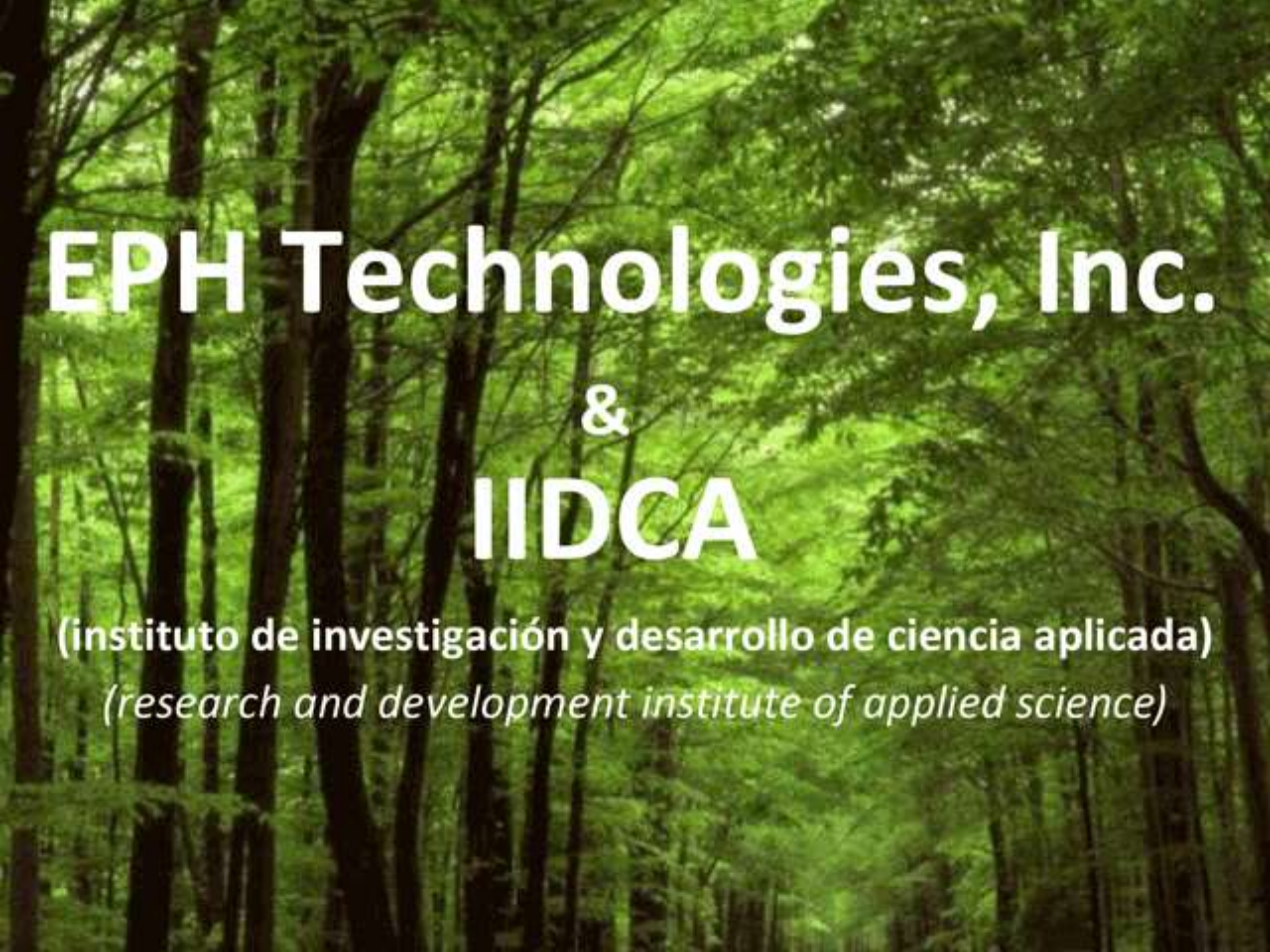
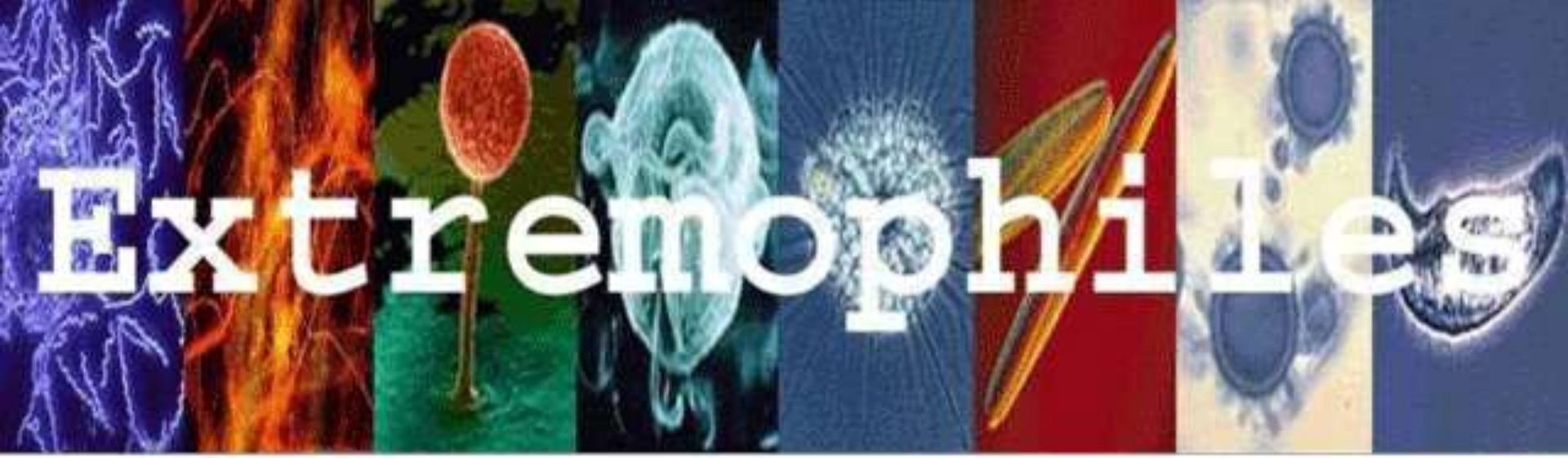
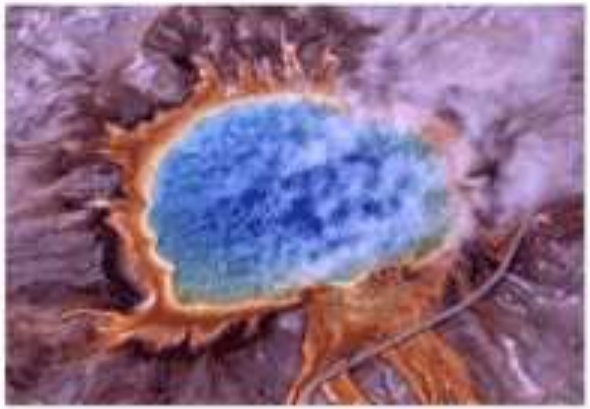

