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UGACOOOP
Instituto de Educación
Superior Alvear

**The cooperative approach to
biotechnology for the promotion
of technical education, sustainable
agriculture, and science-based
industries: an ongoing experiment in the
south of Mendoza, Argentina.**

Ezequiel Lentz, PhD.

Buenos Aires >> Zurich >> General Alvear

Dr. Ezequiel M. Lentz



3

Institute of Biology and Experimental Medicine (IBYME-CONICET)
Animal Biotechnology Lab
(postdoct)

2

Institute of Genetic Engineering and Molecular Biology (INGEBI-CONICET)
Plant Biotechnology Lab
Ph.D.

1

University of Buenos Aires
Biological Sciences
(specialization in Molecular Biology)

4

ETH Zurich
Plant Biotechnology Lab
(postdoct)



5

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Buenos Aires >> Zurich >> General Alvear

Dr. Ezequiel M. Lentz



Publications from this work:

1

Lentz EM, Eisner S, McCallum EJ, Schlegel K, Campos FAP, Gruissem W, Vanderschuren H. Genetic Transformation of Recalcitrant Cassava by Embryo Selection and Increased Hormone Levels. *Methods Protoc.* 2018 Nov 13;1(4). pii: E42. doi: 10.3390/mps1040042. PubMed PMID: 31164582; PubMed Central PMCID: PMC6481083.

2

Lentz EM, Kuon JE, Alder A, Mangel N, Zainuddin IM, McCallum EJ, Anjanappa RB, Gruissem W, Vanderschuren H. Cassava geminivirus agroclones for virus-induced gene silencing in cassava leaves and roots. *Plant Methods.* 2018 Aug 27;14:73. doi: 10.1186/s13007-018-0340-5. eCollection 2018. PubMed PMID: 30154909; PubMed Central PMCID: PMC6109987.

3

Syed Shan-e-Ali Zaidi SS, Vasudevan K, Lentz EM, Vanderschuren H. Virus Induced Gene Silencing (VIGS) in Cassava using Geminivirus Agroclones. *Methods in Molecular Biology* (accepted, in press).

4

Lentz EM, Hopf A, Orek C, Gruissem W, Vanderschuren H. Combined rhizotron visualisations, transcriptomics studies and molecular validation strategies to explore the underground drought stress response in cassava. In preparation for "New Phytologist".

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

**Plant
Biotechnology**



PLANT FELLOWS



SEVENTH FRAMEWORK
PROGRAMME

MARIE CURIE
ACTIONS

Biotechnology in General Alvear, Mendoza:

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LAB:
startups incubation
teaching

