

**CHEMICAL ANALYSIS SERVICES**

RESPONSIBLE: *Isaac Rodríguez Pereira*

**Multi-residue determination of pesticides in wines using LC-MS/MS**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
250	200	Not Available
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Determination of fungicides and insecticides in wines (approx. 50 compounds), with sensitivity of trace levels (1-10 ng mL <sup>-1</sup> ), by liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Multi-residue determination of pesticides in agricultural soils using LC-MS/MS**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
300	240	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Determination of pesticides (fungicides, insecticides and herbicides) in agricultural soils (approx. 50 compounds) after solid-liquid extraction, with sensitivity of trace levels (2-10 ng g <sup>-1</sup> ), by liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Multi-residue determination of pesticides in grapes by LC-MS/MS**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
250	200	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Determination of various fungicides and insecticides in grapes (approx. 50 composts and a minimum of 10 deuterated analogues) after extraction by QuEChERS, with sensitivity of trace levels (2-10 ng g <sup>-1</sup> ), by liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Multi-residue determination of drugs in WWTP sludge (2)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
600	480	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
6 semanas		
<i>Service description:</i> Determination of multiple drugs (approx. 30 composts) in sewage sludge after extraction by solid-phase matrix dispersion (MSPD), with sensitivity of trace levels (5-20 ng g <sup>-1</sup> ), by liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Screening of pesticides in water using LC-TOF-MS**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
400	320	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Qualitative determination (suspected screening) of various pesticides in surface and underground samples after solid-phase extraction by liquid chromatography with high-performance mass spectrometry.		
<i>Available equipment:</i> Agilent 6550 QTOF		

**Screening of additives and pesticides in agricultural plastics using GC-TOF-MS**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
400	320	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Qualitative determination (screening) of semi-volatile additives (phthalates, adipates, UV filters, antioxidants) and pesticides in samples of plastics for agricultural use after Soxhlet extraction by gas chromatography with high-performance spectrometry.		
<i>Available equipment:</i> Agilent 7200 QTOF		

**Screening for organic contaminants using GC-HRMS (3)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
500	400	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
6 semanas		
<i>Service description:</i> Qualitative determination (screening) of organic substances by gas chromatography with high-performance mass spectrometry using deconvolution and high-resolution libraries (NIST).		
<i>Available equipment:</i> Agilent 7200 QTOF		

**Screening de contaminantes orgánicos mediante LC-HRMS (3)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
500	400	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
6 semanas		
<i>Service description:</i> Qualitative determination (screening) of more than 3500 chemical compounds by liquid chromatography with high-performance mass spectrometry.		
<i>Available equipment:</i> Agilent 6550 QTOF		

**Screening for substances of abuse in water, drug residues and other matrices using LC-HRMS (3)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
500	400	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
5 semanas		
<i>Service description:</i> Qualitative determination (screening) of more than 1000 substances of abuse, metabolites and degradation products by liquid chromatography with high-performance mass spectrometry.		
<i>Available equipment:</i> Agilent 6550 QTOF		

**Determination of biomarkers of substances of abuse in water (4)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
400	320	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
5 semanas		
<i>Service description:</i> Determination of 6 biomarkers of drug abuse consumption in water, with sensitivity of trace levels, by solid phase extraction and liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Determination of alcohol metabolite (ethyl sulfate) in water (5)**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
250	200	No Disponible

<i>Task execution time</i>	<i>Comments</i>
4 semanas	
<i>Service description:</i> Determination of ethyl sulfate in water at low ng/mL levels, by solid-phase extraction and liquid chromatography with mass spectrometry.	
<i>Available equipment:</i> Waters Xevo TQD	

**Determination of nicotine metabolite (cotinine and hydroxy-cotinine) in water (5)**

<i>Prize (€; VAT Not Included) (1)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
250	200	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
4 semanas		
<i>Service description:</i> Determination of cotinine and hydroxy-cotinine in water at low ng/mL levels, by solid-phase extraction and liquid chromatography with mass spectrometry, after enzymatic deconjugation.		
<i>Available equipment:</i> Waters Xevo TQD		

