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PRÉCLINIQUE
EN FRANCE



LES ENTREPRISES
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WEBINAIRE



VIBIOSPHEN

From microbes to One Health

Faire de la France le leader de la R&D en santé



VIBIOSPHEN

From microbes to One Health

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NOTRE ACTIVITÉ

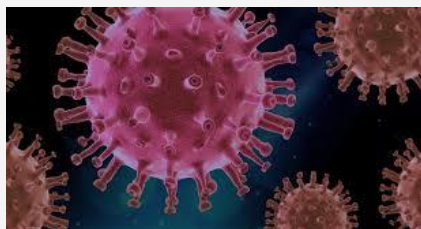
Vibiosphen est une société innovante qui fournit des **services** liés à la **microbiologie** au sens large. Modèles expérimentaux *in vitro* et *in vivo*. Modèles standards et modèles sur mesure.



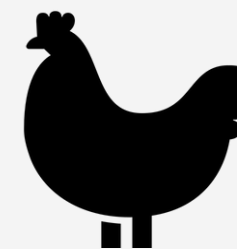
VIBIOSPHEN
From microbes to One Health

- Fondée par Maxime Fontanié en 2014
- Equipe pluridisciplinaire-7 membres: Pharmacologues, Microbiologiste, Ingénieur en génie des procédés industriels, Business developer

One Health Une santé



Santé
humaine



Santé
animale



Environnement

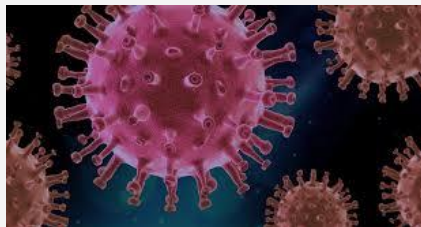


VIBIOSPHEN
From microbes to One Health

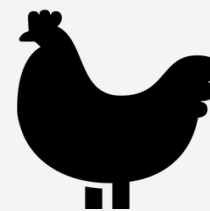
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Microorganisms, friends and foes

Les microorganismes, amis et ennemis



Santé
humaine



Santé
animale



Environnem
ent



Nutrition et
bien-être



Dermo
cosmétique



VIBIOSPHEN
From microbes to One Health

➤ R&D 5-10%



➤ CRO 90-95%

➤ National : 41%

➤ Export : 59%

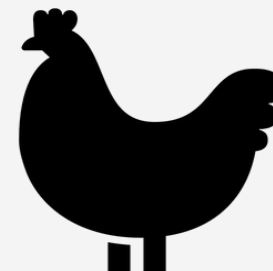




➤ Nos services (focus santé)



Santé humaine



Santé animale



Services and expertise along the drug development journey and TPP

R&D



In vitro testing



3D tissues



MTD - PK/PD



In vivo testing



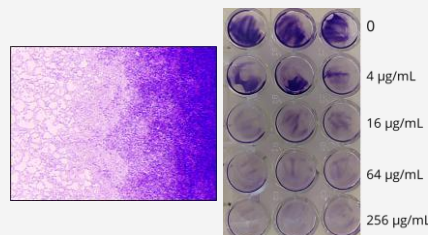
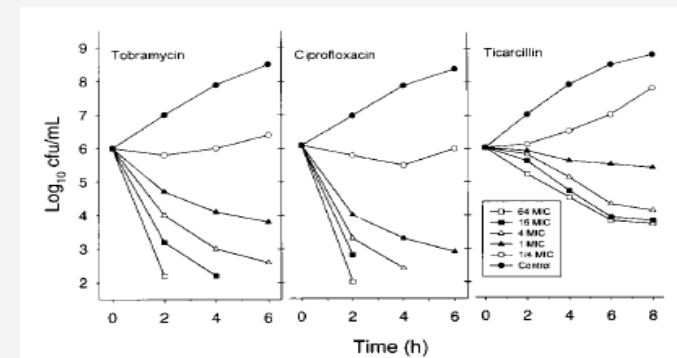
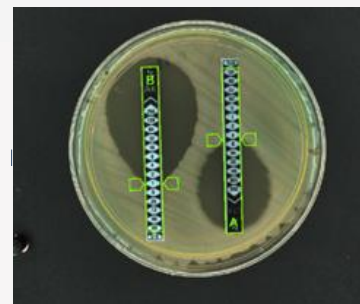
Services and expertise along the drug development journey and TPP