+

TEAM:
Biotechnologists Biologists
Geneticist Engineers

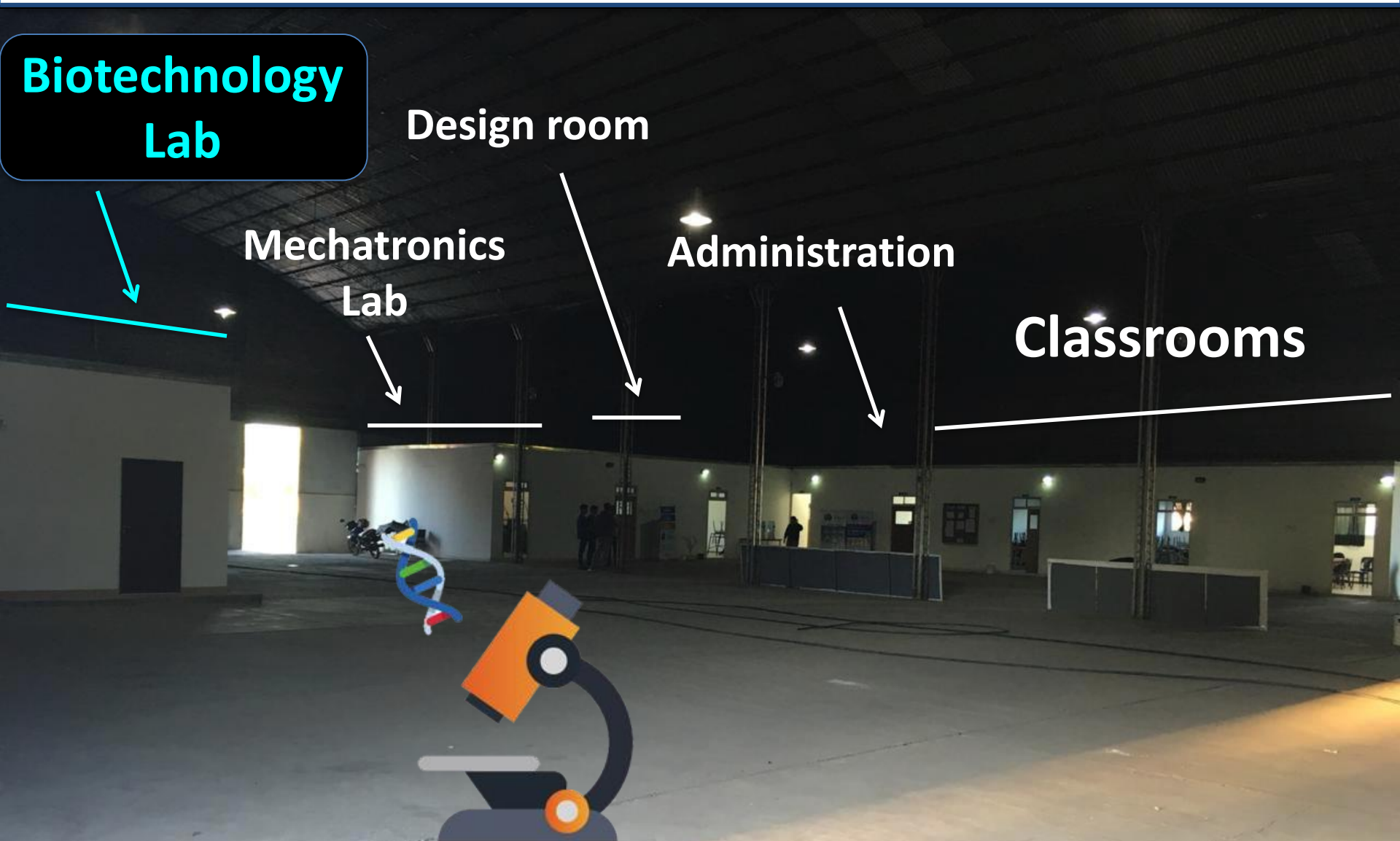


Biotechnology Lab

Biotechnology in General Alvear, Mendoza: **UGACOOOP**



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**Biotechnology
Lab**

Design room

**Mechatronics
Lab**

Administration

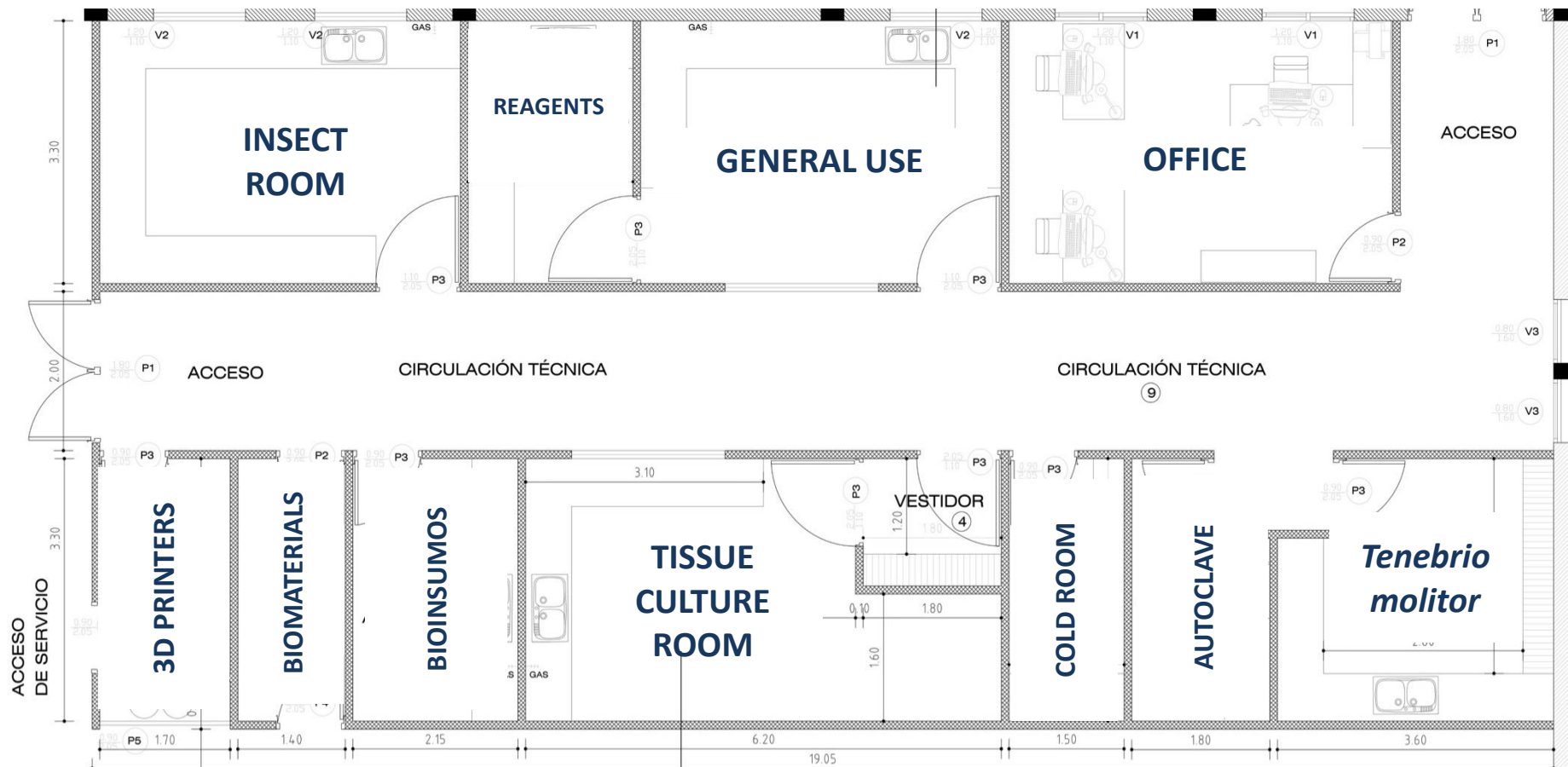
Classrooms



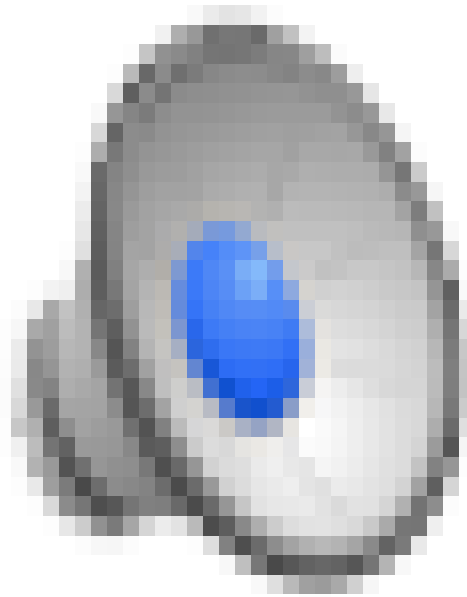
Biotechnology Lab



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 Instituto de Educación Superior Alvear



Our first grant



Micropropagation of virus-free grapevine for local producers



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VIÑEDOS en MENDOZA:

- virus leafroll.
 - virus fanleaf.
 - otros virus.
- ↓ 20% productividad**

Laboratorio de Biotecnología



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Cooperativa Vitivinícola
Algarrobo Bonito

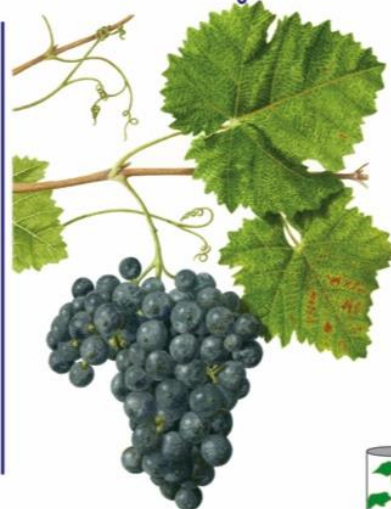


Grupo de Investigación del
Dr. Sebastián Gomez Talquenca



Instituto Nacional de
Tecnología Agropecuaria

Vitis vinifera



EXPLANTO

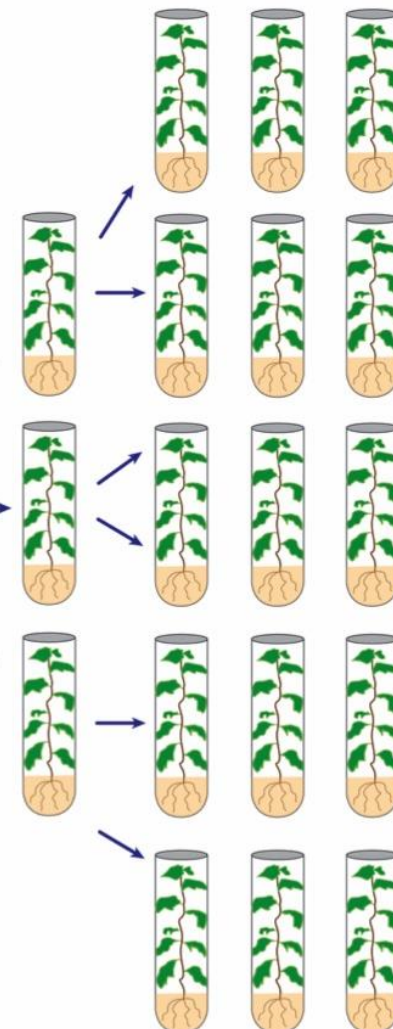


ELIMINACIÓN
DE VIRUS
IN-VITRO

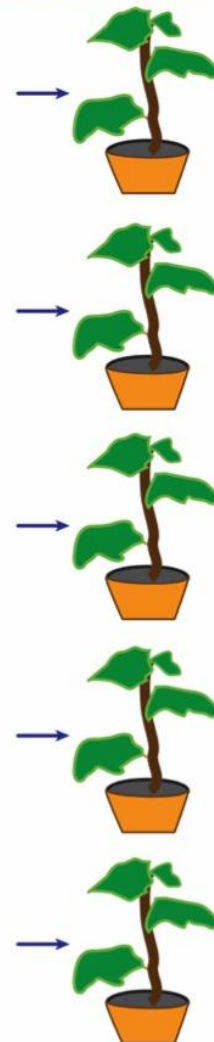


PLANTA
MADRE
LIBRE
DE VIRUS

PRODUCCIÓN CLONAL IN-VITRO
(MICROPROPAGACIÓN)