**Determinacion of per-/poly-fluoroalkyl compounds (PFAS) in water (6)**

<i>Prize (€; VAT Not Included) (1)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
500	400	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
6 semanas		
<i>Service description:</i> Determination of 20 PFAS in water, with trace level sensitivity, by solid-phase extraction and liquid chromatography with mass spectrometry.		
<i>Available equipment:</i> Waters Xevo TQD		

**Determination of Drugs and Emerging Contaminants in Water Samples**

<i>Prize (€; VAT Not Included) (1)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
Please call	Please call	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
Please call		
<i>Service description:</i> Determination of emerging contaminants in water samples after solid-phase extraction by liquid or gas chromatography coupled with mass spectrometry. Analyte scope and price to be arranged.		
<i>Available equipment:</i> Waters Xevo TQD, Agilent 6550 or Agilent 7200		

**Other services for the analysis of organic compounds in various matrices**

<i>Prize (€; VAT Not Included) (1)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
Please call	Please call	No Disponible
<i>Task execution time</i>	<i>Comments</i>	
Please call		
<i>Service description:</i> Determination of organic contaminants in various matrices (e.g. water, marine biota, soils, sludge, blood, etc.) by liquid or gas chromatography coupled to mass spectrometry. Analyte scope and price to be agreed.		
<i>Available equipment:</i> Waters Xevo TQD, Agilent 6590 or Agilent 7200		

**NOTES**

- (1) Price subject to negotiation in case of batches of samples or variations in the scope of analysis
- (2) A sample must be delivered freeze-dried
- (3) It only includes analytical measurement and data processing. Sample preparation: water (100€+ VAT); Other matrices: consult.
- (4) Includes sample extraction and measurement. Analytes: amphetamine, methamphetamine, MDMA, cocaine, benzoylecgonine and carboxy-THC
- (5) Includes sample preparation and measurement
- (6) It includes sample extraction and measurement of the 20 PFAS regulated in the drinking water directive (Directive 2020/2184)

**BACTERIOLOGICAL AND  
MYCOLOGICAL ANALYSIS SERVICES**

RESPONSIBLES:

Alicia Estévez Toranzo  
Ysabel Santos Rodríguez  
Beatriz Magariños Ferro  
Carlos Rodríguez Osorio

***Phenotypic identification of plate isolate provided by the customer***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
40	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		
<p><i>Service description:</i> Service aimed at customers who isolate in their company, but need to be identified with the insulated person. In this case, traditional phenotypic identification methodologies are used, such as morphological, biochemical and physiological tests using conventional microbiological techniques and/or semi-automated identification systems.</p> <p><i>Available equipment:</i> API systems (BioMeriuex) and databases API Web, Identax, Gallenkamp and Memmert incubators</p>		

***PCR identification of customer-provided plate isolate***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
60	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		
<p><i>Service description:</i> Service aimed at customers who isolate in their company, but need to be identified with the insulated person. In this case, identification methods based on the amplification of genus and/or specific species of the isolates are used by simple polymerase chain reaction (PCR) or real-time PCR.</p> <p><i>Available equipment:</i> Termocicladores BioRad T100 Thermal Cycler, MJ mini Personal thermal cycler (BioRad), Bax System Q7 (Applied Biosystem), Gradient Thermal cycler (Eppendorf), BioRad MyCycler</p>		

***Proteomic identification of plate isolate provided by the customer***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
55	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		
<p><i>Service description:</i> Service aimed at customers who isolate in their company, but need to be identified with the insulated person. In this case, methods based on the analysis of proteins extracted from the isolate by MALDI-TOF-MS mass spectrometry and Biotyper cluster analysis are used.</p> <p><i>Available equipment:</i> MALDI-BIOTYPER (Brucker) and other proprietary or available databases</p>		

