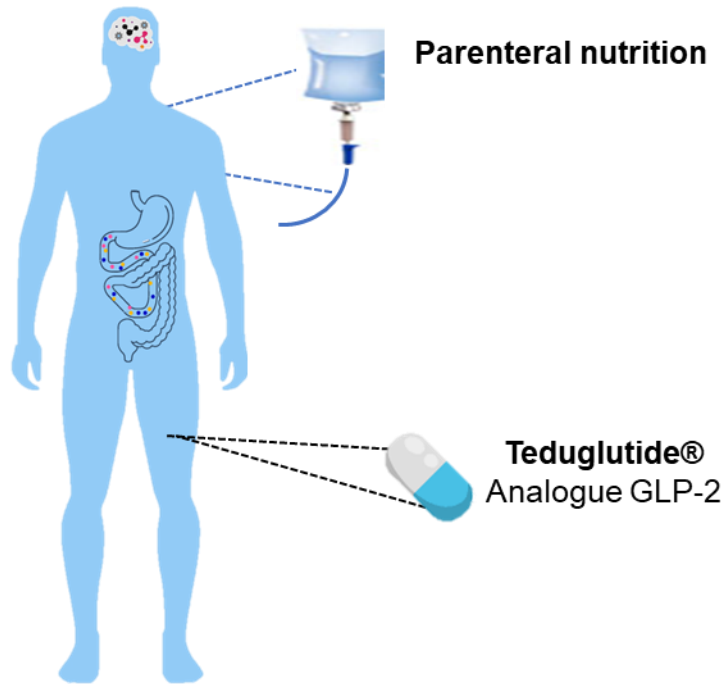


Adaptative Intestinal Recovery

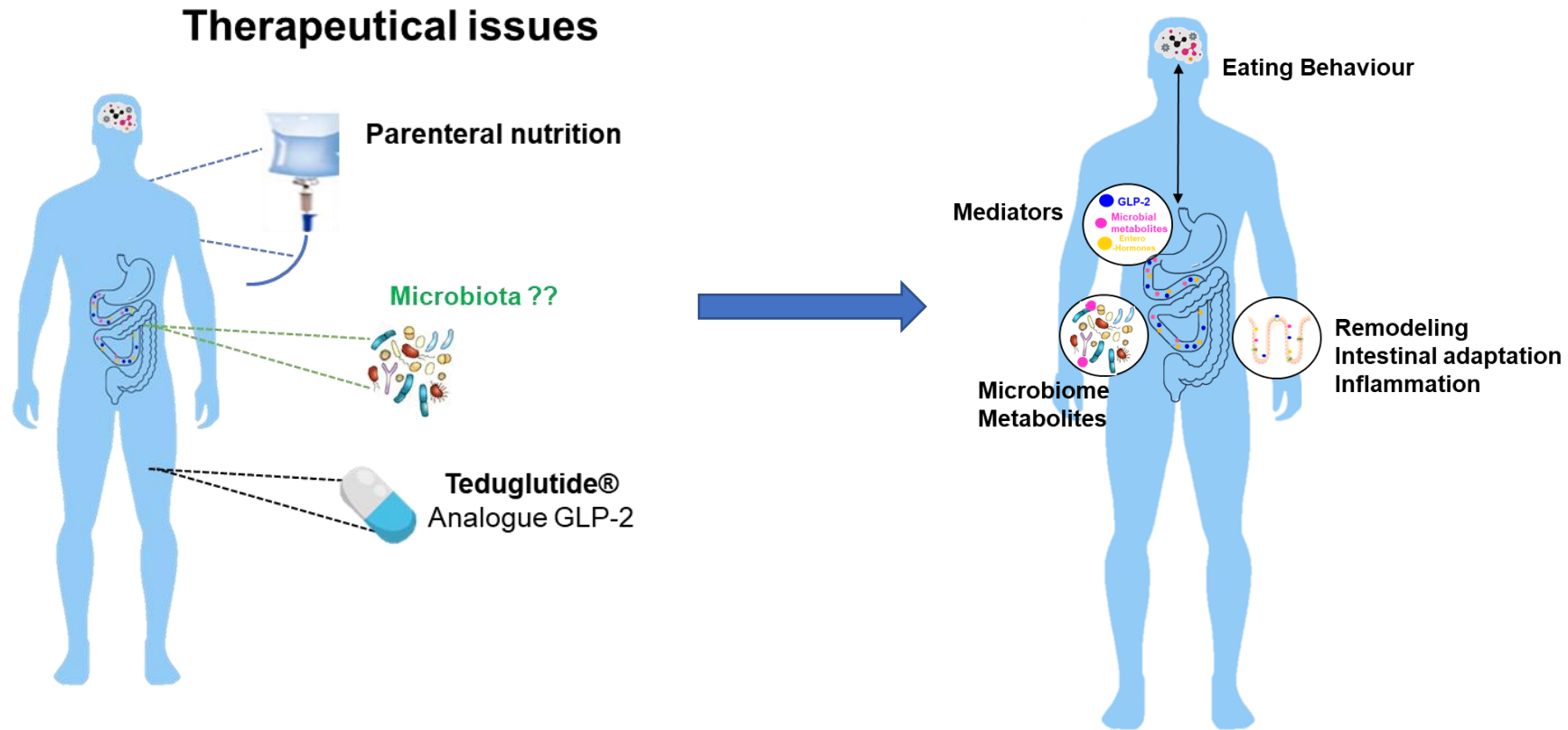


Short Bowel Syndrome (SBS): Therapeutical issues for a better intestinal recovery after resection

Therapeutical issues



