# 16s RNA gene Restriction Fragment Length Polymorphism of Guánica Salterns Halobacteria.

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Solar salterns are extreme halophilic places where organism with extreme adaptation can survive in those environment. In the island of Puerto Rico we have a couple of solar salterns, some of them are located in Cabo Rojo and Guánica. At first, the project intended to see what organism are living in the solar salterns in Guánica, different organism were isolate. One of those organism is an halobacteria, in which studies are being perform to it, but so far we haven't being able to identify this organism. Several studies are being performed to further understand this organism, protein characterization, biochemical test and others, trying to find to what family of halobacteria this organism belong or if it is a new specie. In our project we are analyzing the 16s RNA gene of four halobacteria, Guánica saltern halobacteria and other three halobacterias that are being used as control, *Halobacterium salinarum*, *Haloferax mediterranei*, *Halogeomhetricul borinquense*. Our methodology include; clonal expansion of the halobacterias, DNA extractions, PCR cloning of the 16s rRNA gene, restriction enzymes analysis and agarose electrophoresis. We have completed two of the three phases of the project. Data from the clonal expansion, DNA isolation, DNA concentration and PCR primer design will be presented. Preliminary data suggest that this is a new strain or a new specie, further sequencing and bioinformatics tools will be used to determine the identity of the bacteria.