***Serological identification of isolated plate provided by the cliente***

<b>Precio (€; IVA No Incluido) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
40	Not Aply	Not Aply
<i>Tempo de ejecución</i>	<i>Observaciones</i>	
2-3 días		
<p><i>Service description:</i> Service aimed at customers who isolate in their company, but need to be identified with the insulated person. In this case, methods based on agglutination on enzyme immunoassay slides (ELISA, Dot Blot) are used</p> <p><i>Available equipment:</i> BioRad plate reader, Biosan automated plate washing system</p>		

***Identification of slab sequencing***

<b>Prize (€; VAT Not Included) (I)</b>

<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
40	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
3 días		
<i>Service description:</i> Service aimed at customers who isolate in their company, but need to be identified with the insulated person. In this case, methods based on partial or complete sequencing of the 16S gene of the microorganisms and the comparison of the sequence obtained with those available in the databases are used.		
<i>Available equipment:</i>		

**Analyze from Fish Batch Samples and Other Matrices: Phenotypic Identification**

<i>Prize (€; VAT Not Included) (I)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
100	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
5-7 días		
<i>Service description:</i> Service aimed at customers who need the isolation and identification of the isolate obtained from samples of fish, water, raw materials, food or inert surfaces of handlers. In this case, traditional phenotypic identification methodologies are used, such as morphological, biochemical and physiological tests using conventional microbiological techniques or semi-automated identification systems.		
<i>Available equipment:</i> API systems (BioMeriueX) and databases API Web, Identax, Gallenkamp and Memmert incubators		

**Pathogen detection by PCR from tissues and other matrices**

<i>Prize (€; VAT Not Included) (I)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
85	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		
<i>Service description:</i> Service aimed at customers who need to identify a microorganism using DNA obtained from samples of fish, water, raw materials, food and surfaces. In this case, identification methods are used based on the amplification of the genus and/or specific species of the isolates by simple polymerase chain reaction (PCR) or real-time PCR.		
<i>Available equipment:</i> BioRad T100 Thermal Cycler, MJ mini Personal thermal cycler(BioRad) Bax System Q7 (Applied Biosystem), Gradient Thermal cycler (Eppendorf), BioRad MyCycler		

**Count of mesophilic aerobes, Escherichia coli and total coliforms**

<i>Prize (€; VAT Not Included) (I)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
14	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
1-2 días		
<i>Service description:</i> Service aimed at customers who need to determine the number of aerobic mesophiles, <i>Escherichia coli</i> and total coliforms present in samples of surfaces, raw materials, food or other matrices. In this case, microbiological methods, media and culture conditions appropriate to the type of sample are modified		
<i>Available equipment:</i> Gallenkamp and Memmert Incubators		

**Enterobacteriaceae count**

<i>Prize (€; VAT Not Included) (I)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
6	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		

*Service description:* Service aimed at customers who need to determine the number of Enterobacteriaceae present in samples of surfaces, raw materials, food or other matrices. In this case, microbiological methods, media and culture conditions appropriate to the type of sample are modified.  
*Available equipment:* Gallenkamp and Memmert Incubators

***Staphylococcus aureus count***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
9,5	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
2-3 días		

*Service description:* Customer-oriented service that need to determine the number *Staphylococcus aureus* present in samples of surfaces, raw materials, food or other matrices. In this case microbiological methods, means and culture conditions suitable for sample type and bacteria are used.  
*Available equipment:* Gallenkamp and Memmert Incubators

***Detection by microbiological methods of Listeria spp., Salmonella spp. and Escherichia coli in different matrices***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
57	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
4-5 días		

*Service description:* Customer-oriented service that need to detect y/o quantify the presence of *Listeria spp.*, *Salmonella spp.* or *Escherichia coli* in samples of surfaces, raw materials, food or other matrices. In this case, microbiological methods, means and culture conditions appropriate to the sample type and bacteria are used..  
*Available equipment:* Gallenkamp and Memmert Incubators

