

Liste PFIE 2024

Articles :

Agapé L, Menanteau P, Kempf F, Schouler C, **Boulesteix O, Riou M, Chaumeil T**, Velge P. Prophylactic phage administration reduces *Salmonella* Enteritidis infection in newly hatched chicks. MicrobiologyOpen, 2024, 13 (6), pp.e70002. [⟨10.1002/mbo3.70002⟩](https://doi.org/10.1002/mbo3.70002). [⟨hal-04847543⟩](https://hal.archives-ouvertes.fr/hal-04847543)

Aminzadeh A, Hilgers L, Platenburg PP, **Riou M, Perrot N**, Rossignol C, **Cauty A, Barc C**, Jørgensen R. Immunogenicity and safety in rabbits of a *Clostridioides difficile* vaccine combining novel toxoids and a novel adjuvant. Vaccine, 2024, 42 (7), pp.1582-1592. [⟨10.1016/j.vaccine.2024.01.076⟩](https://doi.org/10.1016/j.vaccine.2024.01.076). [⟨hal-04486205⟩](https://hal.archives-ouvertes.fr/hal-04486205)

Briant C, **Riou M**, Ruet A. Évaluation du bien-être des chevaux sur le terrain : protocoles disponibles, conditions et limites d'utilisation. INRAE Productions Animales, 2024, 37 (3), pp.7928. [⟨10.20870/productions-animales.2024.37.3.7928⟩](https://doi.org/10.20870/productions-animales.2024.37.3.7928). [⟨hal-04820346⟩](https://hal.archives-ouvertes.fr/hal-04820346)

Danzelle C, Cunha P, Gomes Noleto P, Gilbert F, Reis Santos K, Staub C, **Pinard A, Deslis A**, Barbey S, Germon P, de Craene JO, Rainard P, Blondel M, Prado Martins R. *Saccharomyces cerevisiae* as a platform for vaccination against bovine mastitis. Vaccine, 2024, 42 (26), pp.126385. [⟨10.1016/j.vaccine.2024.126385⟩](https://doi.org/10.1016/j.vaccine.2024.126385). [⟨hal-04741220⟩](https://hal.archives-ouvertes.fr/hal-04741220)

Fontanier T, Lamarche I, **Barc C**, Aranzana-Climent V, Mirfendereski H, **Kasal-Hoc N**, Cazenave-Roblot F, Marchand S, Vallée M. Distribution tissulaire du Meropenem-Vaborbactam dans le rein et la prostate chez le rat et le cochon sain par micro-dialyse. Progrès en Urologie - FMC, 2024, 34 (7), pp.S134-S135. [⟨10.1016/j.fpurol.2024.07.188⟩](https://doi.org/10.1016/j.fpurol.2024.07.188). [⟨hal-04906538⟩](https://hal.archives-ouvertes.fr/hal-04906538)

Malsa J, Reigner F, **Riou M**, Gesbert A, Guégnard F, **Perrot N**, Serreau D, Fleurance G, Sallé G. Evaluation of plant commercial feed additives for equine cyathostomin control. Journal of Equine Veterinary Science, 2024, 142, pp.105197. [⟨10.1016/j.jevs.2024.105197⟩](https://doi.org/10.1016/j.jevs.2024.105197). [⟨hal-04720133⟩](https://hal.archives-ouvertes.fr/hal-04720133)

Vallée M, Moreau J, Fontanier T, Lamarche I, Mirfendereski H, Aranzana-Climent V, **Barc C, Kasal-Hoc N**, Couet W, Cazenave-Roblot F, Marchand S. Étude de la distribution tissulaire du ceftazidime-avibactam dans le parenchyme rénal de rats et de porcs par technique de micro-dialyse. Progrès en Urologie - FMC, 2024, 34 (7), pp.S127-S128. [⟨10.1016/j.fpurol.2024.07.179⟩](https://doi.org/10.1016/j.fpurol.2024.07.179) [⟨hal-04906357⟩](https://hal.archives-ouvertes.fr/hal-04906357)