RUSTICACIÓN
(en INVERNADERO)



Production of beneficial insects and entomopathogenic fungi for biological pest control



PREDATORS & PARASITOIDS

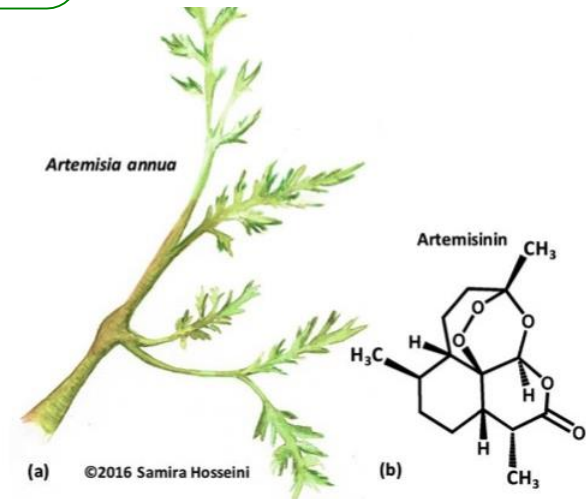
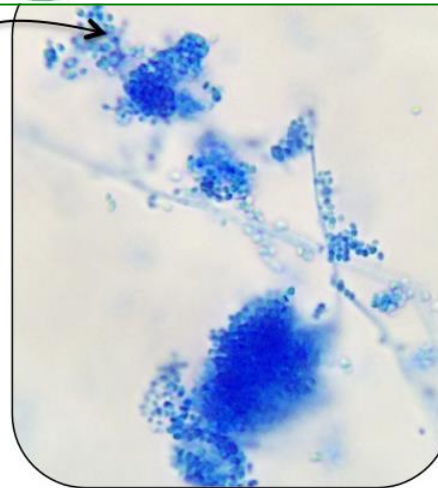
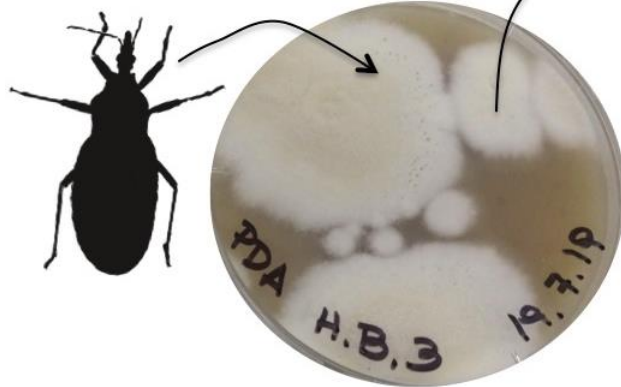


CHITIN & CHITOSAN

BOTANICAL EXTRACTS



ENTOMOPATHOGENIC FUNGI



Estudiá en Alvear, estudiá en
Instituto de Educación Superior ALVEAR

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TECHNICAL DEGREE IN BIOTECHNOLOGY

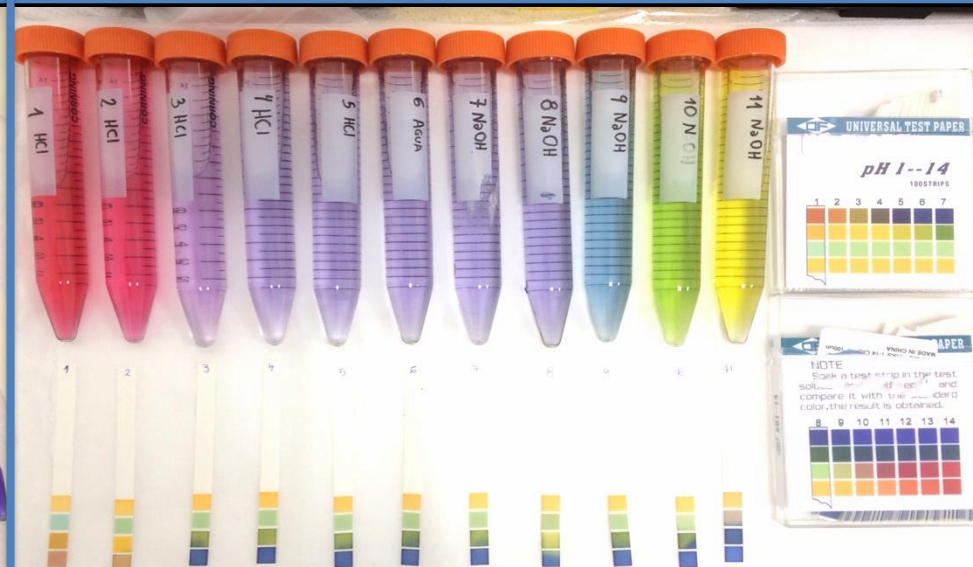
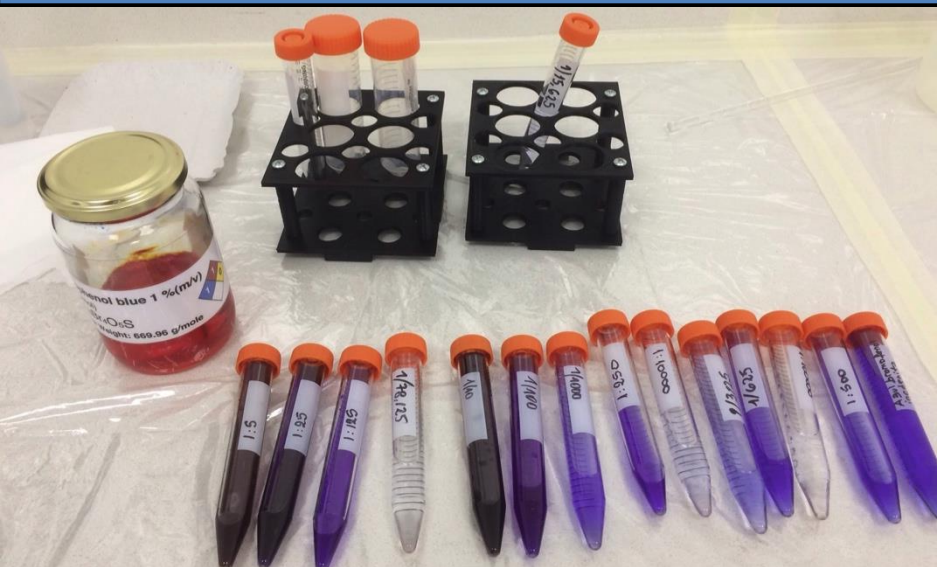