***Determination of antimicrobial susceptibility (antimicrobial susceptibility susceptibility test)***

<b>Prize (€; VAT Not Included) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
10	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
1-2 días		

*Service description:* Service aimed at customers who isolate in their company or who send samples to determine the sensitivity of the isolate to antimicrobial agents. In this case, microbiological methods, media, culture conditions and antimicrobials appropriate to the type of microorganism are modified and the antimicrobial susceptibility profile is determined by the classic plate diffusion method or antibiogram.  
*Available equipment:* Gallenkamp and Memmert Incubators t

***Determination of the minimum inhibitory concentration and microbicide***

<b>Precio (€; IVA No Incluido) (I)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
60	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
3-4 días		

*Service description:* Service aimed at customers who isolate in their company or who send samples for isolation Service aimed at customers who isolate in their company or who send samples to determine the sensitivity of the isolate to known antimicrobial agents or who need to assess the microbicidal or microbistatic activity of a new compound. In this case, microbiological methods, media, culture conditions and antimicrobials appropriate to the type of microorganism are modified and the antimicrobial susceptibility profile is determined by the broth dilution method.  
*Available equipment:* Gallenkamp and Memmert Incubators

***Bioactive compound and pathogen toxicity tests for cell lines and erythrocytes***

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
45	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
3-4 días		
<i>Service description:</i> Service aimed at customers who require the determination of the toxicity of microorganisms and/or bioactive compounds for cell lines or red blood cells. In this case, cell lines or erythrocytes are used and toxicity is evaluated using microscopic methods and spectrophotometer.		
<i>Available equipment:</i> Radyber or CO2 incubators (pHCBI)		

**Determination of fish-specific and non-specific humoral immune response**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
45	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
6-10 días		
<i>Service description:</i> Service aimed at customers who require the determination of the specific and non-specific humoral immune response of fish. In this case, methods based on spectrometry, flow cytometry and enzyme-linked immunosorbent assays are used.		
<i>Available equipment:</i> BioRad plate reader, Biosan automated washing system, espectrofotómetro (Bekman Coulter)		

**Establishment of infection models and determination of the degree of virulence (LD50) for fish of bacteria and fungi**

<b>Prize (€; VAT Not Included) (1)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
1500	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
1 mes		
<i>Service description:</i> Service aimed at customers who require the determination of the lethal dose of bacteria and fungi for fish as well as the establishment of the ideal method of experimental infection. In this case, our own experimental infection policies, authorized by the USC Ethics Committee, and which are carried out in the USC aquarium service, are modified.		
<i>Available equipment:</i> Acuario de SSGG-USC, de agua dulce y salada para 20.000 l (de cada tipo)		

**Maintenance and conservation of bacterial and fungal strains (cost per strain per year)**

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
100	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
Non Aplica		
<i>Service description</i> Aimed at customers who require the maintenance of strains of bacteria and bacteria to preserve their viability for long periods. In this case, specific maintenance protocols are used for the type of microorganism (freezing at -30°C, -80°C...).		
<i>Available equipment:</i> Freezers -80°C (Sanyo Ultra Low, New Brunswick Scientific U41085, Eppendorf CryoCube F570, Infrico vertical and Sanyo horizontal) Freezers -30°C (5 Liebherr upright freezers; 2 Whirlpool horizontal and 1 Liebherr; AEG Electrolux Oko-Arctis; Beko)		

**Health certificate**

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
150	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
5 días		

*Service description:* Service aimed at customers who need to know if the fish are carriers of pathogenic bacteria before introducing them into their farming facilities. In this case, detection procedures based on microbiological or molecular methods are modified at the customer's request.

*Available equipment:* N/A

***Production of water-based bacterial autovaccines (price/litre)***

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
140	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
1 mes		

*Service description:* Service aimed at customers who require obtaining a water-based vaccine using an isolate from their own facility (autovaccine). In this case, microbiological culture methods and media adapted to the type of microorganisms are given and autovaccines are inactivated by chemical methods.