Vallée M, Moreau J, Lamarche I, **Barc C, Kasal-Hoc N**, Mirfendereski H, Aranzana-Climent V, Couet W, Cazenave-Roblot F, Marchand S. Tissue distribution of Ceftazidime-Avibactam in kidney tissue in healthy rats and pigs using a microdialysis technique. European Urology, 2024, Abstracts EAU24 - 39th Annual EAU Congress, 85 (Supplément 1), pp.S127-S128. [⟨hal-04913348⟩](https://hal.archives-ouvertes.fr/hal-04913348)

Chapitres d'ouvrages :

Sans objet

Matériel et méthodes :

Agapé L, Menanteau P, Kempf F, Schouler C, **Boulesteix O, Riou M, Chaumeil T**, Velge P. Prophylactic phage administration reduces *Salmonella* Enteritidis infection in newly hatched chicks. MicrobiologyOpen, 2024, 13 (6), pp.e70002. [10.1002/mbo3.70002](https://doi.org/10.1002/mbo3.70002). [hal-04847543](https://hal.archives-ouvertes.fr/hal-04847543)

[Fertilized eggs were obtained from the incubation establishment BOYE Accoupage with hatchings proceeding in confined conditions at the experimental animal infection unit (**PFIE**, **10.15454/1.5535888072272498e12**)]

Aminzadeh A, Hilgers L, Platenburg PP, **Riou M, Perrot N**, Rossignol C, **Cauty A, Barc C**, Jørgensen R. Immunogenicity and safety in rabbits of a *Clostridioides difficile* vaccine combining novel toxoids and a novel adjuvant. Vaccine, 2024, 42 (7), pp.1582-1592. [10.1016/j.vaccine.2024.01.076](https://doi.org/10.1016/j.vaccine.2024.01.076). [hal-04486205](https://hal.archives-ouvertes.fr/hal-04486205)

[Procedures involving rabbits were evaluated by the ethics committee of the Val de Loire (CEEA VdL, committee number 19) and took place at the INRAE Experimental Infection Platform PFIE (UE-1277 **PFIE**, INRAE Centre de Recherche Val de Loire, Nouzilly, France (<https://doi.org/10.15454/1.5535888072272498e12>)).]

Carvalho F, Carreaux A, Sartori-Rupp A, Tachon S, Gazi AD, Courtin P, Nicolas P, Dubois-Brissonnet F, Barbotin A, Desgranges E, Bertrand M, Gloux K, Schouler C, Carballido-López R, Chapot-Chartier MP, Milohanic E, Bierne H, Pagliuso A. Aquatic environment drives the emergence of cell wall-deficient dormant forms in *Listeria*. Nature Communications, 2024, 15, pp.8499. [10.1038/s41467-024-52633-7](https://doi.org/10.1038/s41467-024-52633-7). [hal-04742896](https://hal.archives-ouvertes.fr/hal-04742896)

[Embryonated eggs from white Leghorn chickens raised under specific pathogen-free (SPF) conditions were obtained from the Infectiology of Farm, Model and Wildlife Animals Facility (PFIE) at the INRAE Centre Val de Loire (Nouzilly, France)]

Danzelle C, Cunha P, Gomes Noleto P, Gilbert F, Reis Santos K, Staub C, **Pinard A, Deslis A**, Barbey S, Germon P, de Craene JO, Rainard P, Blondel M, Prado Martins R. *Saccharomyces cerevisiae* as a platform for vaccination against bovine mastitis. Vaccine, 2024, 42 (26), pp.126385. [10.1016/j.vaccine.2024.126385](https://doi.org/10.1016/j.vaccine.2024.126385). [hal-04741220](https://hal.archives-ouvertes.fr/hal-04741220)

[Six non-pregnant Holstein cows (dried for 4 months) were recruited for an immunisation protocol carried out at the Plateforme d'Infectiologie Experimentale (PFIE INRAE, France)]

