

Title	Biotechnological potential of cold adapted <i>Pseudoalteromonas</i> spp. isolated from "deep sea" sponges
Authors	Borchert, Erik;Knobloch, Stephen;Dwyer, Emilie;Flynn, Sinead;Jackson, Stephen A.;Johannsson, Ragnar;Marteinsson, Viggo T.;O'Gara, Fergal;Dobson, Alan D. W.
Publication date	2017
Original Citation	Borchert, E., Knobloch, S., Dwyer, E., Flynn, S., Jackson, S. A., Jóhannsson, R., Marteinson, V. T., O'Gara, F. and Dobson, A. D. W. (2017) 'Biotechnological potential of cold adapted <i>Pseudoalteromonas</i> spp. isolated from "deep sea" sponges', <i>Marine Drugs</i> , 15(6), (17pp). doi: 10.3390/md15060184
Type of publication	Article (peer-reviewed)
Link to publisher's version	http://www.mdpi.com/1660-3397/15/6/184 - 10.3390/md15060184
Rights	© 2017, the Authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/) - https://creativecommons.org/licenses/by/4.0/
Download date	2026-09-15 10:51:01
Item downloaded from	https://hdl.handle.net/10468/4785



UCC

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Biotechnological potential of cold adapted *Pseudoalteromonas* spp. isolated from 'deep sea' sponges

Erik Borchert¹, Stephen Knobloch², Emilie Dwyer¹, Sinéad Flynn¹, Stephen A. Jackson¹, Ragnar Jóhannsson², Viggó T. Marteinsson², Fergal O'Gara^{1,3,4} and Alan D.W. Dobson^{1*}

Supplementary figure 1

Semi-quantitative enzyme activity assays for protease and β -galactosidase activity

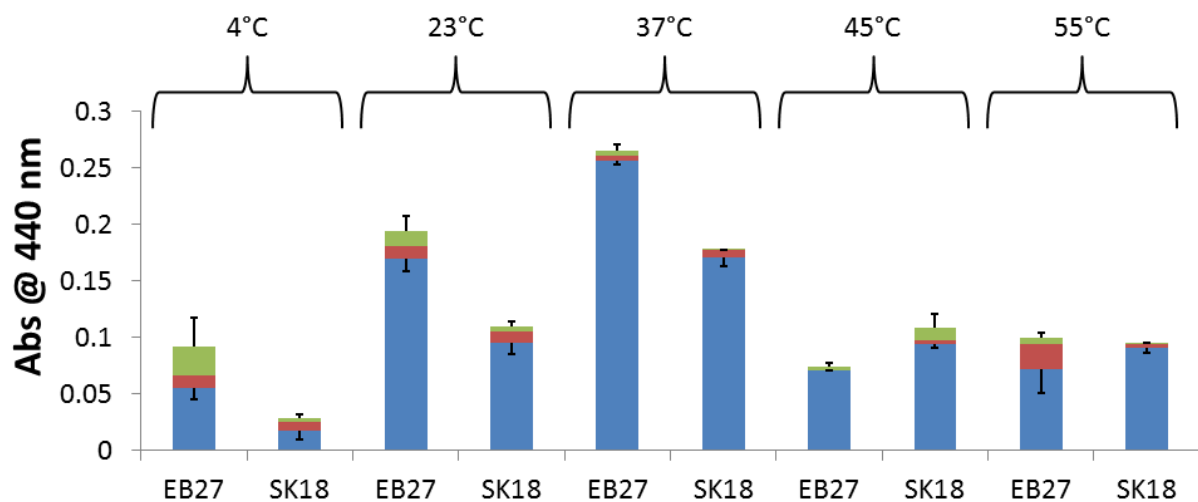


Figure 1A: Protease activity assay of the isolates SK18 and EB27 at different temperatures.

