ANEXO I: SEVERO OCHOA RESEARCH LINES

RP1: FOOD FOR HEALTH Understanding how diet affects health and consumer needs, and using this information to develop new foods and dietary recommendations for personalized nutrition, will contribute to disease prevention and consumer-oriented food development. This programme takes a holistic view of the different factors that may be involved. Priority research topics of scientific and social interest which will be addressed through ongoing and future research projects are:

- RP1.1-Food for health: Microbiome and health.
- RP1.2-Food for health: Food Bioactives.

RP2: ENSURING FOOD SAFETY AGAINST EMERGING RISKS: Guaranteeing food safety and evaluating emerging risks in the food chain are vital for future food production and the supply system in a highly interlinked and competitive global economy. Priority research topics within this programme include:

- RP2.1- Ensuring food safety against emerging risks: Detection of biological and chemical.
- RP2.2- Ensuring food safety against emerging risks: New strategies for ensuring food safety.

RP3: SUSTAINABLE FOODS - FROM PRODUCTION TO PRESERVATION Sustainable food production for an increasing population is one of the major challenges we face. This requires the design of more efficient bio-based processes as well as ensuring and prolonging food quality to reduce food waste. The priority research lines which will be developed within this programme are:

- RP3.1- Sustainable Foods- from production to preservation: New ingredients and sustainable packaging materials from waste and biomass valorisation.
- RP3.2- Sustainable Foods- from production to preservation: Improving sustainability food processes.
- RP3.3- Sustainable Foods- from production to preservation: Cell Factories for sustainable ingredients/food production.

RP4: FOOD DATA SCIENCE: Introducing Big Data Science and Artificial Intelligence tools into our research lines in order to make seminal contributions in the Food Science area related to sustainability, health and food safety. This Scientific Goal, probably the most crucial of this strategic plan, deserves further elaboration on how we foresee its potential

- RP4.1- Big Data Science and Artificial Intelligence: Genomic and metagenomics sequencing projects.
- RP4.2- Big Data Science and Artificial Intelligence: Big data and molecular markers for the identification and prediction of behaviour of food-borne pathogens.
- RP4.3- Big Data Science and Artificial Intelligence: Complete genoma-scale models.
- RP4.4- Big Data Science and Artificial Intelligence: Functional genomics and large scale sequencing.
- RP4.5- Big Data Science and Artificial Intelligence: Optimize processing technologies based on integrating existing analytical and materials characterization data
- RP4.6- Big Data Science and Artificial Intelligence: Characterization of the IATA´s Value microbial strain collection- isolate strains