Doz-Deblauwe E, Bounab B, Carreras F, Fahel JS, Oliveira SC, Lamkanfi M, Le Vern Y, Germon P, Pichon J, Kempf F, Paget C, Remot A, Winter N. Dual neutrophil subsets exacerbate or suppress inflammation in tuberculosis via IL-1 β or PD-L1. *Life Science Alliance*, 2024, 7 (7), pp.e202402623. [10.26508/lsa.202402623](https://doi.org/10.26508/lsa.202402623) <hal-04596372>

[Mice were bred at the specific pathogen-free animal facility Plateforme Infectiologie Experimentale (PFIE, U1277, INRAE, Centre Val de Loire).]

Koczerka M, Lantier I, Morillon M, Deperne J, Clamagirand CD, Virlogeux-Payant I, Grépinet O. From intestine to beyond: Salmonella entry factors display distinct transcription pattern upon infection in murine models. *Open Biology*, 2024, 14 (1), pp.230312. <[10.1098/rsob.230312](https://doi.org/10.1098/rsob.230312)>. <hal-04486056>

[All animal experimentations were performed in the Infectiology of Farm, Model and Wildlife Animals Facility (PFIE, Centre INRAE Val De Loire: <https://doi.org/10.15454/1.5572352821559333E12>; member of the National Infrastructure EMERG'IN).]

Saint-Martin V, Guillory V, Chollot M, Fleurot I, Kut E, Roesch F, Caballero-Posadas I, Helloin E, Chambellon E, Ferguson B, Velge P, Kempf F, Trapp S, Guabiraba R. The gut microbiota and its metabolite butyrate shape metabolism and antiviral immunity along the gut-lung axis in the chicken. *Communications Biology*, 2024, 7 (1), pp.1185. <[10.1038/s42003-024-06815-0](https://doi.org/10.1038/s42003-024-06815-0)>. <hal-04720201>

[Eggs were obtained from a histocompatible B21/B21 White Leghorn layer chicken line (PA12), sourced from SPF hens at INRAE, Plateforme d'Infectiologie Expérimentale (PFIE, Nouzilly, France)]

Remerciements :

Agapé L, Menanteau P, Kempf F, Schouler C, **Boulesteix O**, **Riou M**, **Chaumeil T**, Velge P. Prophylactic phage administration reduces *Salmonella* Enteritidis infection in newly hatched chicks. *MicrobiologyOpen*, 2024, 13 (6), pp.e70002. <[10.1002/mbo3.70002](https://doi.org/10.1002/mbo3.70002)>. <hal-04847543>
[We thank the personnel from the INRAE experimental unit PFIE (UE-1277 Plateforme d'Infectiologie Experimentale, Centre INRAE Val de Loire, Nouzilly, France) for their technical support in the animal experiments, especially **David Gauthier**, **Noémie Perrot**, **Elodie Moyer**, **Alain Deslis**, **Sébastien Lavillatte**, **Arnaud Faurie**, and **Mylène Girault**]

Aminzadeh A, Hilgers L, Platenburg PP, **Riou M**, **Perrot N**, Rossignol C, **Cauty A**, **Barc C**, Jørgensen R. Immunogenicity and safety in rabbits of a *Clostridioides difficile* vaccine

combining novel toxoids and a novel adjuvant. *Vaccine*, 2024, 42 (7), pp.1582-1592. [10.1016/j.vaccine.2024.01.076](https://doi.org/10.1016/j.vaccine.2024.01.076). [hal-04486205](https://hal.archives-ouvertes.fr/hal-04486205)

[We are also grateful to the direction of PFIE (Stéphane Abrioux) to accept this project and more particularly, for the experimental step, the staff (confined team) of the Experimental Infectiology Platform (UE-1277 PFIE (doi:10.15454/1.5572352821559333E12), INRAE Centre de Recherche Val de Loire, Nouzilly, France) part of EMERG'IN (doi.org/10.15454/90CK-Y371), the national infrastructure for the control of animal and zoonotic emerging infectious diseases through in vivo investigation.]