Technical Degree in Biotechnology

(Resolution 0116 DGE-17)



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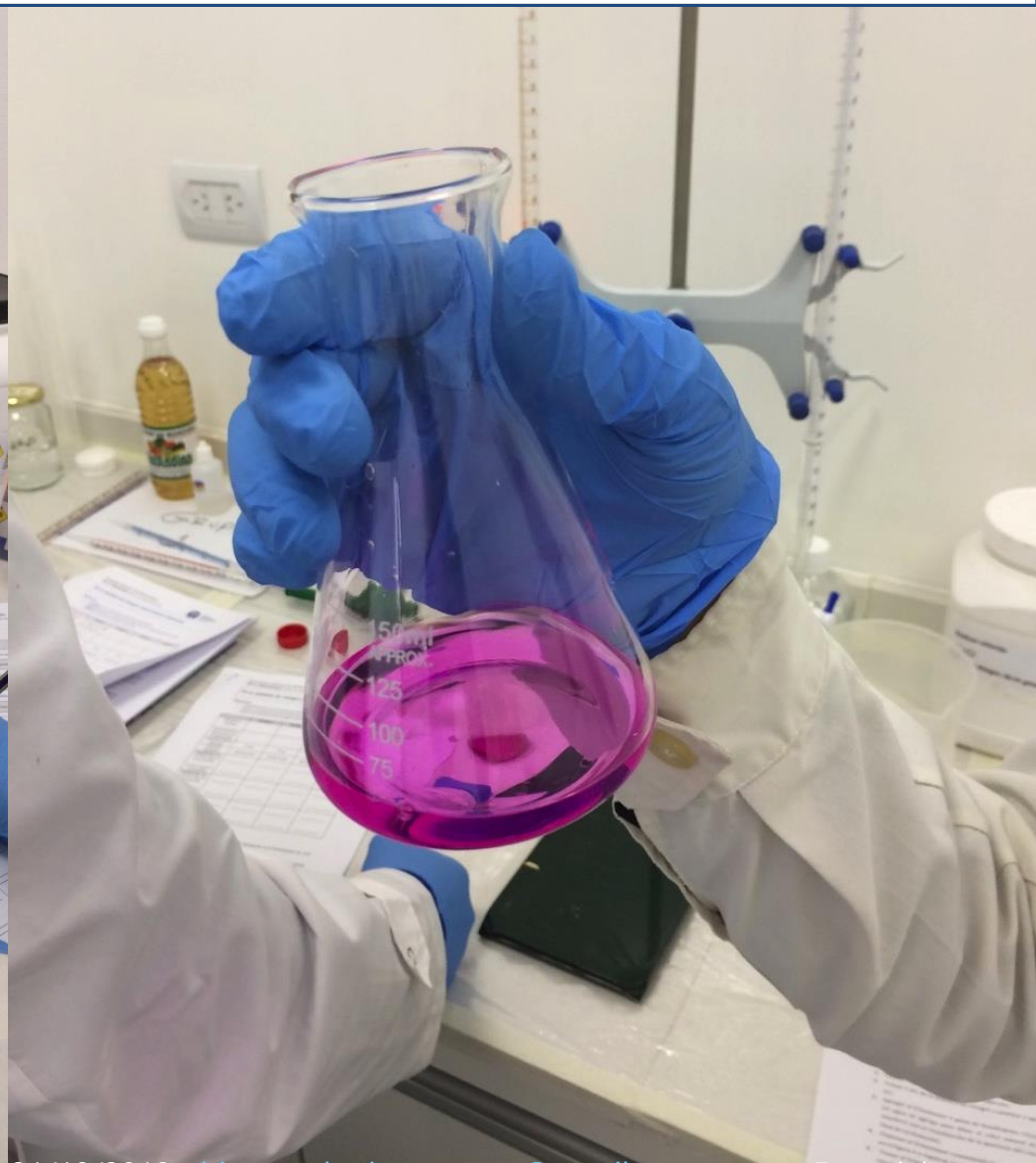