Short Bowel Syndrome (SBS): Microbiome, as a new therapeutic target for a better intestinal recovery after resection



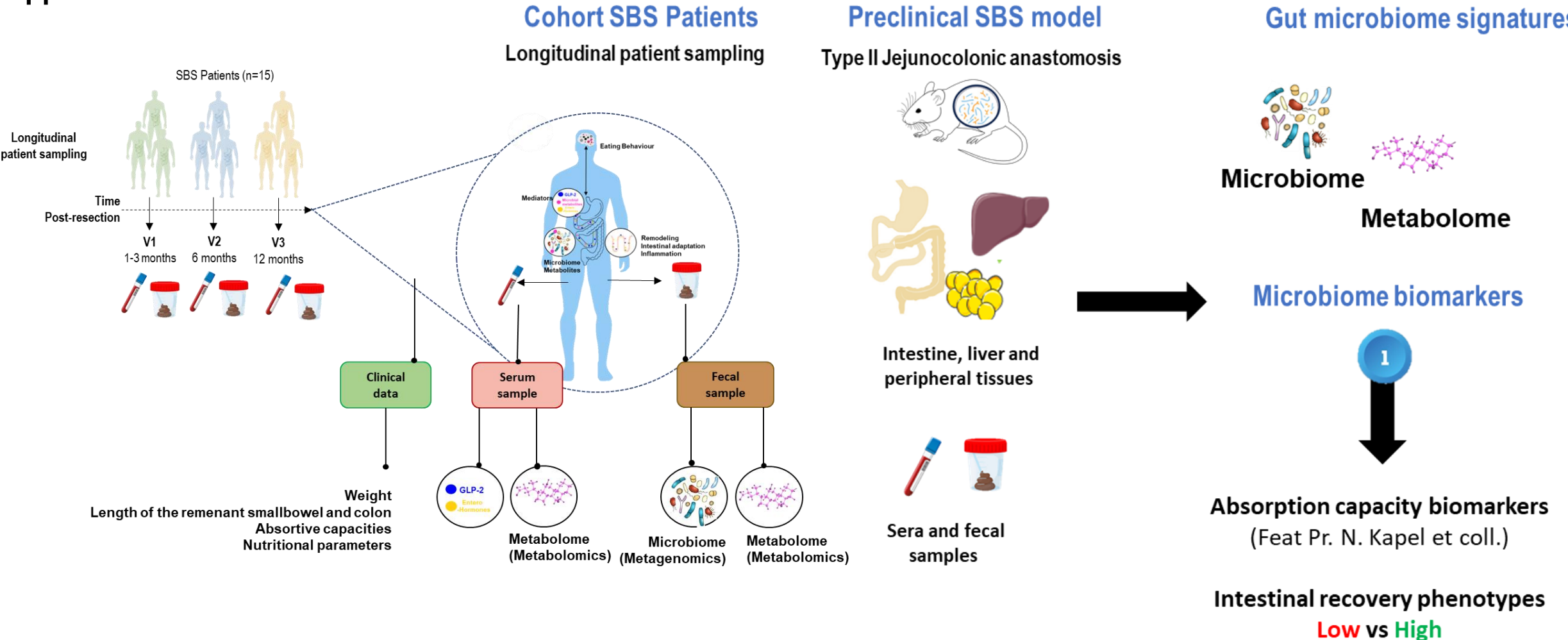
Proof of the concept of the impact of the microbiota in a better recovery after intestinal resection