Briant C, **Riou M**, Ruet A. Évaluation du bien-être des chevaux sur le terrain : protocoles disponibles, conditions et limites d'utilisation. *INRAE Productions Animales*, 2024, 37 (3), pp.7928. [10.20870/productions-animales.2024.37.3.7928](https://doi.org/10.20870/productions-animales.2024.37.3.7928). [hal-04820346](https://hal.archives-ouvertes.fr/hal-04820346)

[Nous remercions également la direction de la Plateforme d'infectiologie expérimentale (<https://doi.org/10.15454/1.5535888072272498e12>) d'avoir accepté ce projet et, plus particulièrement, le personnel travaillant sur le plateau d'hématologie et biochimie clinique vétérinaire.]

Danzelle C, Cunha P, Gomes Noleto P, Gilbert F, Reis Santos K, Staub C, **Pinard A**, **Deslis A**, Barbey S, Germon P, de Craene JO, Rainard P, Blondel M, Prado Martins R. *Saccharomyces cerevisiae* as a platform for vaccination against bovine mastitis. *Vaccine*, 2024, 42 (26), pp.126385. [10.1016/j.vaccine.2024.126385](https://doi.org/10.1016/j.vaccine.2024.126385). [hal-04741220](https://hal.archives-ouvertes.fr/hal-04741220)

*[The authors thank **Elodie Moyer**, **Mickaël Riou** and **Olivier Boulesteix** for their support in the in vivo experiments]*

Denesvre C, You Y, Rémy S, Vychodil T, Courvoisier K, Penzes Z, Bertzbach LD, Kheimar A, Kaufer BB. Impact of viral telomeric repeat sequences on herpesvirus vector vaccine integration and persistence. *PLoS Pathogens*, 2024, 20 (5), pp.e1012261. [10.1371/journal.ppat.1012261](https://doi.org/10.1371/journal.ppat.1012261). [hal-04638986](https://hal.archives-ouvertes.fr/hal-04638986)

*[We thank **A. Faurie**, **M. Giraud**, and **S. Lavillatte** for their help with the animal experiment]*

Doz-Deblauwe E, Bounab B, Carreras F, Fahel JS, Oliveira SC, Lamkanfi M, Le Vern Y, Germon P, Pichon J, Kempf F, Paget C, Remot A, Winter N. Dual neutrophil subsets exacerbate or suppress inflammation in tuberculosis via IL-1 β or PD-L1. *Life Science Alliance*, 2024, 7 (7), pp.e202402623. [10.26508/lsa.202402623](https://doi.org/10.26508/lsa.202402623) [hal-04596372](https://hal.archives-ouvertes.fr/hal-04596372)

*[The mouse team of the PFIE (INRAE, Nouzilly), especially **Corinne Beaugé**, **Jérôme Pottier**, **Emilie Lortscher**, and **Laetitia Mérat**, is warmly acknowledged for attentive mouse care and prompt reply to all our requests for mouse experiments.]*

[Poster] Doz-Deblauwe E, Bounab B, Carreras F, Siveira Fahel J, Oliveira S, Lamkanfi M, Le Vern Y, Germon P, Pichon J, Kempf F, Paget C, Remot A, Winter N. Dual neutrophil subsets accelerate or brake inflammation in tuberculosis. Neutrophil 2024, Sep 2024, Munich, Germany. [\(hal-04717343\)](#)

[Many thanks to the mouse team of the PFIE (INRAE, Nouzilly), especially **Corinne Beaugé**, **Jérôme Pottier** & **Emilie Lortscher**]

Koczerka M, Lantier I, Morillon M, Deperne J, Clamagirand CD, Virlogeux-Payant I, Grépinet O. From intestine to beyond: Salmonella entry factors display distinct transcription pattern upon infection in murine models. Open Biology, 2024, 14 (1), pp.230312. [\(10.1098/rsob.230312\)](#). [\(hal-04486056\)](#)

[We also thank **Anne Pinard** and **Noémie Perrot** from the Infectiology of Farm, Model and Wildlife Animals Facility (PFIE, Centre INRAE Val de Loire), for the animal care and help with the animal experiments.]