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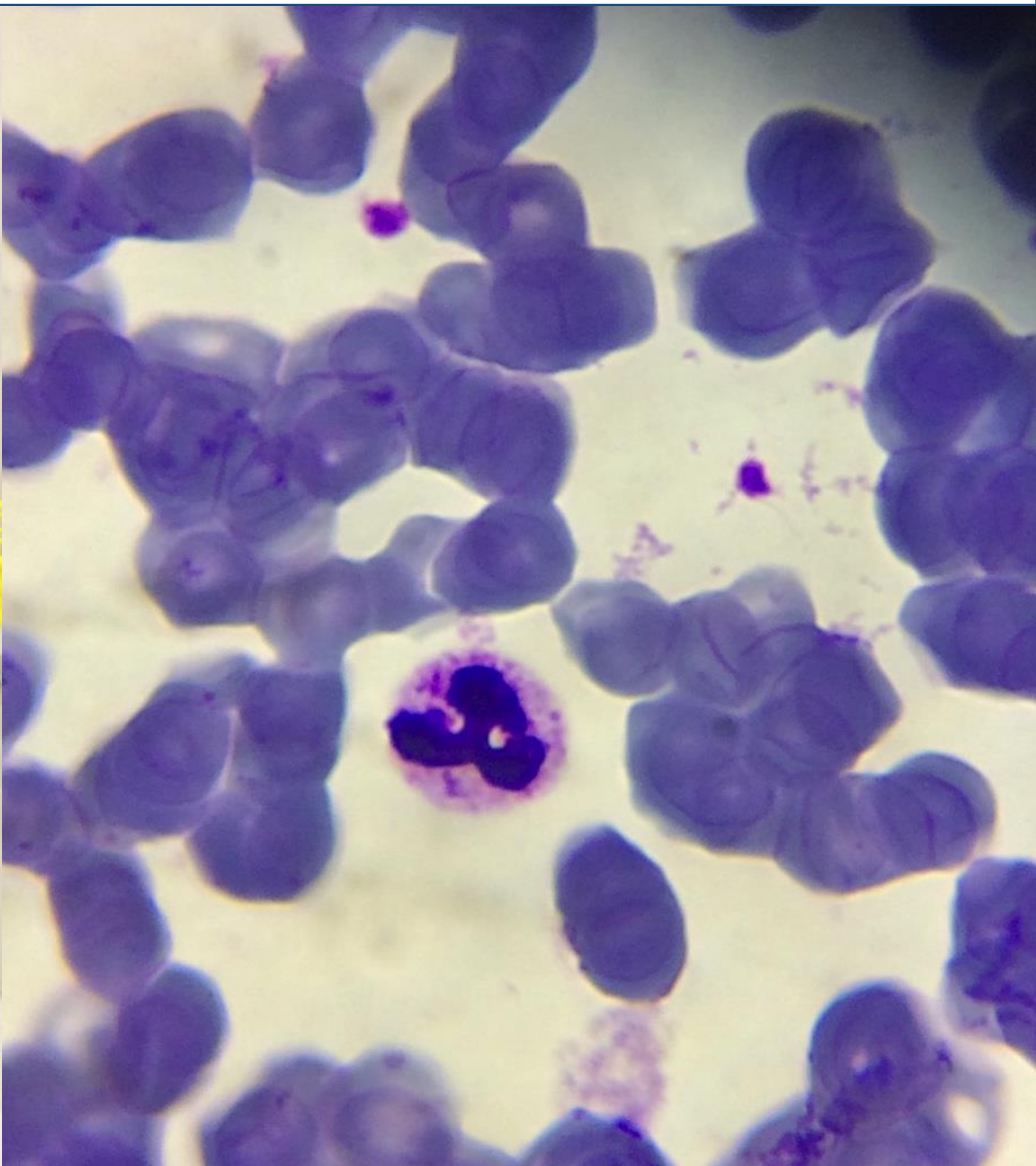
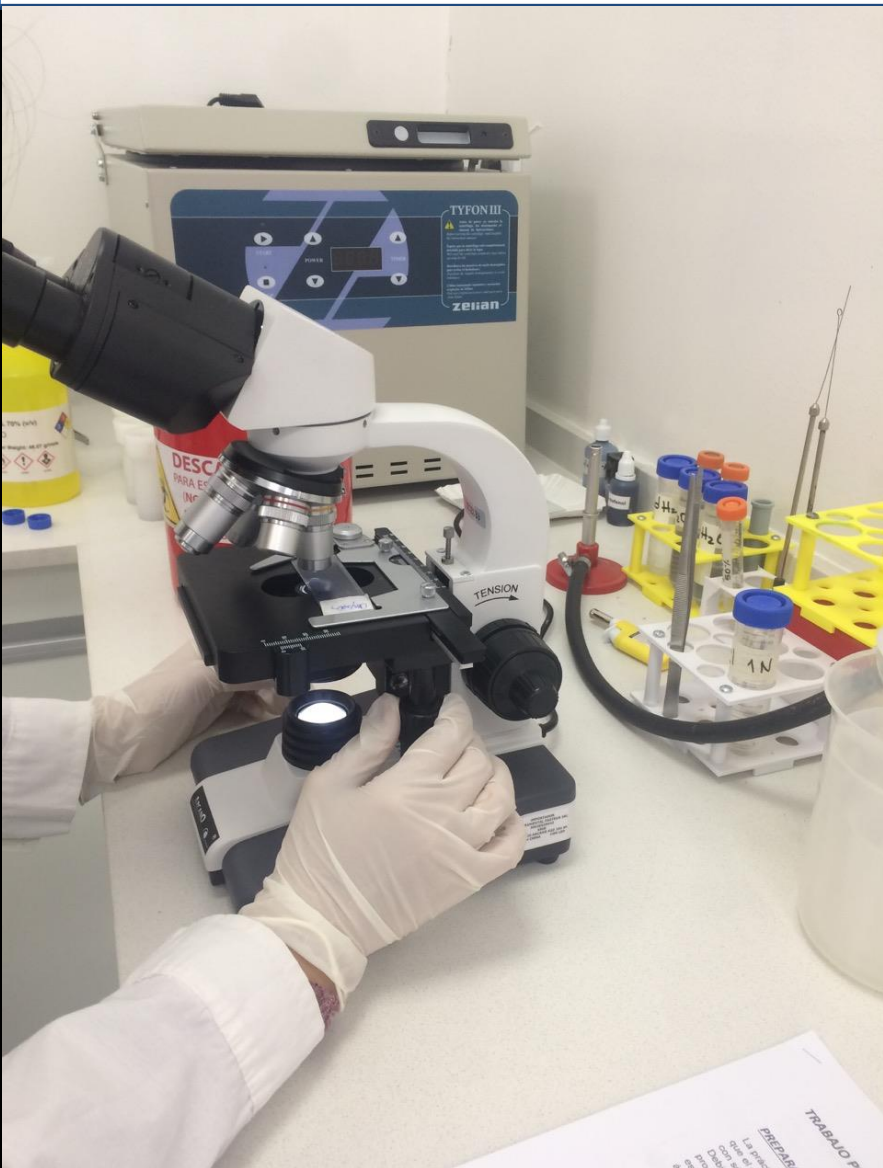


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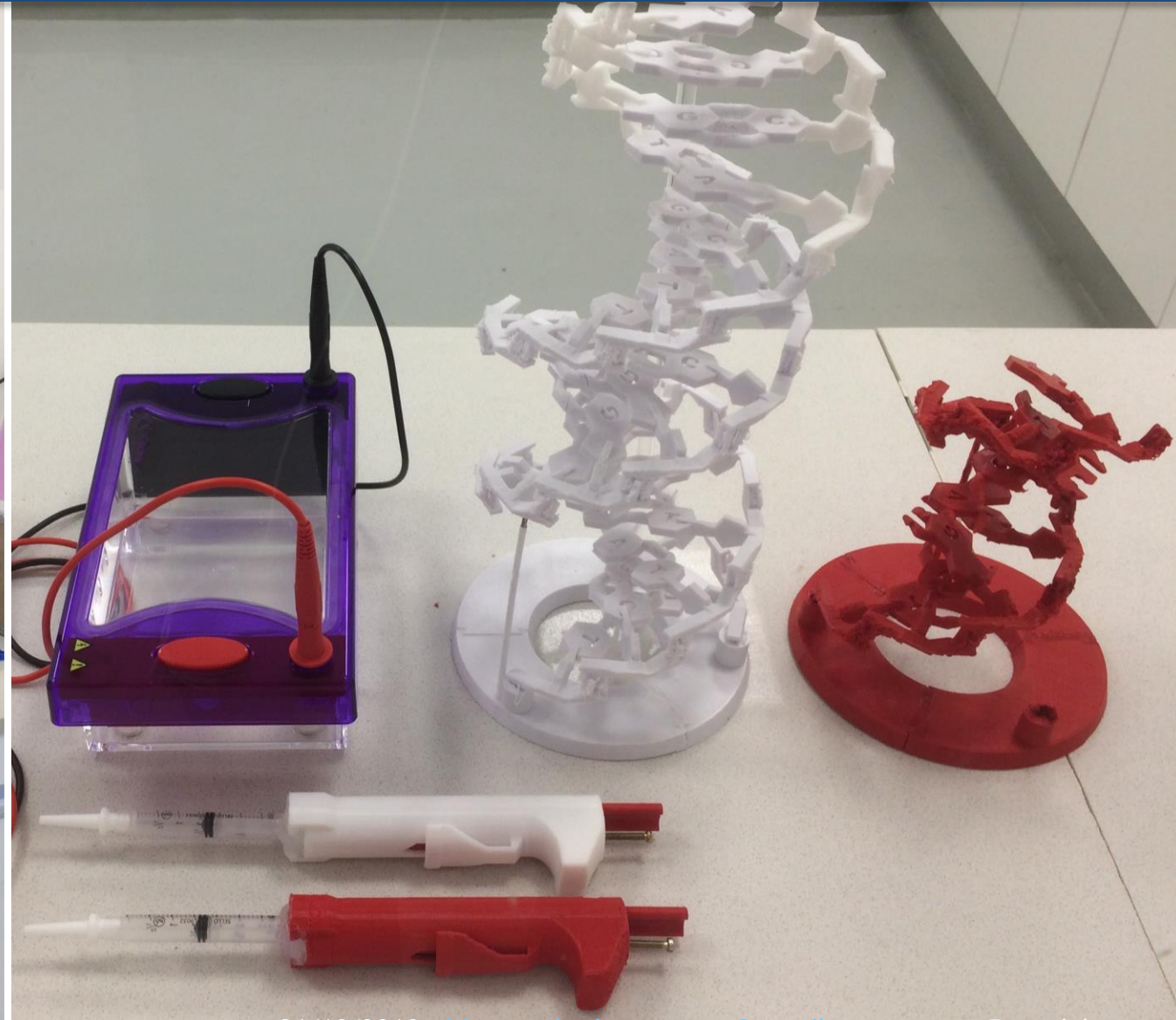
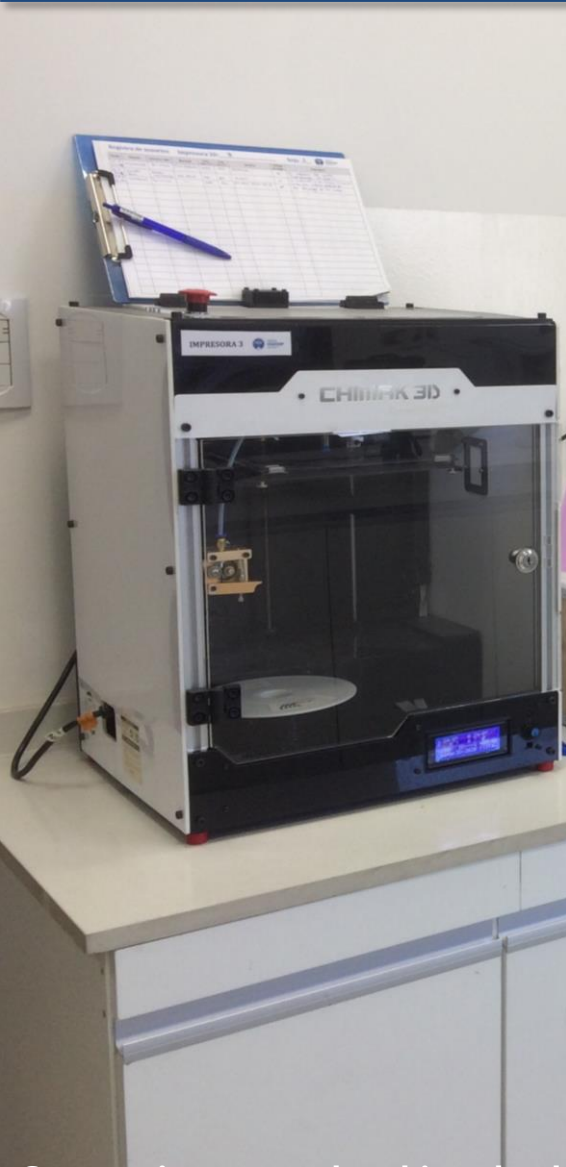