In vitro testing

Antimicrobial susceptibility testing

- ✓ Minimal inhibitory concentration (MIC)
- ✓ Minimal Bactericidal concentration (MBC)
- ✓ Time kill curve (TKC)
- ✓ Turbidity reduction assay
- ✓ Antibiogram
- ✓ Biofilm inhibition

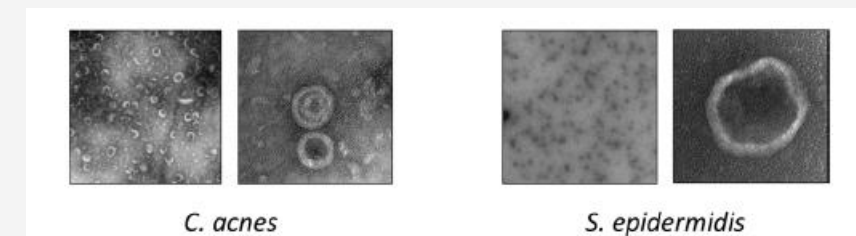
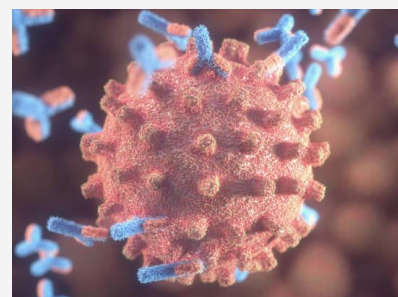


in vitro safety

- ✓ Cytotoxicity

Miscellaneous

- ✓ Opsonophagocytosis
- ✓ Seroneutralization
- ✓ Bacterial genome editing
- ✓ Microbial-derived extracellular vesicles
- ✓ Customized ELISA development





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Services and expertise along the drug development journey and TPP



In vivo testing

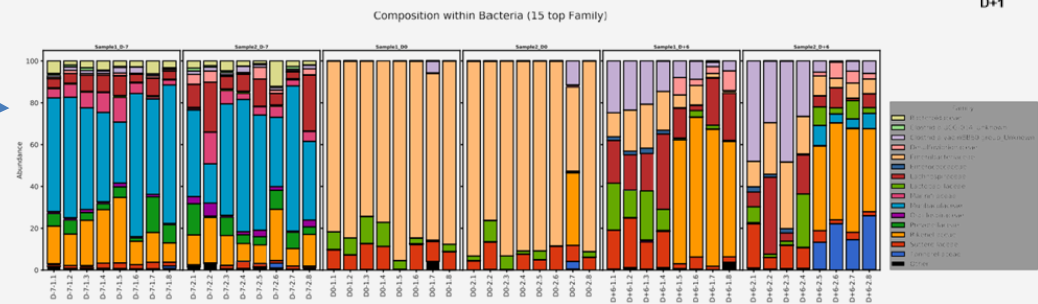
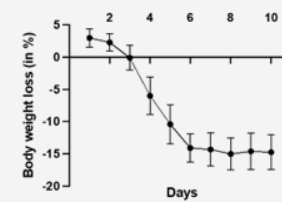
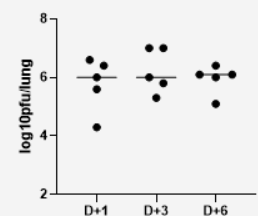
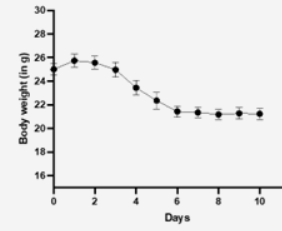
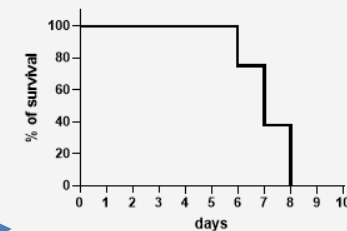
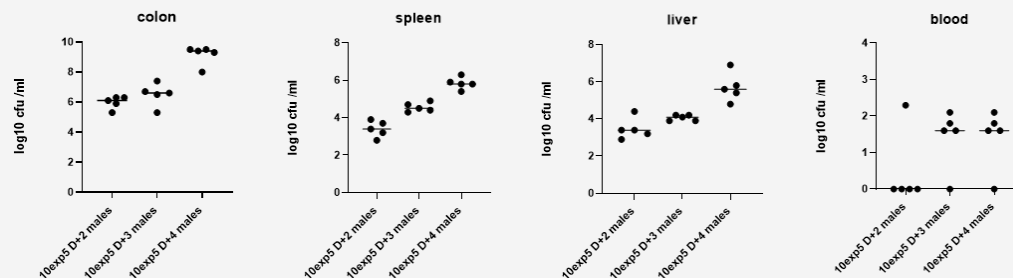
In vivo models (mice)