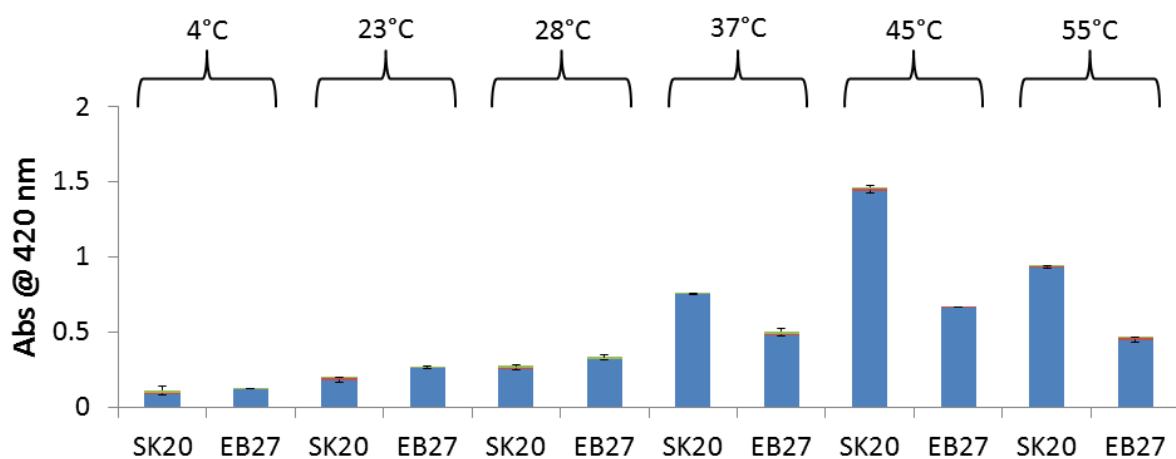


Figure 1B: β -galactosidase activity of the isolates SK20 and EB27 at different temperatures.

Materials and methods:

Native enzyme assays for β -galactosidase and protease activity were carried out with aliquots of overnight cultures from the respective *Pseudoalteromonas* sp. isolates. β -

galactosidase assays were carried out by adding 150 μ l of overnight culture to 1350 μ l 0.1 M potassium phosphate buffer solution (pH 8.5, pH 6.0 and 7.0 gave little to no detectable activity) and 22,5 μ l 0.1 M p-nitrophenyl- β -d galactopyranoside as substrate, incubated for 1.5 h at different temperatures and absorbance at 420 nm was measured subsequently. For the protease assay 150 μ l overnight culture were added to 250 μ l 2% azocasein solution (0.1 M Tris-HCl, pH 8.0) followed by incubation for 1 h at different temperatures, then 900 μ l 10% trichloroacetic acid were added and incubated for 15 min at room temperature to stop the reaction and afterwards centrifuged for 10 min at max. speed. 600 μ l of the supernatant were combined with 700 μ l 1 M NaOH and the absorbance was measured at 440 nm.

Supplementary figure 2

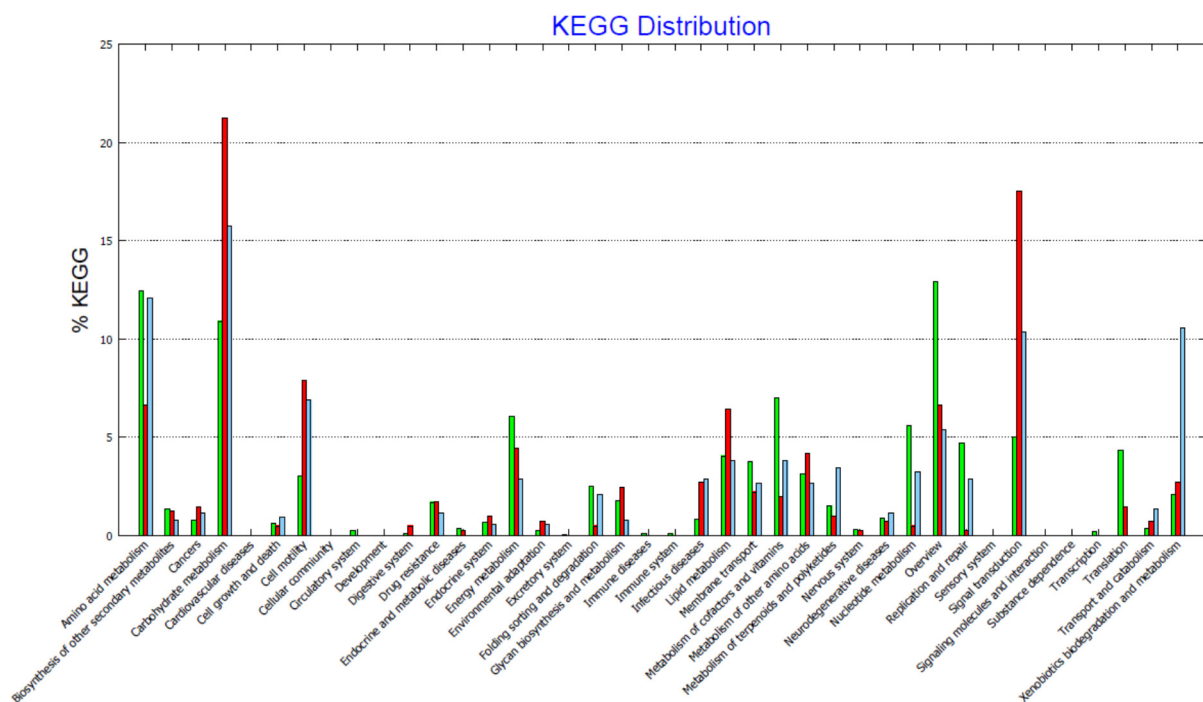


Figure S2. KEGG (Kyoto Encyclopedia of Genes and Genomes) functional distribution of the annotated genes. All genes from the five genomes are combined and separated into core, accessory and unique genes.