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TP-9: Extracción de DNA genómico de Escherichia coli mediante protocolos de precipitación por etanol y adsorción al sílice.

- Objetivos:**
- Comparar dos métodos de extracción de DNA de *Escherichia coli* basados en distintos fundamentos.
 - Familiarizarse con técnicas básicas de extracción de ácidos nucleicos.

- Protocolo:**
Formar 4 grupos con 2 personas.
1. Extracción de DNA genómico de *E. coli* mediante un protocolo de precipitación con etanol:
 - 1.1. Partir de 90 mL de cultivo overnight de *E. coli*, contenidas en un frasco de vidrio de 360 cm³ (aprox. 20.000 millones de células = 2×10^{10})
 - 1.2. Agregar 10 mL de buffer de extracción 10X.
 - 1.3. Incubar 10 min a temperatura ambiente agitando suavemente con movimientos circulares cada 3 min.



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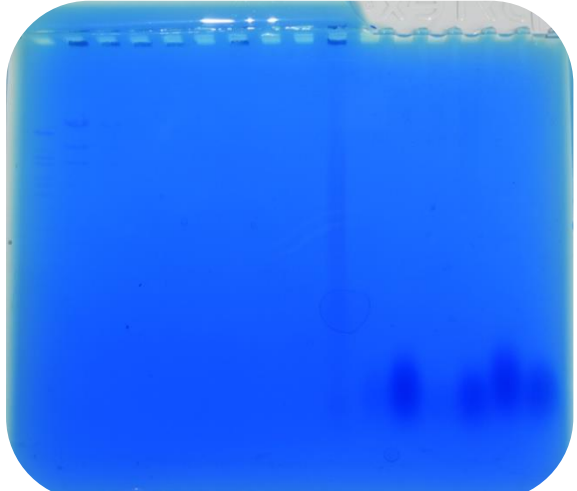
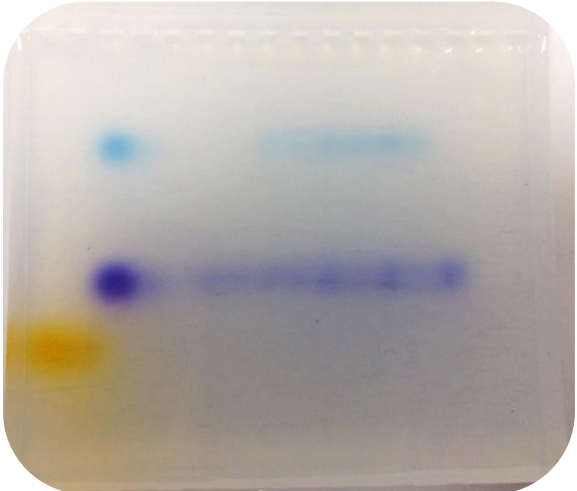
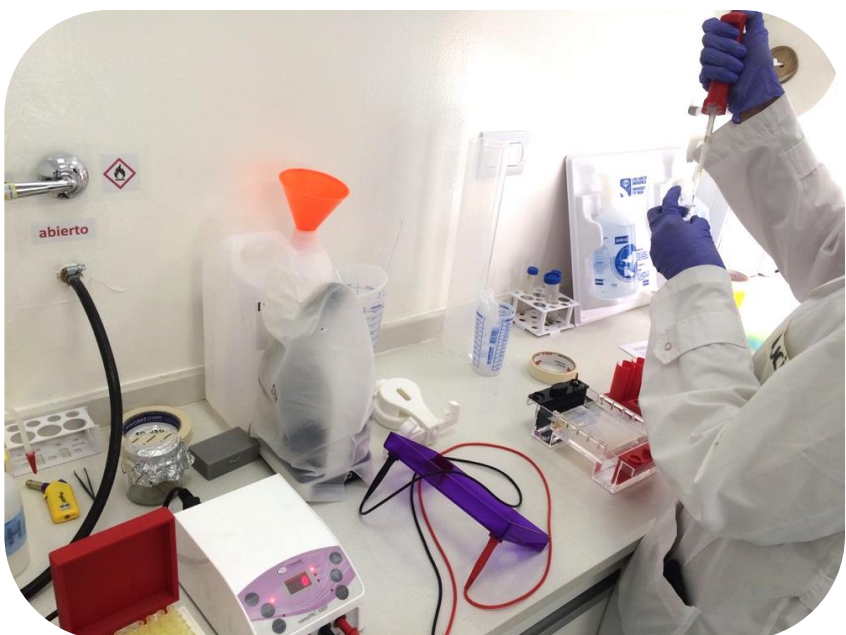
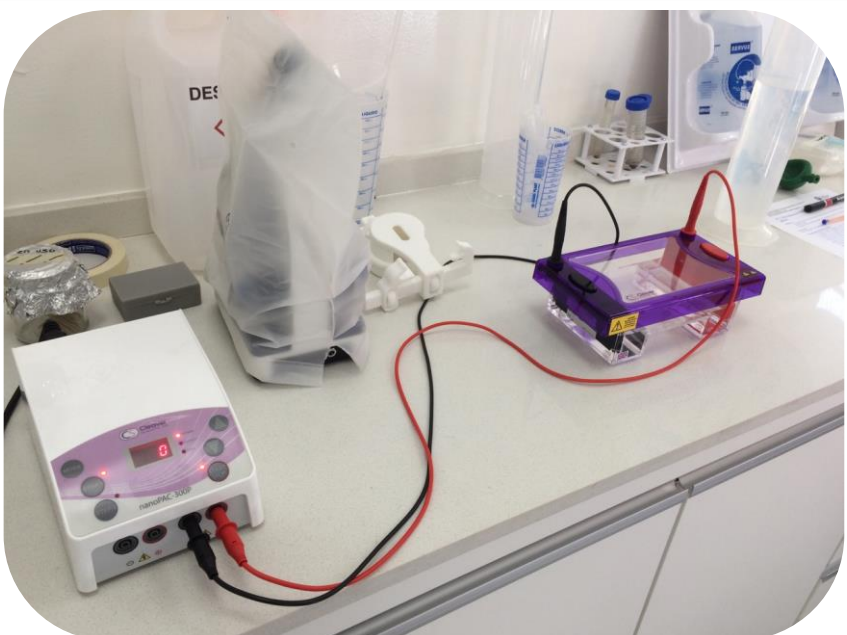