*Available equipment:* Biorreactor

***Production of adjuvanted bacterial autovaccines (price/litre)***

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
200	Not Aply	Not Aply
<i>Task execution time</i>	<i>Comments</i>	
1 mes		

*Service description:* Service aimed at customers who require obtaining an adjuvanted vaccine using an isolate from their own facility (adjuvanted autovaccine). In this case, microbiological culture methods and media adapted to the type of microorganism are carried out, the autovaccines are inactivated by chemical methods and mixed with the adjuvant in the appropriate proportion.

*Available equipment:* Biorreactor

**NOTES**

(1) Price subject to trading in case of batches of samples or variations in the scope of the analysis

**VIROLOGICAL ANALYSIS SERVICES**

RESPONSIBLES:

Isabel Bandín Matos and Carlos Pereira Dopazo

***Virus concentration from water samples (up to 2l)***

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
105	Please call (1)	Please call (2)
<i>Task execution time</i>	<i>Comments</i>	
Please call		
<i>Service description:</i> Sequential centrifugation methods (high speed and ultracentrifugation) are used. If necessary, tangency ultrafiltration may be applied.		
<i>Available equipment:</i> N/A		

***Isolation in cell culture (cost per sample)***

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
60	Please call (1)	Please call (2)
<i>Task execution time</i>	<i>Comments</i>	
21 días	Minimum time for implantation in cell culture second standard.	
<i>Service description:</i> The samples (water, sediment, animal tissues, etc.) will be processed by homogenization methods plus antibiotic treatment or filtration (to eliminate microbial contaminants), to obtain the viral extracts. For isolation, the three lines most suitable for the suspected virus indicated by the client or suggested by the laboratory will be used.		
<i>Available equipment:</i> 5 laminar flux chambers (one for biological safety); 8 ambientais incubators and 3 stoves; 3 inverted microscopes and one direct microscope.		

***Cell culture screening (max. 10 lines) (Price/sample)***

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
160	Please call (3)	Please call (2)
<i>Task execution time</i>	<i>Comments</i>	
21 días	Minimum time for illament in cell culture second standard. First sample prize; additional samples 50€/Ut.	
<i>Service description:</i> If there is no reliable suspicion of the type of virus, isolation will be applied, using 10 cell lines to encompass as many viruses as possible.		
<i>Available equipment:</i> 5 laminar flow chambers (one for biological safety); 8 environmental incubators and 3 stoves; 3 inverted microscopes and a direct.		

***Identificación target de virus aislados en cultivo celular***

<b>Precio (€; IVA No Incluido)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
85	Please call (1)	Please call (2)
<i>Task execution time</i>	<i>Comments</i>	
3 días	Additional (if by PCR) to the time for DC isolation	
<i>Service description:</i> In the case of obtaining a positive viral isolate in the cell culture technique, a target technique (serological or molecular [HAN or PCR-type]) with specific markers for a suspected virus may be applied.		
<i>Available equipment:</i> See below		

***Non-target identification of virus isolated in cell culture***

<b>Prize (€; VAT Not Included)</b>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
Please call	Please call	Please call
<i>Task execution time</i>	<i>Comments</i>	
Please call	Imprecise time because it is a non-target identification	

*Service description:* In the case of blind identification (due to no certain hypothesis of the causal virus), it will be agreed that the client will determine the identification route or ways below and the cost of the same.

*Available equipment:* Please call

**Direct detection of viruses in tissues\* – RT-PCR/Rt-qPCR (RNA Virus) (Price for 1 virus and 1 sample (4))**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
85	Please call (1)	Please call (5)
Task execution time	Comments	
≤ 5 días	Includes feed and live food. For sediments, biobeds and the like, an additional €10/sample must be added for additional processing	

*Service description:* Direct detection in tissues of specimens with suspected RNA virus infection will be carried out with proprietary techniques developed and validated by AKI.