Infectious models

- ✓ Gastro-intestinal infection
- ✓ Urinary tract infection: acute & chronic
- ✓ Tuberculosis: acute & chronic
- ✓ Pulmonary: single & co-infection
- ✓ Skin infection
- ✓ Thigh infection
- ✓ Septicemia

Non infectious models

- ✓ Intestinal microbiota characterization
- ✓ Vaccination





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From microbes to One Health

Innovation: Enrichissement de notre collection de microorganismes d'intérêt médical actuel et futur 2023-2024 2025

Microorganismes pathogènes (BSL2 and BSL3)

Bacteria

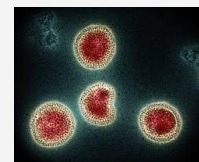
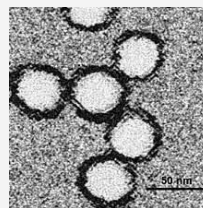
- ✓ Gram-negative and Gram positive
- ✓ ESKAPE (critical threat –WHO)
- ✓ Clinical isolates including resistant bacteria strains

Virus

- ✓ SARS-CoV-2
- ✓ Influenza A H1N1
- ✓ Respiratory syncytial Virus
- ✓ Rhinovirus

- ✓ West Nile virus
- ✓ Influenza B

- ✓ Dengue
- ✓ Zika



Fungi

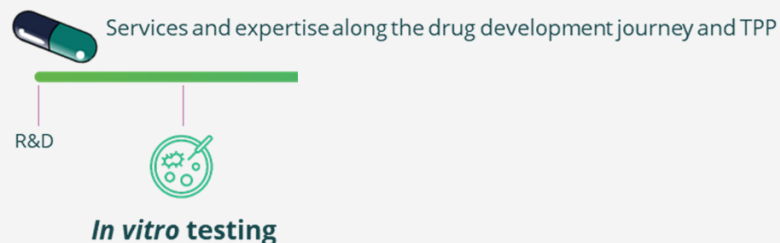
- ✓ Candida albicans
- ✓ Aspergillus
- ✓ Trichophyton
- ✓ Malassezia

- ✓ Candida auris
- ✓ Candida tropicalis





Innovation : Enrichissement de notre offre de tests *in vitro* 2023-2024 2025



Antimicrobial susceptibility testing

- ✓ Minimal inhibitory concentration (MIC)
- ✓ Minimal Bactericidal concentration (MBC)
- ✓ Time kill curve (TKC)
- ✓ Turbidity reduction assay
- ✓ Antibioqram
- ✓ Biofilm inhibition testing

in vitro safety

- ✓ Cytotoxicity

Miscellaneous

- ✓ Opsonophagocytosis
- ✓ Seroneutralization
- ✓ Bacterial genome editing
- ✓ Microbial-derived extracellular vesicles
- ✓ Customized ELISA development