- 1 Identify the signature and mechanisms by which the microbiota enhance gut adaptation and recovery in SBS after intestinal resection.
- 2 Evaluate the impact of GLP-2 signalling in the mediation, fully or partially, of microbiota effects on adaptation and recovery during SBS.

Elucidation of the microbial biomarkers associated to a better intestinal recovery after intestinal resection

Scientific & clinic coordinators : Dr. Le Beyec-Le Bihan
 Dr. F. Joly
 Pr. N. Kapel
 Dr. M. Thomas
 Dr. Lara Ribeiro-Parenti

Approaches



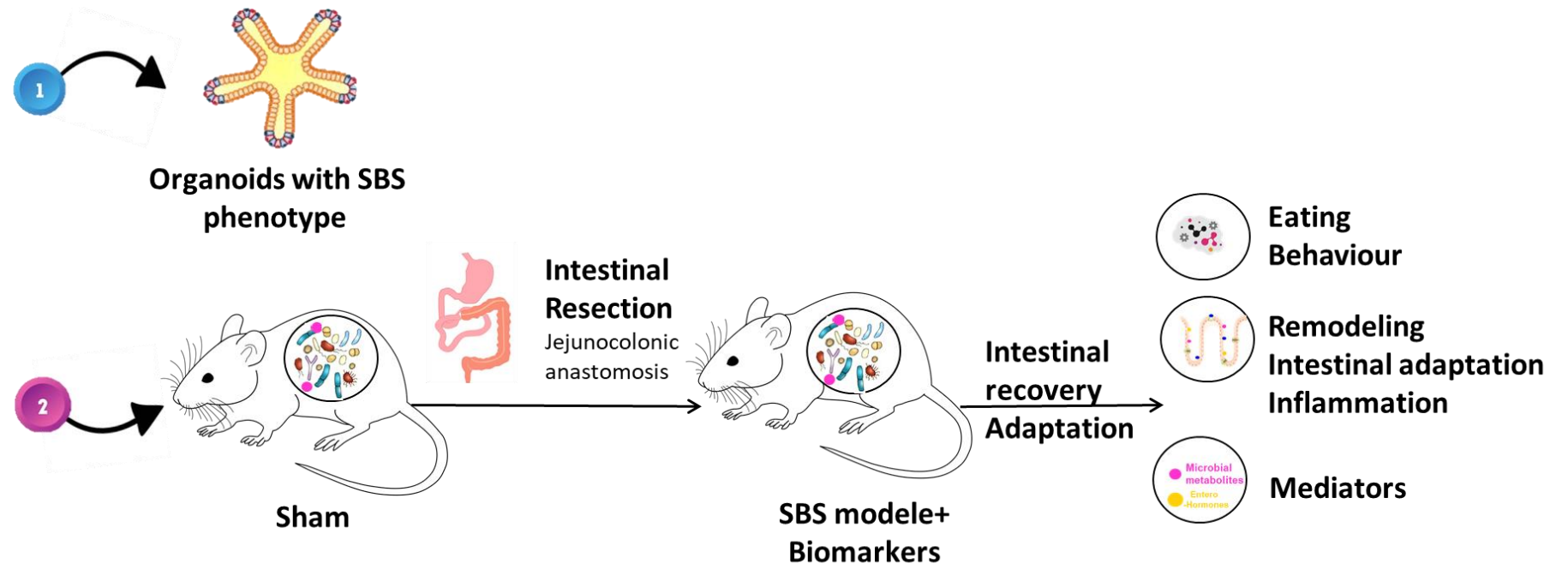
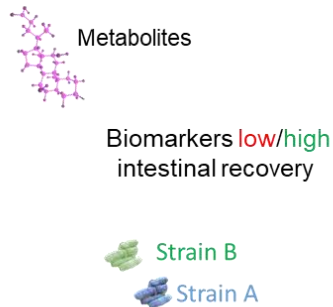
From association to causality: Mechanisms by which the biomarkers affect colonic homeostasis