EPH Technologies, Inc.
&
IIDCA
(instituto de investigación y desarrollo de ciencia aplicada)
(research and development institute of applied science)



Extremophiles are organisms that can live under very difficult environmental conditions for most living organisms in conditions such as extremes of pH, temperature, salinity, radiation, atmospheric pressure, oxygen starvation stress, among others.

(Van Den Burg, 2003; Pikuta et. al., 2007; Chakravorty; et. al.,2012)



- Extremophiles have structural and molecular adaptations to withstand these conditions
- For example, thermophiles have particularly stable proteins and membranes
- Psychrophiles, namely those which bear very low temperatures, proteins and cell membranes are flexible and / or antifreeze proteins.
- Halophiles salt resistant, contain compatible solutes and high concentrations of inorganic ions. Acidophilus and alkaliphiles are capable of pumping ions to maintain a near neutral pH internally.

Why is it important to us?

- Extremophiles are important not only for what they can tell us about the fundamentals of biochemistry and structural diversity, but also for its enormous potential as sources of enzymes and other biological materials with applications in biotechnology and medicine, both human and veterinary.

Therapeutic Alternative

- The interaction of extremophiles with animals is essential for this study because

- It raises the relevance of the relationship between extremophiles and eukaryotic systems in the regulation of pathological processes and therapeutic alternative,

- Using adaptations that have evolved in cell extremophiles systems in extreme conditions, thus generating a useful machinery in other systems.

PROTENZA

- Extremophile microorganisms have tremendous potential as novel therapeutic agents
- To understand the therapeutic qualities of the product PROTENZA,
- But it is essential to know that proteins we have in the sample to make a more specific analysis of the interaction of these proteins with human cells.

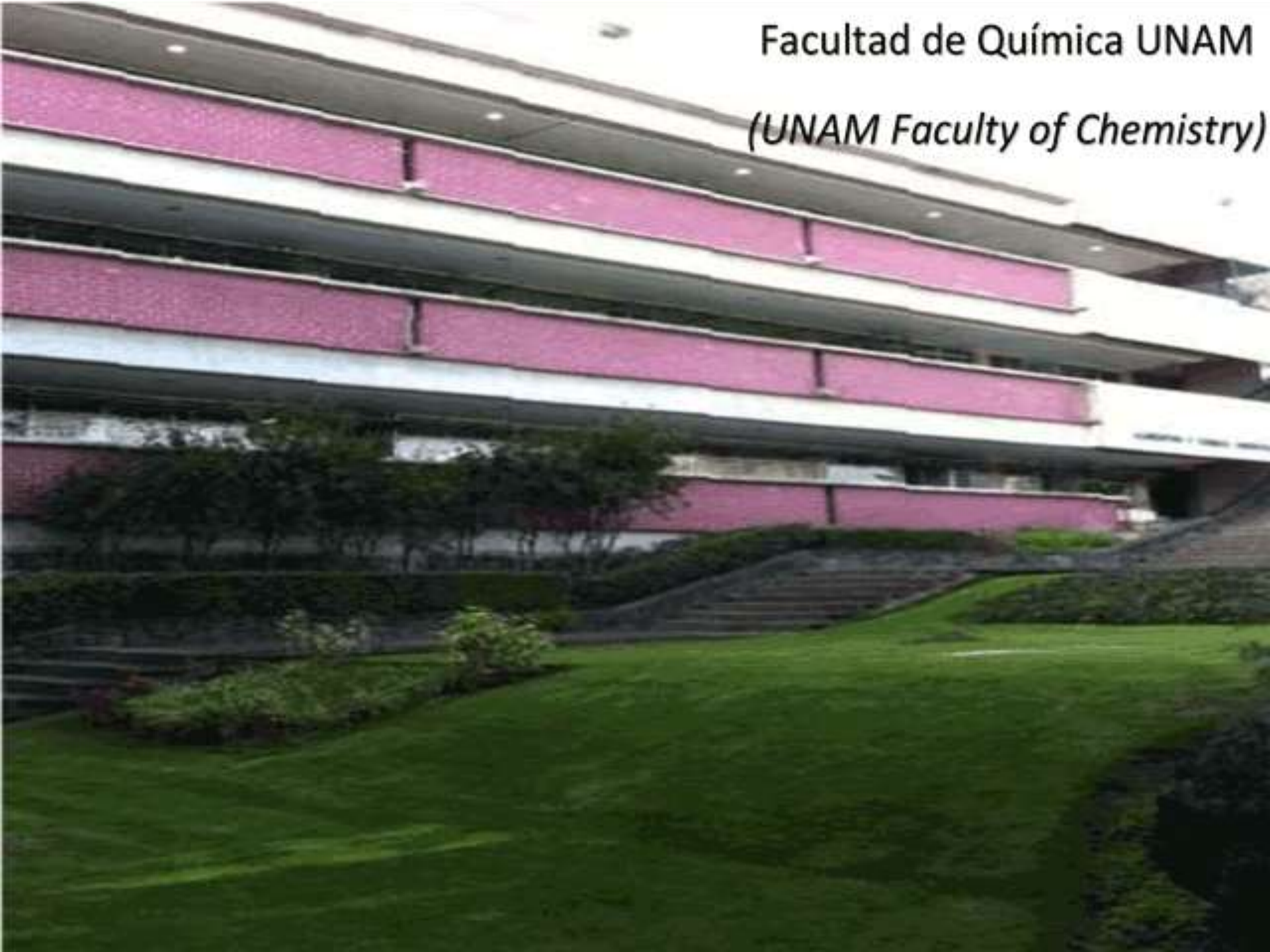
Damage repair

- Because extremophiles have adopted a variety of strategies to survive in conditions of cellular stress,