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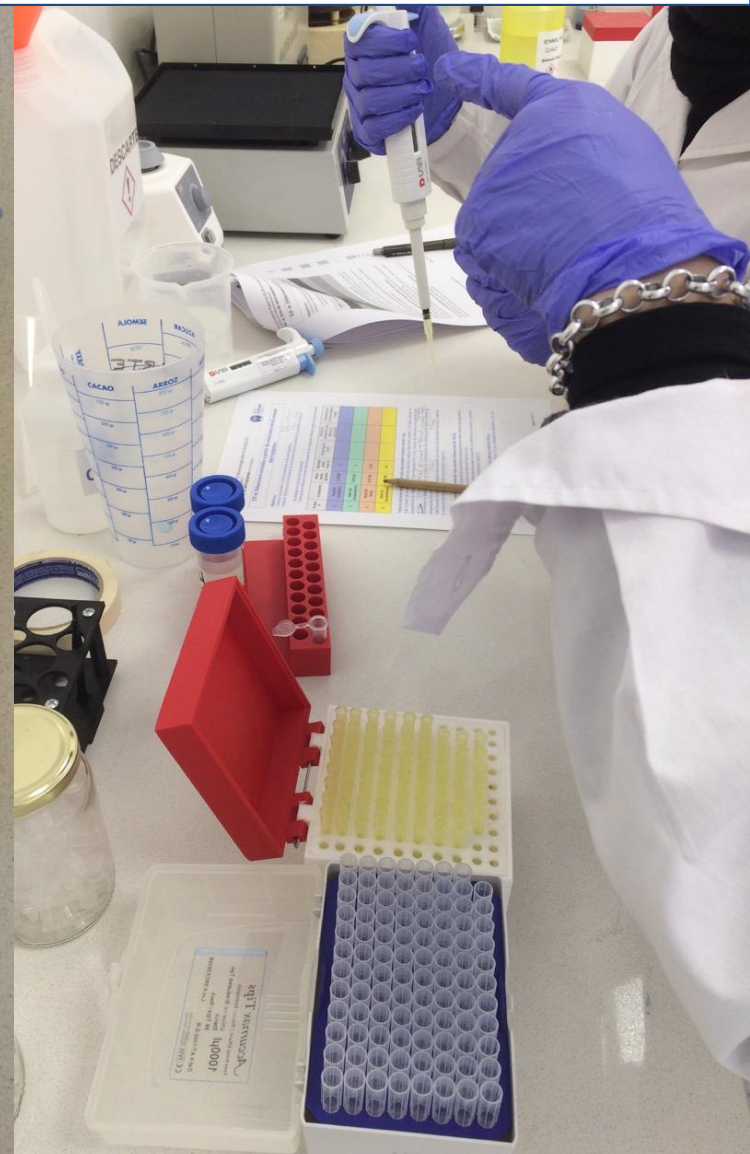
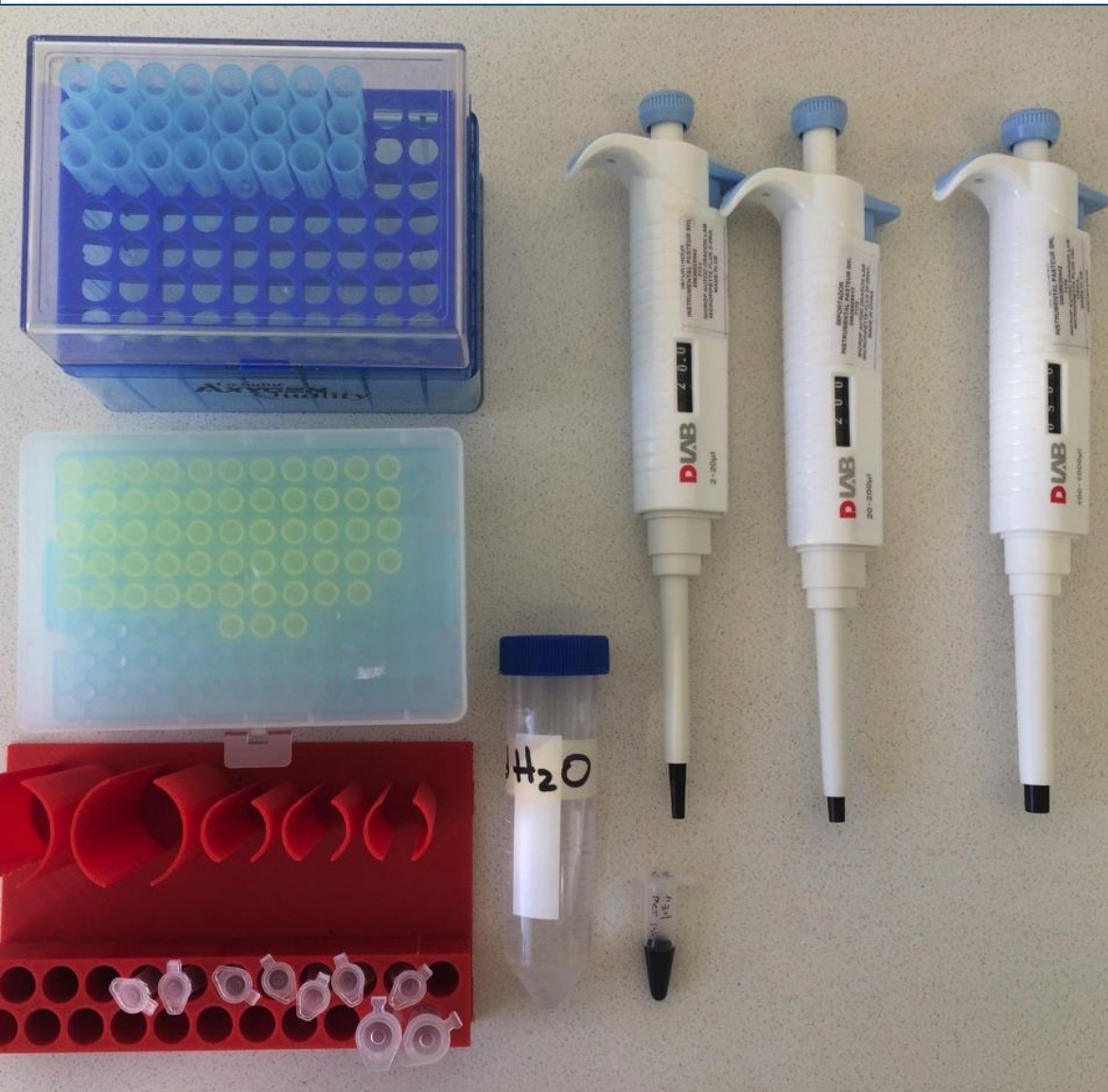