Scientific coordinators : Dr. Le Beyec-LeBihan
Dr. M. Thomas
Dr. Lara Ribeiro-Parenti
PhD student, A. Guarriges
Dr. M. Bourgin

Background

- Thomas et coll. has constituted a library of 60 strains representing species of lactobacillus dominant in lactobiota from SBS patients.

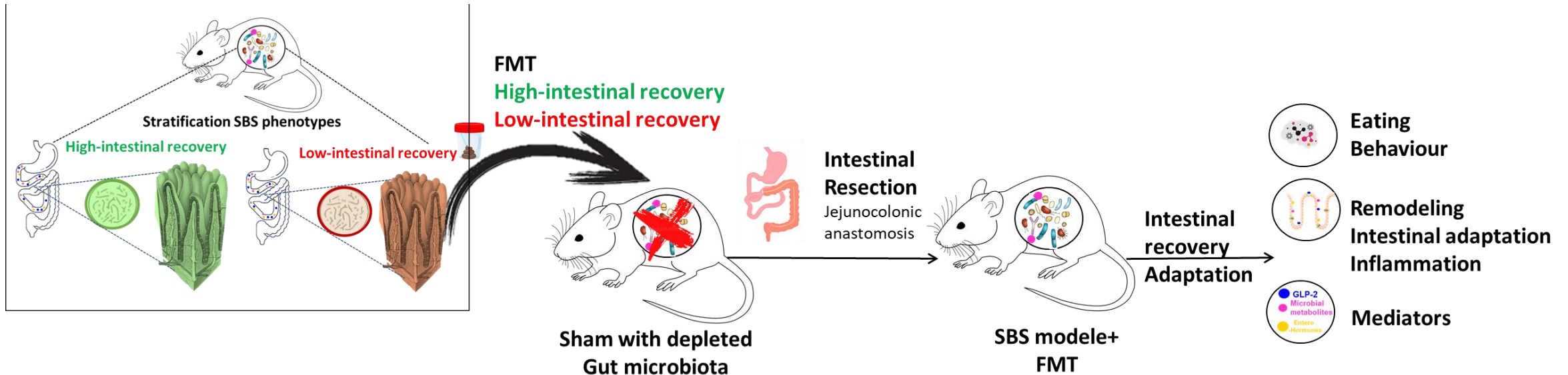
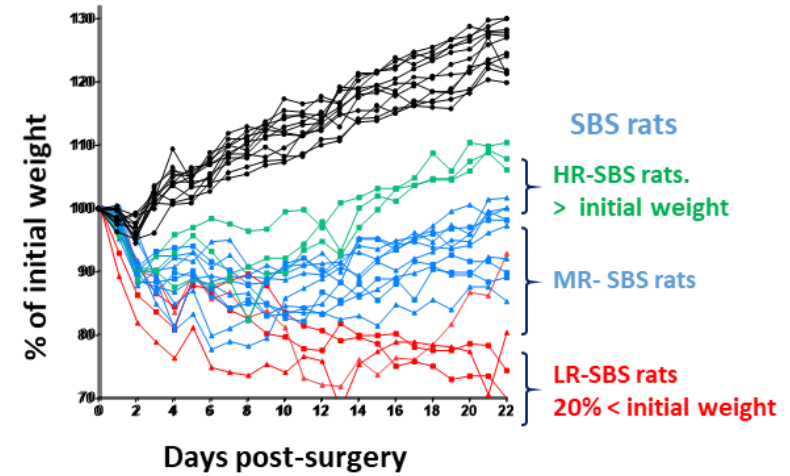
Candidat biomarkers involved in intestinal resection after surgery