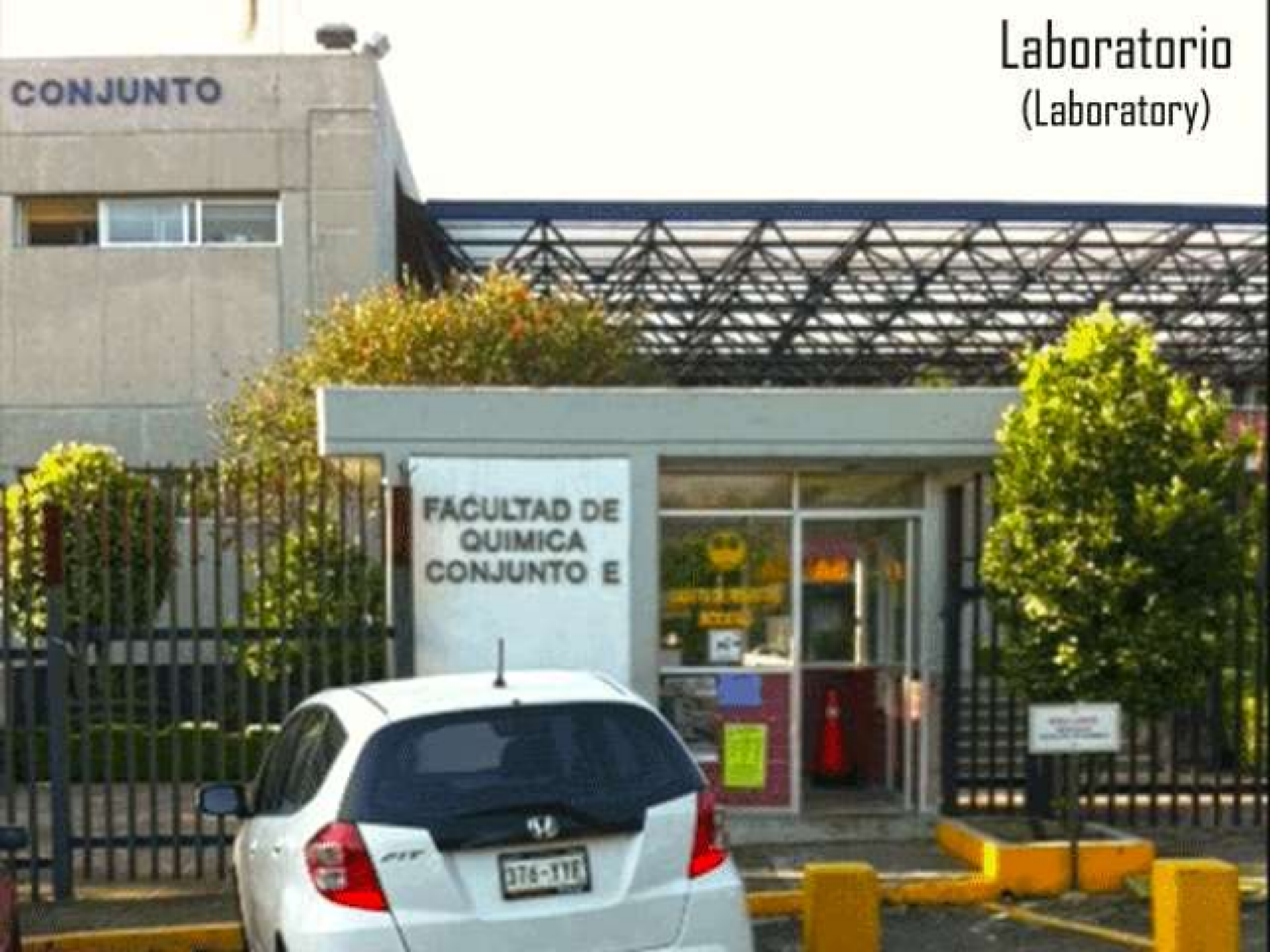
- Found a novel applications such as the use of organic derivatives called "Extremolites" to protect and repair cells from macromolecules damage and stress.