*Available equipment:* See more below

**Direct detection of viruses in tissues – PCR/qPCR (DNA virus) (Price for 1 virus and 1 sample (4))**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
90	Please call (1)	Please call (5)
Task execution time	Comments	
≤ 5 días		

*Service description:* Direct tissue detection of specimens with suspected DNA virus infection will be done with their own techniques developed and validated by the laboratory or by techniques published in the OIE Diagnostic Manual (World Animal Health Organization).

*Available equipment:* See below

**Other types of tests: serological, molecular, etc. (cost per sample)**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
Please call	Please call	Please call
Task execution time	Comments	
Please call		

*Service description:* The laboratory has other diagnostic techniques, both serological (immunodot, immunofluorescence, Western blotting, etc.) and molecular (nucleic acid hybridization, LAMB, ddPCR) and flow nanocytometry or electron microscopy, among others, which can be applied by the company's demand. In these cases, the budget will be agreed with the applicant.

*Available equipment:* Please call

**NOTES**

(1) Their specific needs will be studied with the interested party; if it is only the use of the facilities and basic equipment, the cost will be €30 per session; if it needs a consumable, the cost of it will be analyzed.

(2) Their specific needs will be studied with the interested party; if it is only the use of the facilities and basic equipment, the cost will be €0 per session; if it needs a consumable, the cost of it will be analyzed.

(3) Their specific needs will be studied with the interested party; if it is only the use of the facilities and basic equipment, the cost will be €60 per session; if it needs a consumable, the cost of it will be analyzed.

(4) Cost reductions by number of samples and number of viruses/sample (see)

(5) For the use of PCR equipment, €5/run will be charged (regardless of the number of samples); if a fungible is necessary, its cost will be analysed.

\* PCR diagnostic capacity.- Fish viruses: IPNV, IHNV, VHSV, KHV, VNNV, ISAV, SLDV, Pancreas disease, lymphocystis, herpesvirus; Mollusc viruses: OsHV-1 / OsHV-1 µVar; Crustacean viruses: WSSV; MrNV, YHV, GAV, TSV, IMNV, IHNV. OTHERS: consult.

Continúa.....

**MOLLUSC PARASITOLOGICAL  
ANALYSIS SERVICES**

RESPONSIBLES:

Isabel Bandín Matos y Carlos Pereira Dopazo

**Mollusc parasites\*: Direct detection in tissues by PCR/qPCR (Price for 1 virus and 1 sample (1))**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
90	Please call (2)	Please call (3)
Task execution time	Comments	
≤ 5 días		
<p><i>Service description:</i> The direct detection in tissues of mollusc specimens with suspected pathology will be carried out with proprietary techniques developed and validated by the laboratory, by techniques published by reliable laboratories, or by techniques published in the OIE (World Animal Health Organization) Diagnostic Manual</p> <p><i>Available equipment:</i> 2 Thermal cyclers Biorad</p>		

**NOTES**

(1) Cost reductions by number of samples and number of viruses/sample (consult)

(2) Their specific needs will be studied with the interested party; if it is only the use of the facilities and basic equipment, the cost will be €30 per session; if it needs a consumable, the cost of it will be analyzed.

(3) For the use of PCR equipment, €5/run will be charged (regardless of the number of samples); if a fungible is necessary, its cost will be analysed.

\* PCR diagnosis of mollusc parasites: *Bonamia ostreae*, *B. exitiosa*, *Marteilia refringens*, *Perkinsus marinus*, *P. olseni*

**PARASITOLOGICAL ANALYSIS SERVICES**

RESPONSABLE: José Manuel Leiro Vidal

**Direct identification of parasites in fresh/fixed tissue samples (price/sample)**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
50	25	Not Aply
Task execution time	Comments	
≤ 2 días		
<p><i>Service description:</i> Detection will be performed after dissection of the organs/tissues of the chest and subsequent identification of the parasites by light microscopy.</p> <p><i>Available equipment:</i> N/A</p>		