Identification of robust biomarkers for microbiome-based stratification of intestinal recovery phenotypes after resection

Background

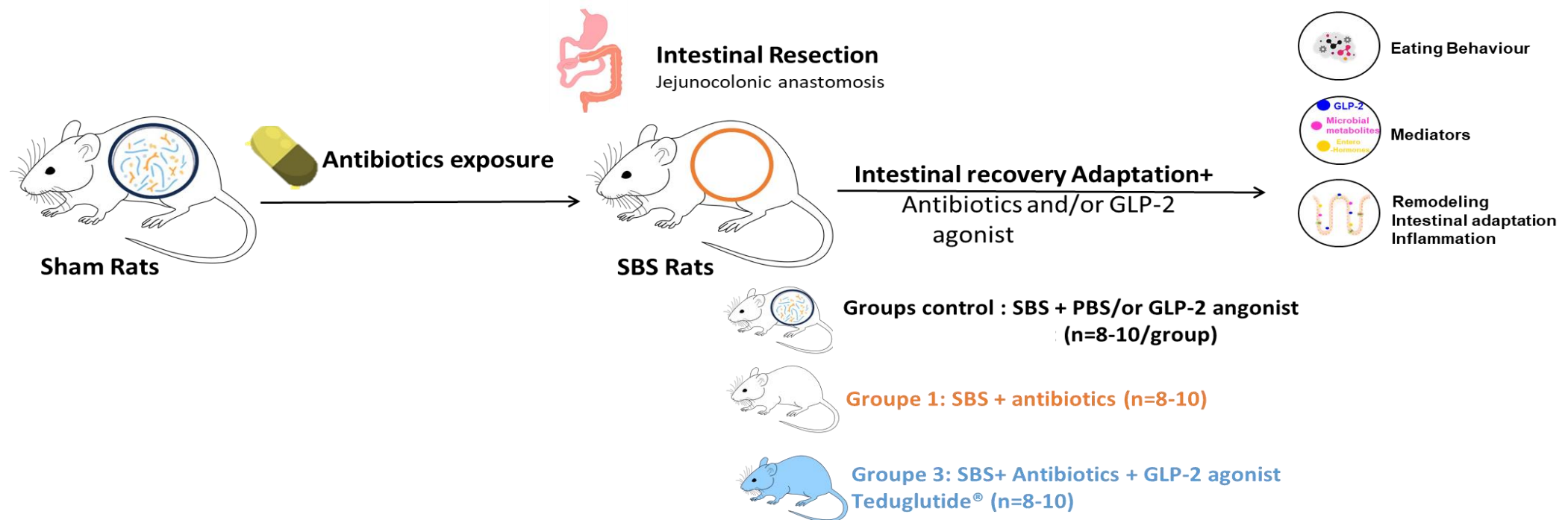
- “Highly heterogeneous disorder with broad variation in disease severity, remnant bowel anatomy and function, and parenteral nutrition requirements in with SBS patients”



Contribution of gut microbiota to intestinal recovery and GLP-2 metabolic function after resection

