

IRTA, BSL3/2 LABORATORIES

(ES)

Research topics:	<p>Most of the IRTA-CReSA laboratories are dedicated to research on pathogens of veterinary and public health importance. These researches encompass studies on the pathogenesis of diseases, vaccine design, improvement of diagnostic tools and epidemiology. Below are some recent research articles summarizing the type of research activities performed at IRTA-CReSA:</p> <ul style="list-style-type: none">-Blázquez E, Rodríguez C, Ródenas J, Pérez de Rozas A, Segalés J, Pujols J, Polo J. Ultraviolet (UV-C) inactivation of <i>Enterococcus faecium</i>, <i>Salmonella choleraesuis</i> and <i>Salmonella typhimurium</i> in porcine plasma. <i>PLoS One</i>. 2017; 12:e0175289-Coronado L, Liniger M, Muñoz-González S, Postel A, Pérez LJ, Pérez-Simó M, Perera CL, Frías-Lepoureau MT, Rosell R, Grundhoff A, Indenbirken D, Alawi M, Fischer N, Becher P, Ruggli N, Ganges L. Novel poly-uridine insertion in the 3'UTR and E2 amino acid substitutions in a low virulent classical swine fever virus. <i>Vet Microbiol</i>. 2017; 201:103-112.-Correa-Fiz F, Fraile L, Aragon V. Piglet nasal microbiota at weaning may influence the development of Glässer's disease during the rearing period. <i>BMC Genomics</i>. 2016; 17:404.-Brustolin M, Talavera S, Santamaría C, Rivas R, Pujol N, Aranda C, Marquès E, Valle M, Verdún M, Pagès N, Busquets N. <i>Culex pipiens</i> and <i>Stegomyia albopicta</i> (= <i>Aedes albopictus</i>) populations as vectors for lineage 1 and 2 West Nile virus in Europe. <i>Med Vet Entomol</i>. 2016; 30:166-73.-Pérez de Val B, Vidal E, López-Soria S, Marco A, Cervera Z, Martín M, Mercader I, Singh M, Raeber A, Domingo M. Assessment of safety and interferon gamma responses of <i>Mycobacterium bovis</i> BCG
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	<p>vaccine in goat kids and milking goats. Vaccine. 2016 Feb 10; 34:881-6.</p> <p>-Accensi F, Rodríguez F, Monteagudo PL. DNA Vaccines: Experiences in the Swine Model. Methods Mol Biol. 2016; 1349:49-62.</p>
<p>Activities and services currently offered by the infrastructure/installation:</p>	<p>IRTA-CReSA, located in a single building, disposes a BSL3 Animal facility (with 1150 m² for areas animal experimentation), and 350 m² for BSL3 Laboratories, equipped with state-of-the-art technologies (including a flow cytometry sorter). Next to these BSL3 facilities, IRTA-CReSA also has 750 m² BSL2 Laboratory rooms (with dedicated space for bacteriology, immunology, virology, cell culture, molecular biology and entomology in both BSL3 and BSL2 laboratories). The histopathology unit is located in the BSL2 area. In addition, common spaces in BSL3 and BSL2 areas are used for cleaning and sterilization, storage of frozen samples and reagents, centrifugation etc. The building is designed and maintained to provide several approaches and solutions in biocontainment and biosafety issues that are cutting-edge in those fields. Samples generated in the animal facility are routinely processed in the BSL3 and, after inactivation, in the BSL2 laboratories. Equipment in the laboratories are under quality control and GLP regulations. Basically, all equipment and time limited storage facilities are available to users for virus/bacteria cell culture and detection, immunological monitoring including flow cytometry and cell sorting capabilities. Next to a support team dedicated to managing the BSL3 and 2 laboratories, external users are provided with scientific support tailored to their needs. For the current VetBioNet TNAs, IRTA offers: a platform for genome amplification in BSL2 and BSL3 Laboratories; broad range of immunological, virology, molecular pathogen detections and histopathology techniques for studies on BSL2 and BSL3 pathogens. Flow cytometry (BSL2) and cell-sorting in BSL3. Samples and tissues from literally all animal species can be worked on in this</p>

	installation, particularly those derived from the animal experimentation facility.
Description of the access to be provided under VetBioNet TNA call:	<p>On average (and for a one-month experiment) each user or user group is expected to stay 15 to 30 days at the infrastructure. The user (group) will design and carry out the experimental protocols with the help of dedicated staff from BSL3/2 Management and when requested, together with scientific and technical staff specialized in the area of the TNA project. During their stay, the users will be integrated in the regular activities of the center. The users will be supervised and briefed about the other research activities of the infrastructure, and they will share some common spaces and equipment, personal protection equipment and devices in the Laboratory areas.</p> <p>The unit of access is defined as one Laboratory area per month. One typical access consists of one unit of access. The laboratory area is defined as the areas dedicated to immunology, molecular biology, virology, histopathology or bacteriology and some common areas for sample preparations (e.g. PCRs). The unit includes: review of the experimental protocol and purchase of local basic reagents (on demand) for detection of pathogens, immune monitoring, histo-pathology, personal protection equipment and any other consumables needed for the realisation of the project. One-day training on protocols and procedures to work inside BSL3/2 laboratories (previous reading of several selected SOPs). Within the first week, and thereafter on request, the work will be performed under direct supervision by a dedicated person from the BSL3/2 Management and Scientific Staff. Upon request, samples will be expedited by selected couriers fulfilling all IATA regulations.</p>
Animal species/pathogens that can be worked on in this infrastructure/installation:	<p>Most tissue specimens from animal experimentation can be handled in the laboratories (BSL3/2). Pathogens that can be worked on in this installation: WNV, RVFV, SBV, BTV, CSFV, ASFV, MERS-CoV, HPAIV (including H5N1 and H7N9), CHKV, DenV, Mycobacteria (<i>M. tuberculosis</i>, <i>M. bovis</i>, <i>M. caprae</i>), plus all other</p>

	viruses and bacteria being endemic in Spain. IRTA is not authorized to work with FMDV.
Travel and subsistence costs:	Users are preferentially housed in the Hotel Campus (http://www.hotelcampusuab.com/ES/hotel.html) situated at a 10 minutes' walk from the IRTA-CReSA facilities. Accommodation will be booked by the users; the bill will be paid and addressed to IRTA after departure. Travel tickets will be purchased by IRTA. Meals will be reimbursed to the users upon presentation of the bills and according to daily reimbursement rules applied by IRTA. Users will receive the necessary information before arrival to the IRTA-CReSA facilities.
Infrastructure/installation ethical rules:	A document with IRTA-CReSA internal rules will be provided to the user prior to the arrival at the facilities. Another document explaining the precautions and mandatory rules in terms of biosafety will be handed out to be read and signed by the user before starting the experiments.