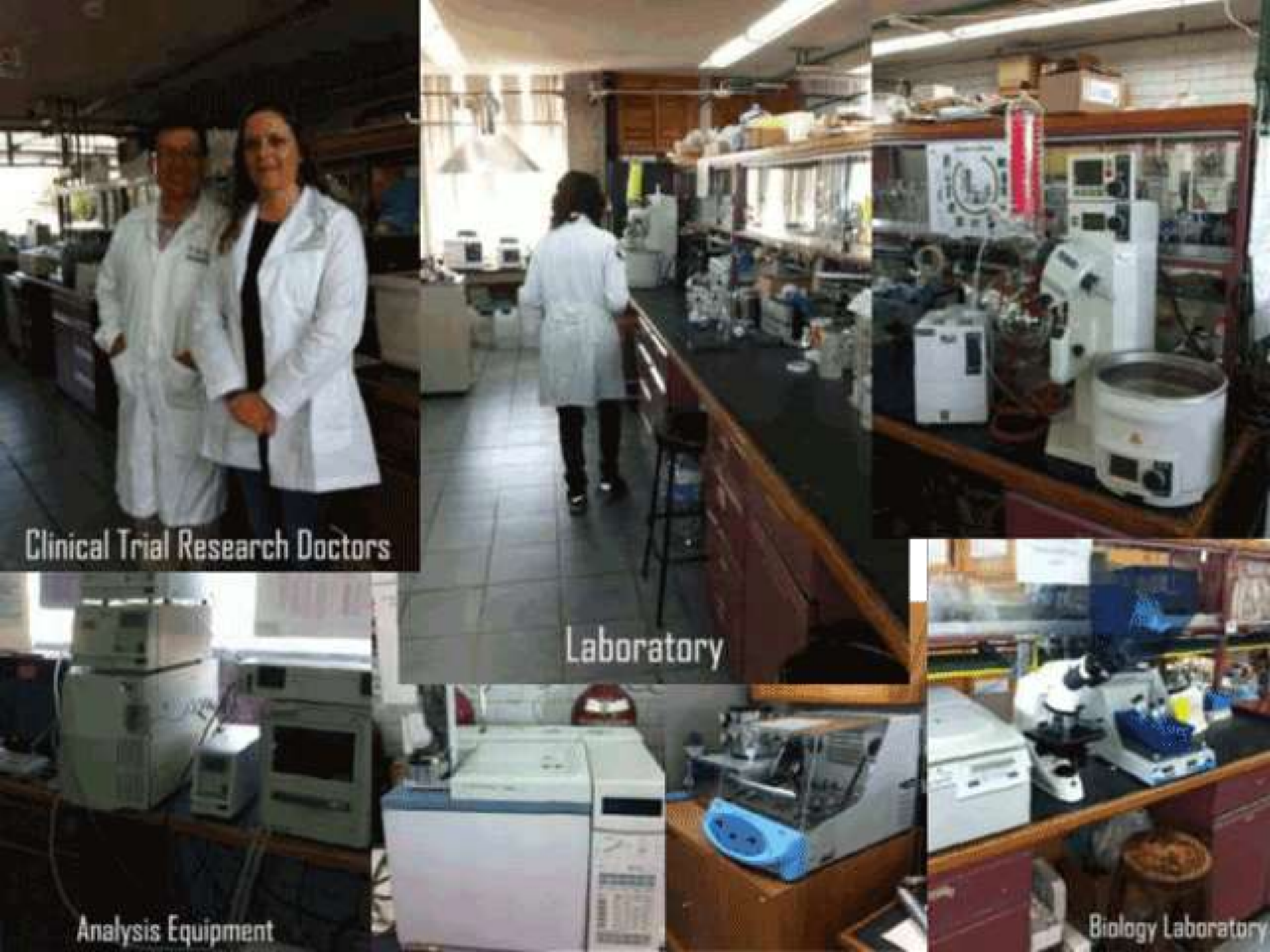
Extremolites

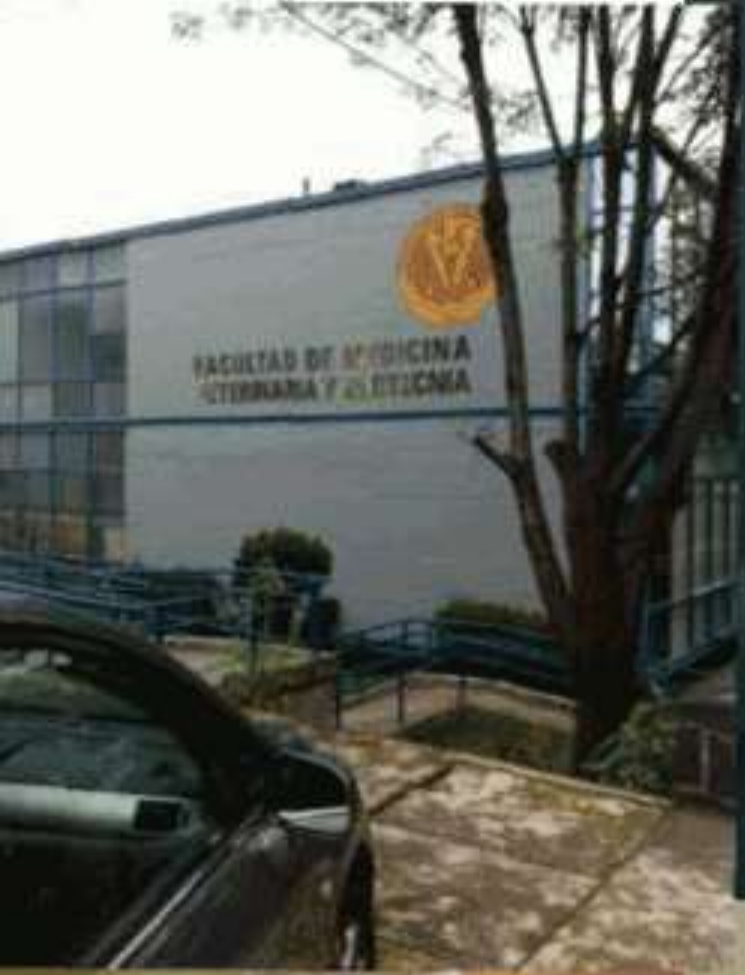
- Extremolites minimize denaturation of biopolymers occurring under stress and they are compatible with intracellular machinery.
- The Ectoines were first extremolites produced in a large scale, and they have found applications as protective skin cells as stabilizing