Antimicrobial susceptibility testing

- ✓ Bacteriophage susceptibility
- ✓ Anti persister cells

in vitro safety

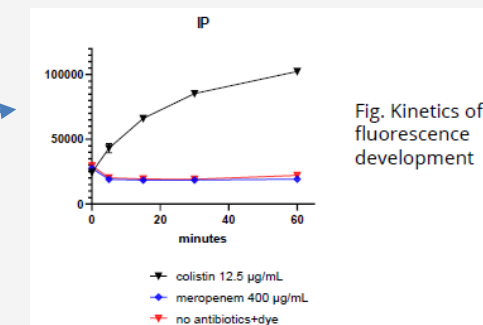
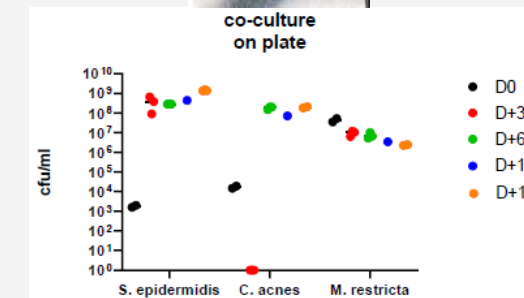
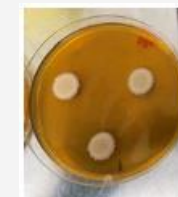
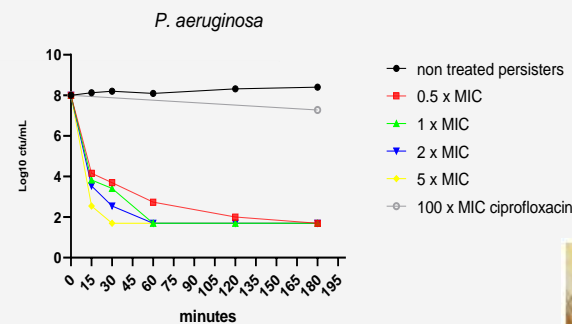
- ✓ ROS
- ✓ Hemolysis

Miscellaneous

- ✓ Model of scalp human microbiota

In vitro characterization

- ✓ Quantification resistance development
- ✓ Impact on the bacterial envelop integrity
- ✓ Drug stability (In plasma, In liver microsomes)





Innovation : Enrichissement de notre offre de tests *in vivo* 2023-2024 2025



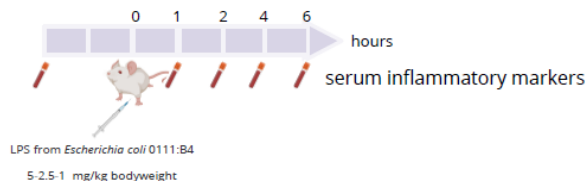
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Services and expertise along the drug development journey and TPP



- Males/females C57BL6 mice
- 12 week-old

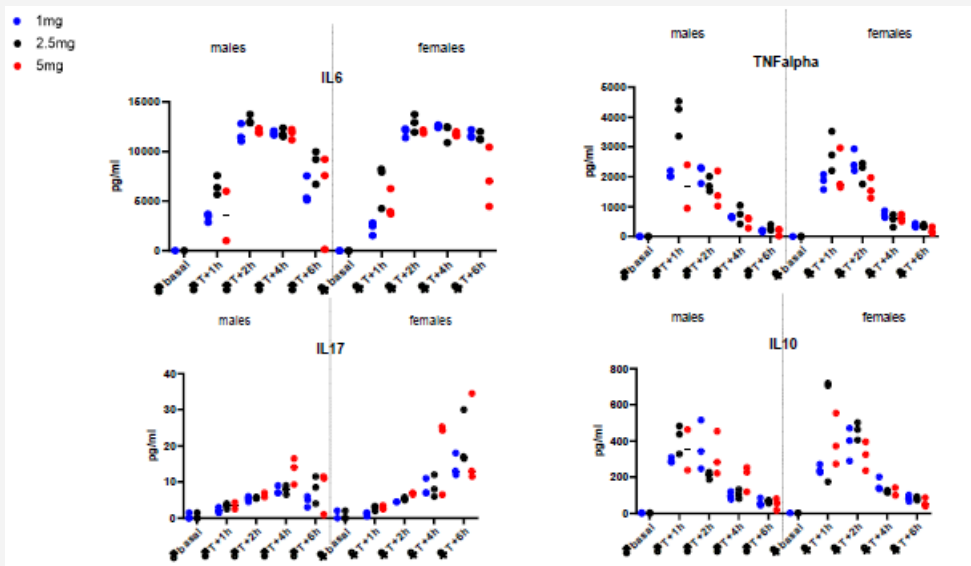


In vivo models (mice)

- ✓ Gastro-intestinal infection
- ✓ Urinary tract infection: acute & chronic
- ✓ Tuberculosis: acute & chronic
- ✓ Pulmonary: single & co-infection
- ✓ Skin infection
- ✓ Thigh infection
- ✓ Septicemia
- ✓ Intestinal microbiota characterization
- ✓ Vaccination

In vivo models (mice)

- ✓ Wound healing model
- ✓ Gastritis model
- ✓ LPS-induced inflammation
- ✓ Septicemia (*C. tropicalis*)
- ✓ Gastro-intestinal infection (EHEC, *S. typhimurium*, *C. albicans*, *C. auris*)
- ✓ Pulmonary infection (influenza B, RSV)
- ✓ New readout : immune response (FACS)





