



D-JRP7-5.1 /Workshop program

JRP7 - LISTADAPT

V0.1 15/02/2020

Responsible Partner: Anses Maisons-Alfort



GENERAL INFORMATION

European Joint Programme full title	Promoting One Health in Europe through joint actions on foodborne zoonoses, antimicrobial resistance and emerging microbiological hazards
European Joint Programme acronym	One Health EJP
Funding	This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 773830.
Grant Agreement	Grant agreement n° 773830
Start Date	01/01/2018
Duration	60 Months

DOCUMENT MANAGEMENT

JRP Deliverable/Report number	D-JRP7-5.1
Join Integrative/Research Project	JRP7 – LISTADAPT
JRP Leader / Report main redactor	Sophie Roussel (Anses) /laurent Guillier
Other contributors	
Due month of the deliverable	M2
Actual submission month	M27
Type <i>R: Document, report</i> <i>DEC: Websites, patent filings, videos, etc.</i> <i>OTHER</i>	R
Dissemination level <i>PU: Public</i> <i>CO: confidential, only for members of the consortium (including the Commission Services)</i>	Public



There was no workshop, but discussions during the kick off meeting in March 2018

Kick Off meeting LISTADAPT Project

06/03/2018

ANSES Maisons-Alfort

Bat Monod Salle Pasteur

Agenda:

1. Presentation of partners
2. Aims of the project and associated sampling strategy
3. Discussion and decision on the way to characterize diversity for animal reservoirs
4. Discussion for exploring diversity of Lm in environment
5. Presentation of sequencing methods
6. Presentation of phenotypic methods
7. Presentation of genomic methods (GWAS)
8. Communication strategy
9. Potential interest of non-Listadapt members to participate to the consortium
10. Recruited people



ne HEALTHEJP
Kick Off meeting
LISTADAPT: Adaptive traits of *Listeria monocytogenes* to its diverse ecological niches

Partners

- P1: ANRS (France)**
Food safety laboratory, Salmonella, Listeria Unit (L. Guillier)
Progress Laboratory (C. Soutet, A. Brohier)
Phylogeny laboratory, NGS platform (E. Blanchard)
- P2: AGES (Austria)**
ILM for L. monocytogenes (A. Potluka)
- P3: VNI (Czech republic)**
NHL for L. monocytogenes (E. Karpajová)
- P12: DTU (Denmark)**
Research Group for Economic Epidemiology (E. Hoedstrup, S. Lehtochauhan)
- P18: INRA (France)**
INRA UMR 1287 Agroepidemiology (F. Prentiss)
INRA Clermont UR454 & Plate Forme Proteomique (M. Hildebrand, M. Devaux)
- P28: EDI AM (Italy)**
NHL for L. monocytogenes (E. Pavesio, C. Coma)
- P33: NTH (Norway)**
Department of Bacteriology - Food and OMS (T. Skjerve, E. Lager, L. Nisner)
- P36: NIZ (Dresden)**
NHL for L. monocytogenes (M. Rieck Casaubon)

Background of LISTADAPT

- Listeria monocytogenes*: Ubiquitous saprophyte - facultative intracellular pathogen
- Still a problem for public health: EFSA's opinion of the increase incidence of listeriosis at EU-level (EFSA 2018)

Background of LISTADAPT

- WGS
- Performance epidemiological investigation (Mours et al., 2016)
- Knowledge population structure in food (Henri et al., 2016), in human (Isary et al., 2016)
- Knowledge on virulence - role of CC (strain-specific virulence difference) (Maury et al., 2016)

Far less is known on adaptation in environment, farm, industry (despite numerous investigation on persistence in industry)

4 objectives of LISTADAPT

- Decipher genetic traits linked to adaptation in various ecological niches
- Generate a database of 4000 genomes (mainly farms environment...)
- Develop and implement cutting-edge methodologies (new phenotypic analysis, GWAS)
- Make available common resources for European research

Integrative aspects of LISTADAPT

- Environment - Animal - Food
- Reference activities - Research activities
- Phenotype - genotype
- Sharing data and methodologies

WPs of LISTADAPT

- WP1: Strain collection (existing strains + new sampling)
- Animal
- Country
- Environment, farm, industry

WPs of LISTADAPT

- What has been planned?
- Animal
- Environment
- Food and food production environment
- Human
- What is available?

Strain	Number of Genomes	Number of Strains	Number of Countries
Animal	1000	1000	10
Environment	1000	1000	10
Food	1000	1000	10
Human	1000	1000	10

WPs of LISTADAPT

Strain	Number of Genomes	Number of Strains	Number of Countries
Animal	1000	1000	10
Environment	1000	1000	10
Food	1000	1000	10
Human	1000	1000	10

Additional sampling increase diversity of origin

WPs of LISTADAPT

- Environment
- Farm (potential criteria)
 - Intensive farming area
 - Extensive farming area
- Natural environment
 - criteria (population, agriculture activity and altitude)
 - Seasonality
 - Areas will be defined according to edaphic characteristics (soil texture, chemistry) and vegetation

WPs of LISTADAPT

ID of strains relevant with sampling

- BO-H-FR-1
- BO-I-FR-1
- BO-I-FR-2
- BO-FR-3
- BO-E-AT-1
- BO-E-AT-2

WPs of LISTADAPT

What is available for foods and food production environment and clinical?

- Efsa outsourcing activity
- ANSES/DTU PhD thesis C. Henri
- SVA, Ages, DTU, ANSES...

WPs of LISTADAPT

What is available for foods and food production environment and clinical?

- Efsa outsourcing activity
- ANSES/DTU PhD thesis C. Henri
- SVA, Ages, DTU, ANSES...

WPs of LISTADAPT

- WP2: Sequencing
- Purify DNA from 2000 Lm strains including existing strain and new sampled strains
- Sequence the 2000 strains
- Assembly and annotation
- De Novo assembly

WPs of LISTADAPT

- WP3: Phenotypic characterization
- 200 strains
- Antibiotics and biocides resistance
- Adhesion and biofilm formation
- Survival and persistence in soil microcosm
- Survival in synthetic stomach acid at 37°C
- Growth potential at cold storage temperature, low pH...

WPs of LISTADAPT

What is available for foods and food production environment and clinical?

- Efsa outsourcing activity
- ANSES/DTU PhD thesis C. Henri
- SVA, Ages, DTU, ANSES...

WPs of LISTADAPT

What is available for foods and food production environment and clinical?

- Efsa outsourcing activity
- ANSES/DTU PhD thesis C. Henri
- SVA, Ages, DTU, ANSES...

WPs of LISTADAPT

- WP4: Identification of genetic traits in *Listeria monocytogenes* underlying adaptation to the ecological niches
- Diversity, distribution, prevalence of clonal complexes among the reservoirs
- Genes or genetic mechanisms responsible for adaptation, survival and virulence

WPs of LISTADAPT

- WP4: Identification of genetic traits in *Listeria monocytogenes* underlying adaptation to the ecological niches
- GWAS (SNPs, kmers, genes)
- Niches
- Phenotypes

ne HEALTHEJP