proteins free of other proteins and cells in the biological sciences.
- We have this?
- Experimental tests necessary for our research are underway, but we need to know what type of compound have in to PROTENZA to discuss the way forward.


Facultad de Química UNAM
(UNAM Faculty of Chemistry)

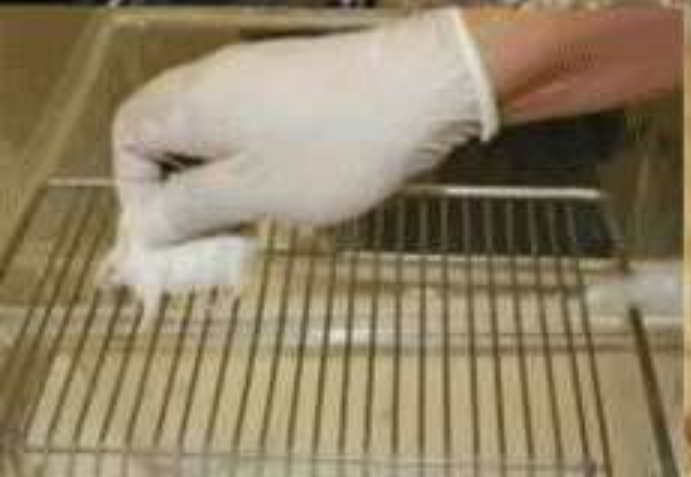
Laboratorio
(Laboratory)