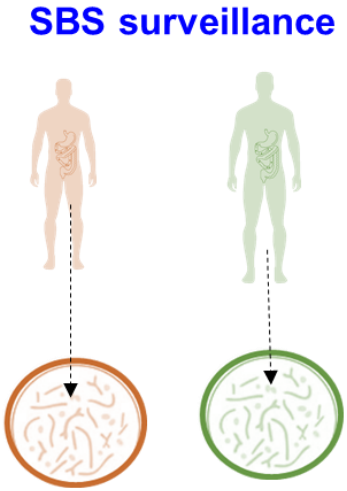
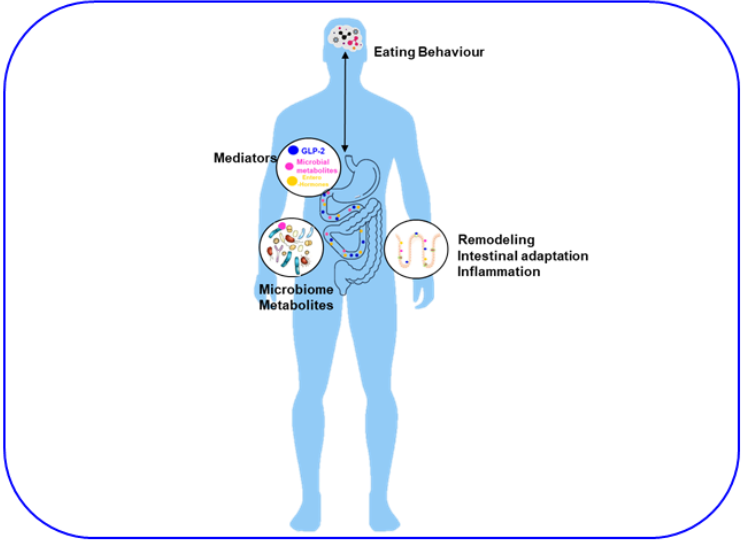
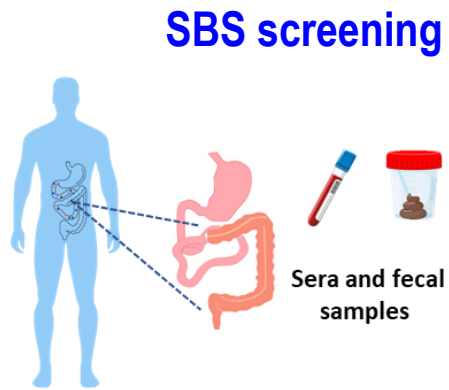
Background

- GLP-2 orchestrate intestine integrity, gut microbiota, immune system and metabolic homeostasis
- GLP-2 analogue, Teduglutide® prolongs the intestinotropic properties of GLP-2 and significantly increased intestinal wet weight absorption in SBS patients.