Malsa J, Reigner F, **Riou M**, Gesbert A, Guégnard F, **Perrot N**, Serreau D, Fleurance G, Sallé G. Evaluation of plant commercial feed additives for equine cyathostomin control. Journal of Equine Veterinary Science, 2024, 142, pp.105197. [\(10.1016/j.jevs.2024.105197\)](#). [\(hal-04720133\)](#)

[The authors are grateful to the members of **Plateforme d'Infectiologie Expérimentale (PFIE, INRAE Centre Val de Loire, Nouzilly, France, 2023** (<https://doi.org/10.15454/1.5572352821559333e12>); member of the National Infrastructure Emerg'In)]

Saint-Martin V, Guillory V, Chollot M, Fleurot I, Kut E, Roesch F, Caballero-Posadas I, Helloin E, Chambellon E, Ferguson B, Velge P, Kempf F, Trapp S, Guabiraba R. The gut microbiota and its metabolite butyrate shape metabolism and antiviral immunity along the gut-lung axis in the chicken. Communications Biology, 2024, 7 (1), pp.1185. [\(10.1038/s42003-024-06815-0\)](#) [\(hal-04720201\)](#)

[We express our gratitude to the staff of the **Plate-forme d'Infectiologie Experimentale (UE PFIE, INRAE)** for providing the necessary infrastructure and technical support essential for conducting the animal experiments in this study]

Communications orales :

Créach P, Pajusco N, Brouard B, Simon L, **Riou M**, El Jabri M, Doutart E, Ayoub K, Travel A. Development of automated sound indicator measurements for the early detection of

respiratory disorders in poultry: the case of Infectious Bronchitis. The 11th European Conference on Precision Livestock Farming, sept 2024, Bologna, Italie.

Fontanier T, Lamarche I, **Barc C**, Aranzana-Climent V, Mirfendereski H, **Kasal-Hoc N**, Cazenave-Roblot F, Marchand S, Vallée M. Distribution tissulaire du Meropenem-Vaborbactam dans le rein et la prostate chez le rat et le cochon sain par micro-dialyse. 118. Congrès français d'urologie, Nov 2024, Paris, France. pp.S134-S135. <[hal-04906501](#)>

Perrot N, Pléau A, Niepceron A. Présentation de la démarche de mise en place du modèle furet. Journées d'animation scientifique - Département Santé animale, sept 2024, Seignosse, France.

Kasal-Hoc N. Euthanasie / Mise à mort des animaux de rente : Revue technique & Arbre décisionnel. Intercom AFSTAL - ComAgri, Sep 2024, Paris, France. <[hal-04718235](#)>

Riou M. AVITHRAPID. WP2 : Preclinical developments *in vivo* & Pharmacokinetic/PD, ADME, Tox. AVITHRAPID consortium, Kick off meeting, Feb 2024, Rome, Italie.

Riou M. E-BROILER TRACK : Mise au point de mesures automatisées d'indicateurs du bien-être et de la santé des volailles. Emerg'In/ LiPH4SAS, le numérique au service de la Santé, du Bien-être animal et des 3Rs, mai 2024, Tours, France.