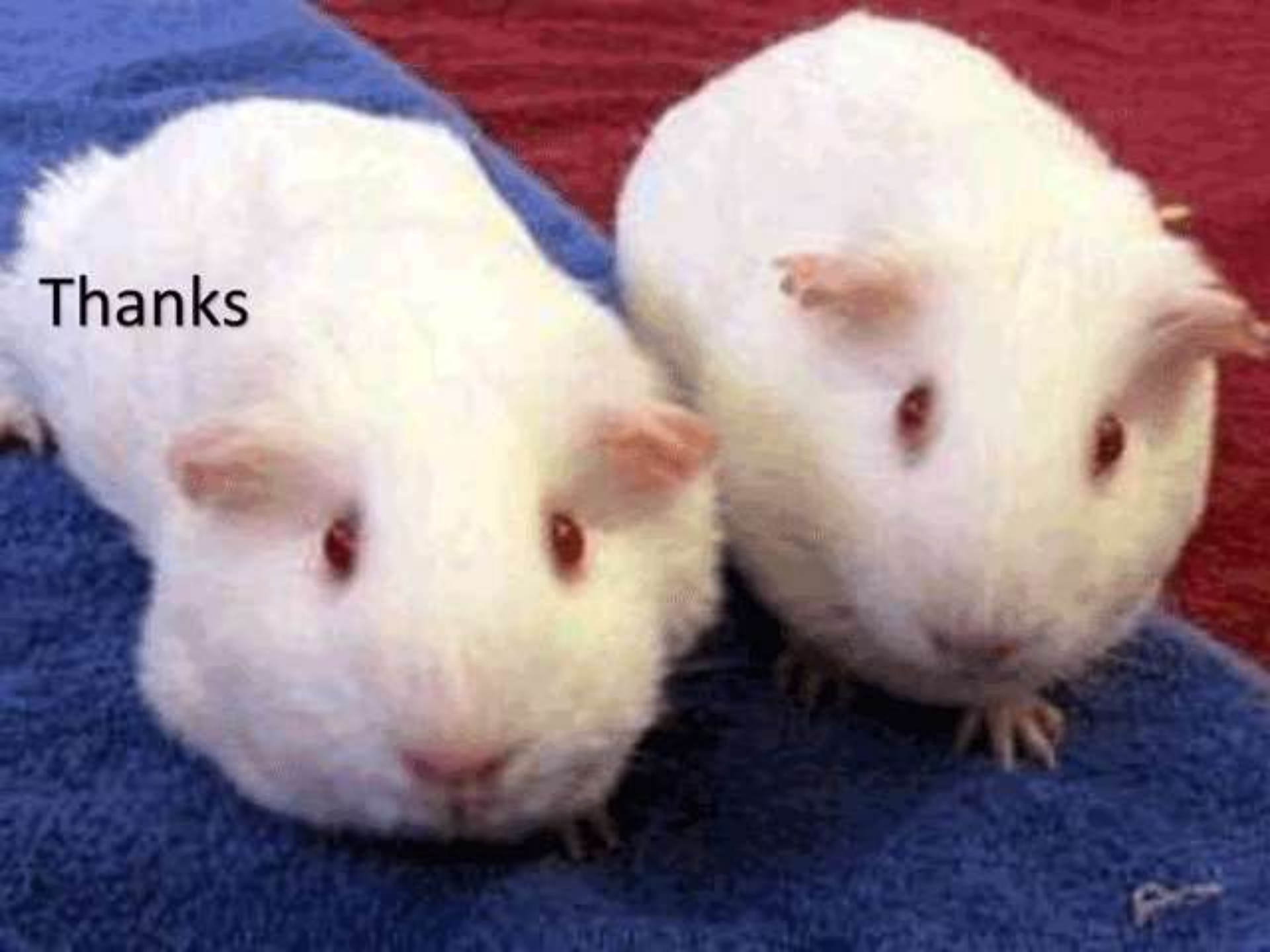

Clinical Trial Research Doctors
Laboratory
Analysis Equipment
Biology Laboratory



Veterinary
Guinea Pigs “Dunkin Hartley”
&
Mouse “ICR CD1”



Guinea Pigs & Mice


Thanks