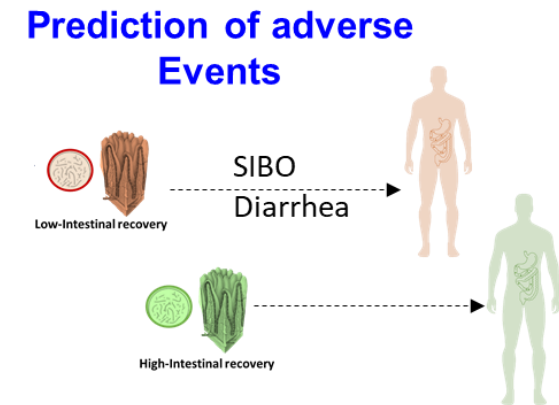
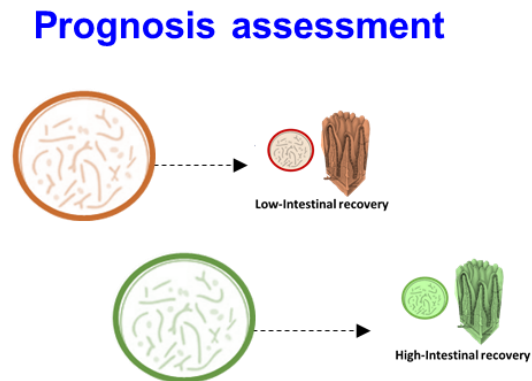
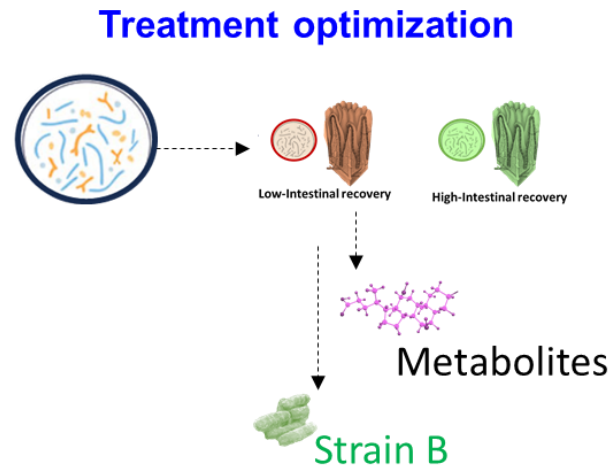
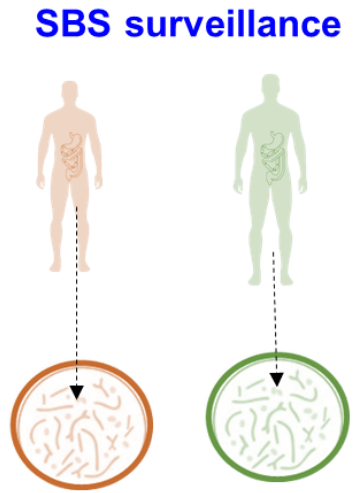
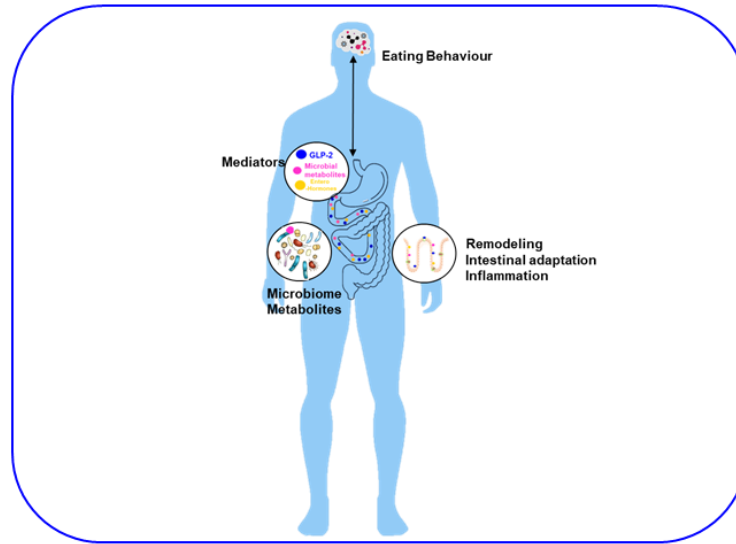
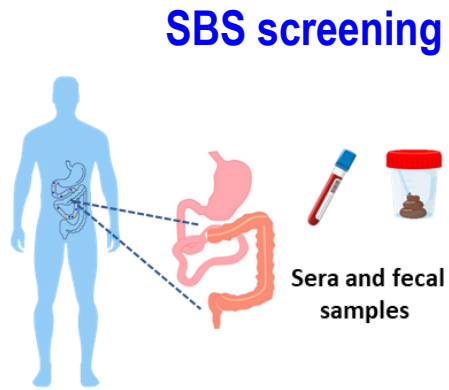
AdMir : Targeting the Adapted colonic Microbiota for a better recovery after Intestinal resection

Microbiota and clinical management of SBS patients



AdMir : Targeting the Adapted colonic Microbiota for a better recovery after Intestinal resection

Microbiota and clinical management of SBS patients



Acknowledgements to all AdMIR project partners



U1149, PIMS team :

Team Leaders

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Le Beyec Le Bihan Johanne
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DMU BioGeM, AHP UMR S1139 :

Pr. Nathalie Kapel



**Plateforme Spectrométrie de masse-
Centre de recherche Saint Antoine-Paris**
Dr Antonin Lamazière



Probihote team:

