Livingston Island, Antarctica: reservoir of cold-adapted bacteria producing hydrolytic enzymes

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GEQB

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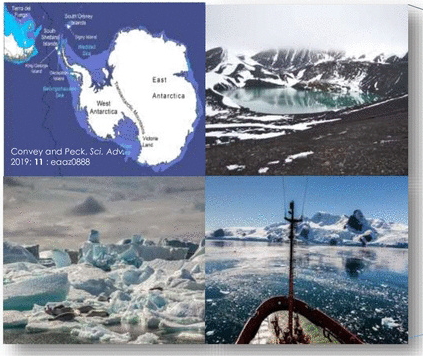
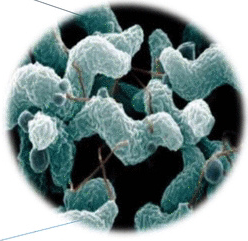
CARTAGENA DE INDIAS

…. Who lives here?



Hostile climatic conditions
Geographical isolation



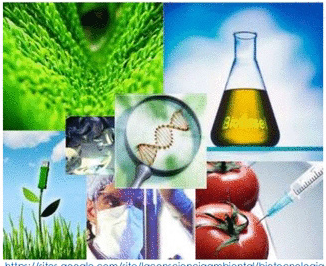
Cold adapted microorganisms!!

…. What is our interest?

Cold-adapted bacteria producing hydrolytic enzymes

High flexibility and thermolability

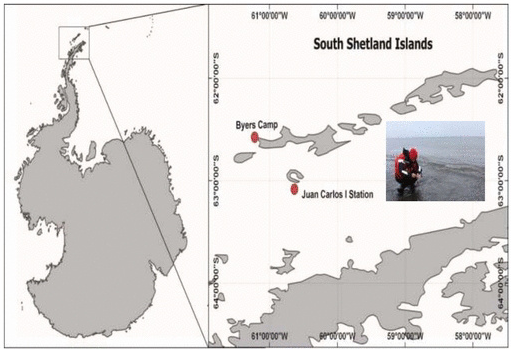
Ravaud et al. 2007. J Biol Chem **282**: 28126-28136



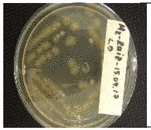
https://sites.google.com/site/laconsciencigambiental/biotecnologia

Biotechnological applications

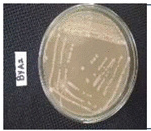
…. What did we do?



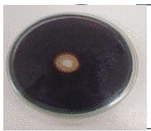
Sampling marine sediments



Isolation of psychrophilic and psychrotolerant bacteria



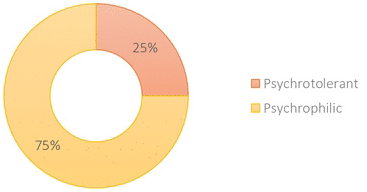
Phenotypic and genotypic characterization

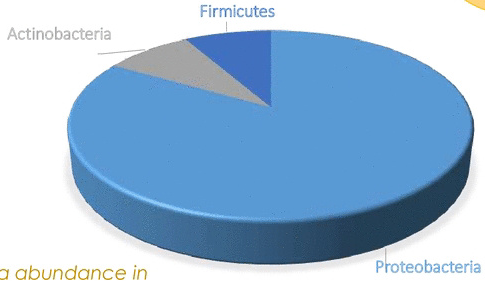


Hydrolytic enzymatic activity evaluation

…. What do we find?

We isolated 20 heterotrophic, aerobic cold-adapted bacteria





Proteobacteria abundance in Livingston Island sediments

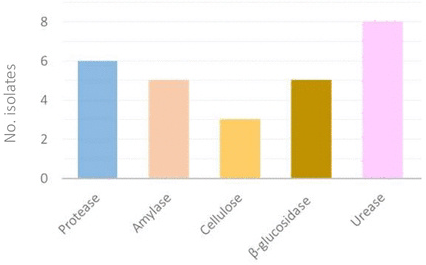
…. What do we find?

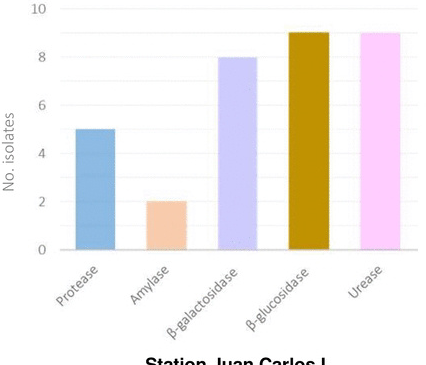
Byers Camp

Juan Carlos I Station

Strain UTB 145
Anthrobacter sp. (97% similarity)
Possible new species!!!

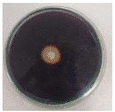
…. What do we find?





Station Juan Carlos I

Byers Camp



Cold-adapted bacteria from Antarctica are a promising source of enzymes with biotechnological potential.

Our work team…

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