Vallée M, Moreau J, Fontanier T, Lamarche I, Mirfendereski H, Aranzana-Climent V, **Barc C**, **Kasal-Hoc N**, Couet W, Cazenave-Roblot F, Marchand S. Étude de la distribution tissulaire du ceftazidime-avibactam dans le parenchyme rénal de rats et de porcs par technique de micro-dialyse. 118. Congrès français d'urologie, Nov 2024, Paris, France. pp.S127_S128. <[hal-04906258](#)>

Posters :

Chkhaydem E, Fleurot I, Guillory V, Kut E, **Barc C**, **Boulesteix O**, **Deslis A**, **Pléau A**, Baldry M, Couralet M, Beaumont G, Sirard J-C, Barbry P, Trapp S, Caballero I. Flagellin treatment: an immunomodulation strategy for controlling swine influenza infection. 9. International Influenza Meeting: "From bench to bedside", Sep 2024, Münster (DE), Germany. <[hal-04913467](#)>

Monnot A, Rossignol C, Mentheour R, **Kasal-Hoc N**, **Mérat L**, **Lortscher E**, **Lasneau A**, **Pottier J**, Moiré N, Robert E, **Riou M**. Caractérisation de la réponse inflammatoire locale contre l'infection à *Staphylococcus aureus* dans un modèle murin de plaies aiguës. 48^e Colloque d'Association Française des Sciences et Techniques de l'Animal de Laboratoire (AFSTAL), "En route vers la Recherche de demain", Juin 2024, Lille, France.

Monnot A, Rossignol C, Mentheour R, **Kasal-Hoc N**, **Mérat L**, **Lortscher E**, **Lasneau A**, **Pottier J**, Moiré N, Robert E, **Riou M**. Caractérisation de la réponse inflammatoire locale contre l'infection à *Staphylococcus aureus* dans un modèle murin de plaies aiguës. Journées d'animation scientifique - Département Santé animale, sept 2024, Seignosse, France.

Monnot A, Rossignol C, Mentheour R, **Kasal-Hoc N**, **Mérat L**, **Lortscher E**, **Lasneau A**, **Pottier J**, Moiré N, Robert E, **Riou M**. Caractérisation de la réponse inflammatoire locale contre l'infection à *Staphylococcus aureus* dans un modèle murin de plaies aiguës. 44. Réunion Interdisciplinaire de Chimiothérapie Anti-Infectieuse - RICAI, Dec 2024, Paris, France. ([hal-04905619](#))

Vallée M, **Barc C**, Moreau J, **Kasal-Hoc N**, Lamarche I, Aranzana-Climent V, Mirfendereski H, Cazenave-Roblot F, Couet W, Marchand S. Tissue distribution of Ceftazidime-Avibactam in kidney tissue in healthy rats and pigs using a microdialysis technique. 34th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Apr 2024, Barcelona, Spain. ([hal-04571042](#))

Vallée M, Moreau J, Lamarche I, **Barc C**, **Kasal-Hoc N**, Mirfendereski H, Aranzana-Climent V, Couet W, Cazenave-Roblot F, Marchand S. Tissue distribution of Ceftazidime-Avibactam in kidney tissue in healthy rats and pigs using a microdialysis technique. 39. Congrès de l'Association Européenne d'Urologue - EAU24, Apr 2024, Paris, France. ([hal-04906706](#))

Productions à destination de l'institut :

Perrot N, **Pléau A**, **Branger L**, **Niepceron A**. Présentation de la démarche de mise en place du modèle furet. Rendez-vous COMPET'ences, 21/11/2024, Nouzilly, France.

Productions à destination des professionnels :

Sans objet

Rapport de stage

Monnot A. Caractérisation de la réponse inflammatoire locale contre l'infection à *Staphylococcus aureus* dans un modèle murin de plaies aiguës. 2024. *Institut régional de la formation des techniciens de laboratoire médical du CHRU de Tours*.

Bellet E. Efficacité des plasmas froids sur la cicatrisation de la peau dans un modèle murin de plaies aiguës. 2024. *Master 1 Mention Sciences du Vivant, Parcours Infectiologie, Immunité, Vaccinologie et Biomédicaments (I²VB)*.

Organisation de congrès

Riou M. (Chairman de la session Résistance aux antiparasitaires ; membre du comité scientifiques du congrès, membre du jury pour la meilleure communication orale). Congrès des Sociétés Françaises de Parasitologie et de Mycologie Médicale. Juin 2024, Angers, France.