**Parasite identification by PCR (price/sample)**

Prize (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
75	35	Not Aply
Task execution time	Comments	
Variable	Variable as needed or not to design and produce primers "again"	
<p><i>Service description:</i> The detection will be carried out after the extraction of DNA from the samples and the amplification of the ITS region of the ribosomal genes of the parasites involved.</p> <p><i>Available equipment:</i> Gradient thermal cyclers of different brands.</p>		

**Quantification of Scuticociliates in Water Samples by PCR with Hydrolysis Probes**

Prize/sample (€; VAT Not Included)		
External client	USC Client	USC Client selfservice
120	60	Not Aply
Task execution time	Comments	
≤ 7 días		
<p><i>Service description:</i> Ciliate concentration in seawater samples by differential filtration and DNA extraction. Quantification will be performed using the qPCR technique using primers specific to the ITS region and FAM-TAMRA hydrolytic probes.</p>		

*Available equipment:* StepOnePlus Real-Time PCR system, Applied biosystems (Thermo Fisher Scientific)

**Isolation and genotyping of *Philasterides dicentrarchi* strains for autovaccine production**

<i>Prize/sample (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
100	50	Not Apply
<i>Task execution time</i>	<i>Comments</i>	
≤ 4 semanas		
<i>Service description:</i> Aislamiento de escuticociliados del fluido ascítico de pescados infectados y cultivo in vitro en medio L15 complementado con soro bovino inactivado. Extracción de ADN, clonación de genes COX1 y alfa-tubulina en <i>E. coli</i> y secuenciación por el método Sanger. Análisis bioinformático para la aislado de la identidad de nucleótidos y caracterización de cepas.		
<i>Available equipment:</i> N/A.		

**Adjuvanted scuticociliate autovaccines (I.P. administration) (price/litre)**

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
210	100	Not Apply
<i>Task execution time</i>	<i>Comments</i>	
≤ 4 semanas		
<i>Service description:</i> Mass culture of ciliates isolated from infectious shoots of turbot cultured in fish farms (see Illado and genotyping...) in L15 medium supplemented with inactivated bovine soro, concentration by centrifugation, washing and inactivated by formaldehyde. Autovacin formulations will be produced after mixing the inactivated ciliates in Montanide gels (Seppic).		
<i>Available equipment:</i> N/A.		

**BIOTECHNOLOGICAL SERVICES**

RESPONSIBLE:  
Carlos Pereira Dopazo

**High-speed centrifugation**

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
5 €/hour	4 €/hour	3 €/hour
<i>Task execution time</i>	<i>Comments</i>	
Non Aplica	Please call for use conditions	
<i>Service description and of the available equipments:</i> The prices for the use of the high-speed centrifuge (Backman-Cultek Avanti J-25) are indicated by the centrifugation time programmed in the equipment. If the used rotor is provided by the iARCUS, an additional €1 is added to the cost.		

**Ultracentrifugation**

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
8 €/hour	6 €/hour	4 €/hour
<i>Task execution time</i>	<i>Comments</i>	
Non Aplica	Please call for use conditions	
<i>Service description and of the available equipments:</i>		

**qPCR**

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
1,5 €/well	1,0 €/well	0,5 €/well
<i>Task execution time</i>	<i>Comments</i>	
Not Apply	Please call for use conditions (e.g., reactivos in the included)	

*Service description and of the available equipments:* Real-time or quantitative PCR equipment available: Applied Biosystems 7300, BioRad iCycler, BioRad CFX Connect, Biorad CFX96 and EcoGen MyGo Mini

***Droplet digital PCR***

<i>Prize (€; VAT Not Included)</i>		
<i>External client</i>	<i>USC Client</i>	<i>USC Client selfservice</i>
2 €/well	1,5 €/well	1,0 €/well
<i>Task execution time</i>	<i>Comments</i>	
Not Apply	Consult terms of use (e.g., reagents not included; use of robot not included: €1/additional well)	
<i>Service description and of the available eq:</i> BioRad Automated droplet generator + BioRad ddPCR GX200		