Innovation : Amélioration de notre offre PK/PD 2023-2024 2025



Services and expertise along the drug development journey and TPP



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From microbes to One Health



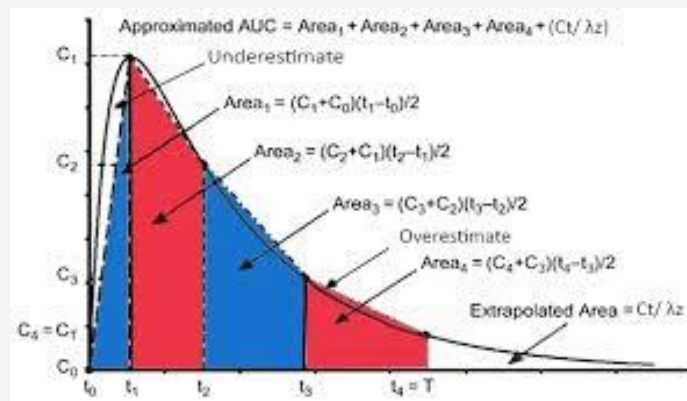
MTD - PK/PD



In vivo testing

PK/PD

✓ **microsampling**





Innovation : Développement d'un modèle organoïdes 2023-2024 2025

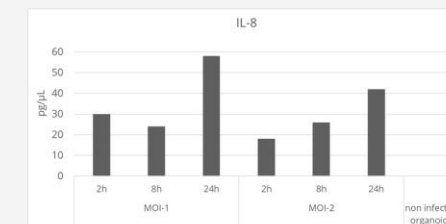
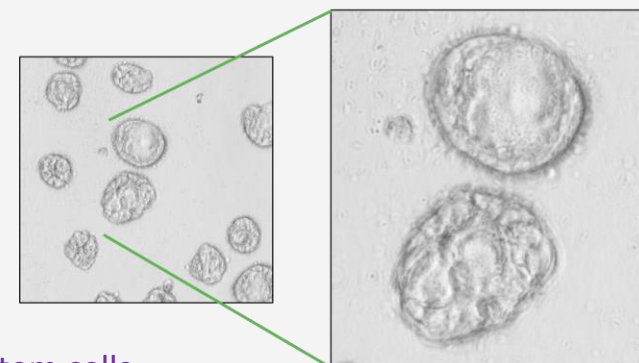


VIBIOSPHEN
From microbes to One Health

Services and expertise along the drug development journey and TPP



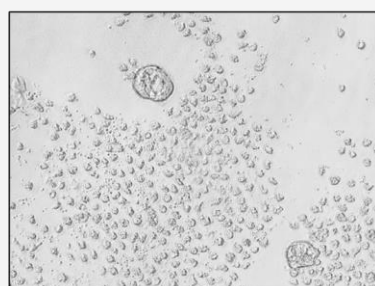
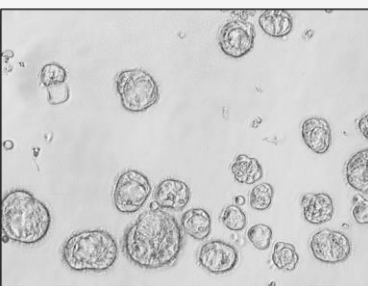
Acinetobacter baumannii



Influenza virus H1N1

Non infected organoids

Infected organoids



Human lung organoids

- ✓ Healthy or pathological adult stem cells
- ✓ Cytotoxicity testing
- ✓ Efficacy testing

- ✓ Human kidney organoids
- ✓ Human bladder organoids

- ✓ Complexification model : addition of immune cells

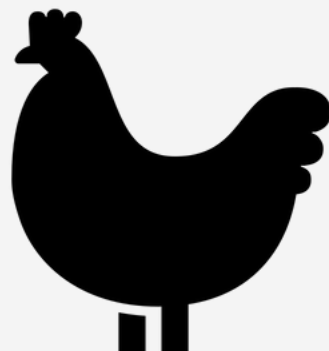


Innovation: Accès à de nouveaux marchés 2023-2024 2025


VIBIOSPHEN
From microbes to One Health



Santé humaine



Santé animale



Environnement



Nutrition et
bien-être



Dermo
cosmétique

Intégration au réseau
Skin Excellence