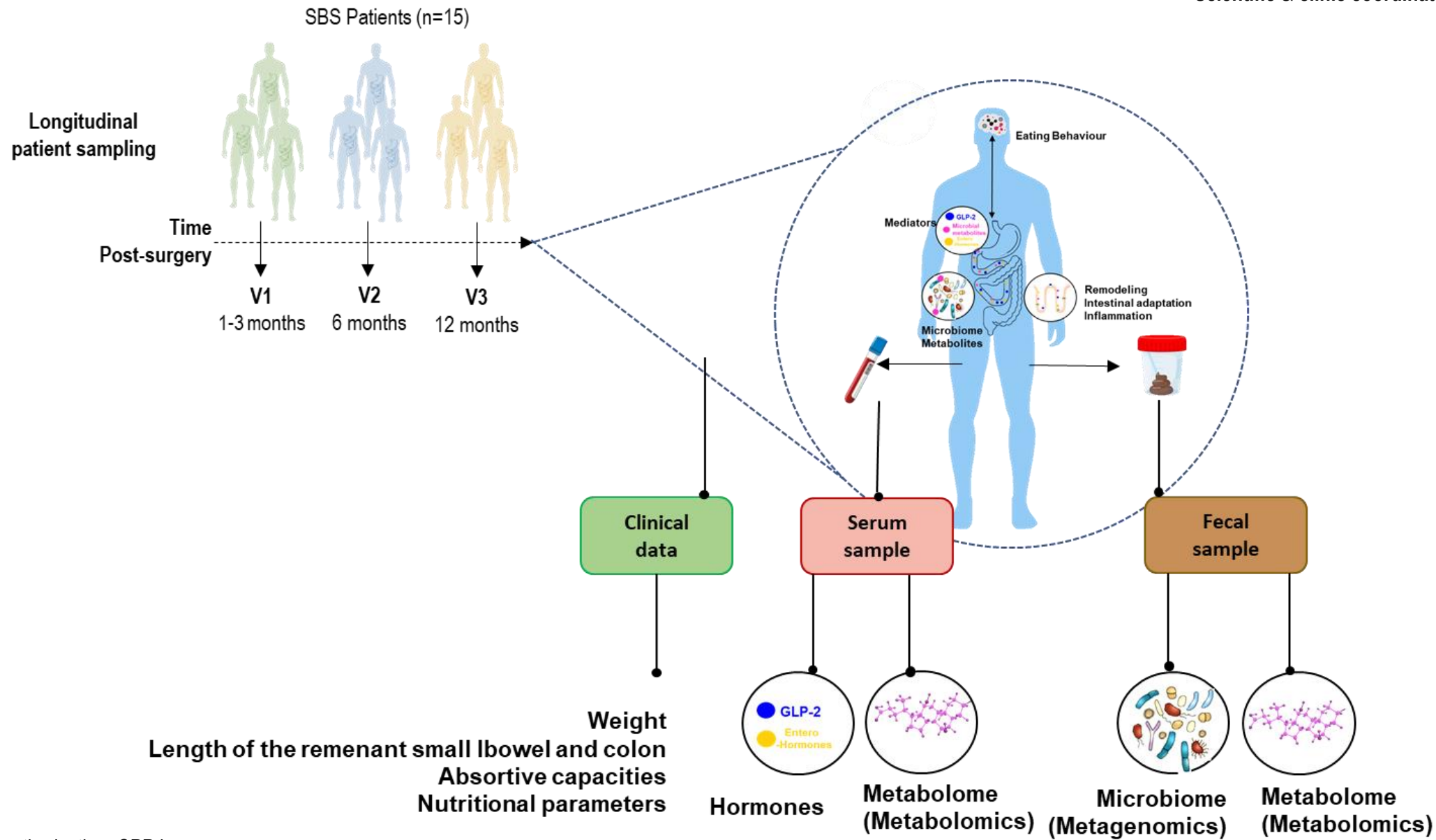
Thomas Muriel
Cherbuy Claire
Bruneau Aurelia
Le Poupon Claire



Unité 1016 Inserm/Institut Cochin
Dr. B. Chassaing

Meta -“omics” reveals potential biomarkers in SBS patients associated to favorable intestinal recovery after surgery

Scientific & clinic coordinators : Dr. Le Beyec-Le Bihan
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Declaration of interests



As the corresponding author of this paper, I make the following declarations on behalf of myself and all other coauthors, if applicable: (Check all that apply)

- The declarations below—indicated by checked boxes—are true to the best of my knowledge.
- I have received confirmation from all other coauthors (if applicable) that the declarations below—indicated by checked boxes—are true to the best of their knowledge.
- None of the authors have (or have had) a relationship involving supervision with any of the above named reviewers.
- None of the authors have (or have had) a relationship involving close friendship with any of the above named reviewers.
- None of the authors are researchers (or were researchers in the past) working within the same institutional department or unit where any of the above named reviewers are (or were at the same time) also working.
- None of the authors are (or have been) research collaborators with any of the above named reviewers.
- None of the authors have coauthored any published articles with any of the above named reviewers.
- The results or views reported in this paper are not particularly supportive of results or views that are reported within published articles authored or coauthored by any of the above named reviewers.