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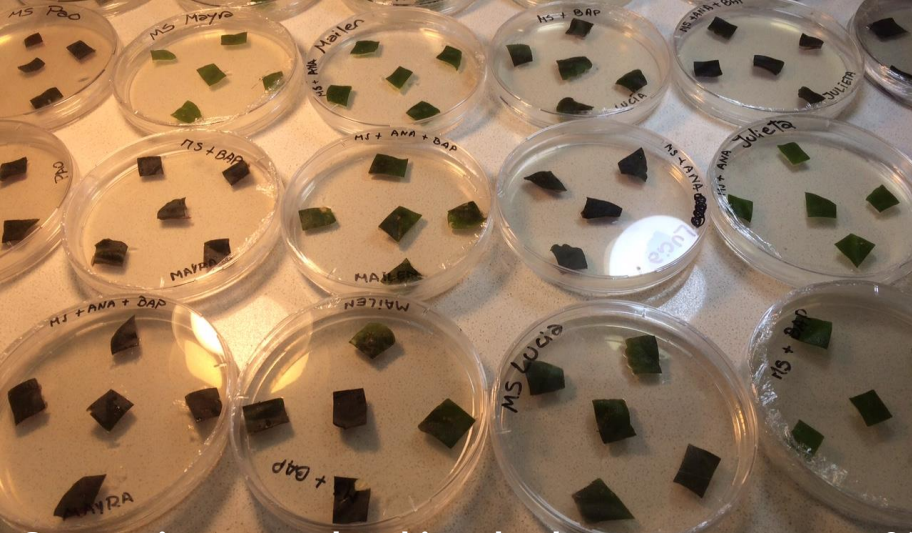
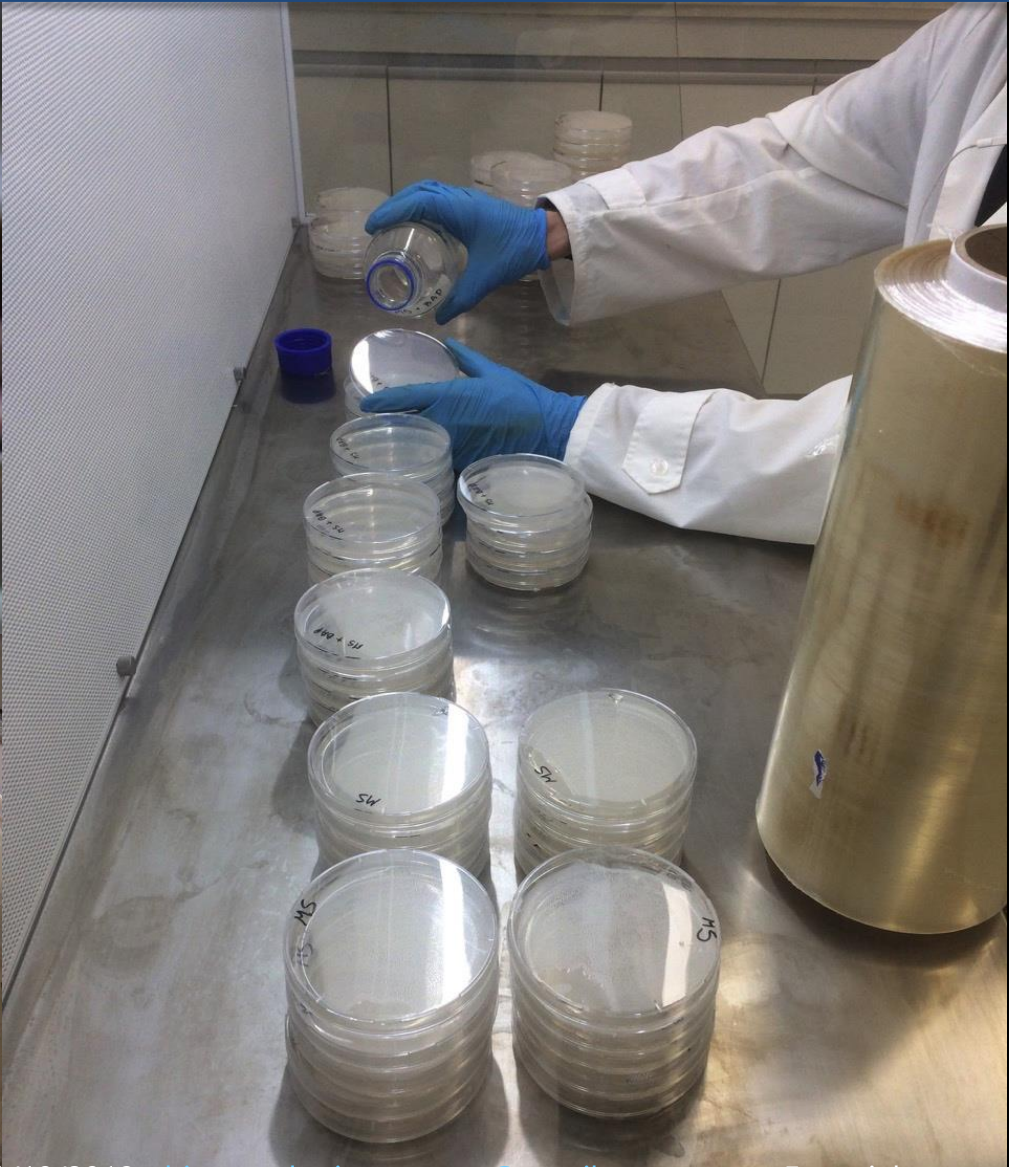


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General
Alvear

**Agencia Municipal de Ciencia
y Tecnología**

Director: Ing. Mariano Ramirez



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Director: Lic. Carlos Raimondi



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