

Supplementary material

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Chitinolytic functions in actinobacteria: ecology, enzymes and evolution

Marie-Ève Lacombe-Harvey, Ryszard Brzezinski and Carole Beaulieu

Département de biologie, Université de Sherbrooke, Sherbrooke (QC), J1K 2R1, Canada

Corresponding author: Carole Beaulieu, E-mail: Carole.Beaulieu@USherbrooke.ca,

phone: +1-819-821-8000 x.62997, Fax: +1-819-821-8049.

Supplementary Fig. S1

Streptosporangium roseum putative CsnR regulon

Methodology: The genome of *Streptosporangium roseum* DSM 43021 (GenBank accession number [NC_013595.1](#)) has been searched with RSAT tool using the consensus sequence AGGAAANTTTCCT and allowing two mismatches except at positions 5 and 9.

Only palindromes localized in positions adequate to their function as regulatory sequences were retained.

The following listing includes:

The name of the gene according to the GenBank file

The intergenic sequence preceding the ORF of a given gene

The putative protein family or function

CsnR boxes are marked in yellow

The translation initiation triplets are in blue and underlined

>Streptosporangium roseum GH8 putative chitosanase Sros_1551
GTACCGGCCCCGCGATAATTTAGGCCCCCATCCCCCTTGACCTGACATATCAGAAATGGT
GCCATCTTTCCCTAGTTAGGAATCTTTCCTAACTAGTTGATCGCAGAGAGGGCAGACCCT
[GTG](#)

>Streptosporangium roseum ROK protein, putative CsnR Sros_5819
CATCACCTTAGCAGGTCCGTCGAGATGTTACCCCTCCCCCTCGCCATCACAGGTTGATTG
CGGCACGCCCTTACGCTTGACGGAATTGCGACGGGTTTCCTTAGATTCACTCCGAGTTAG
GAAACTTTCCTAACTCCGTTTTACGGGCGACTGTATGACGTGTGCGGACACGGAGGACCT
[GTG](#)

>Streptosporangium roseum GH46 Sros_2053
GTGGAGCCGTGCCCGGCTGCCGGCGCGCCCGGGGCTCGGGCCGCCTTCGGGGGAAC
GCCCCGATCGAGGGGAACGGGTTGACGGGCGGGGCATATCAGCGTTAGGTTTCGTTAGG
AAAGTTTCCTAACGAGCGGGCGAGGTTTTCTCGCCTCCGGTCCCCCTCTGGAGAGACAC
[GTG](#)

>Streptosporangium roseum Chitin-binding protein Sros_0283
CGGCTCGCGGTCCCTTCGACGGATCGGCGGGGCGCCGGCTCATGCCGGCGGCGAGCGGG
CCGACCGTGCCGGGGTCGCGTCCCCCTGACAGGCCGGATGCGGCGGGGTTGGATGGATA
TTTACTGTTAGTAAAGTTTCCTTTATATTTGGTCCAACCCCCCAGCAAAGGAAGCATGAC
[ATG](#)

>Streptosporangium roseum Major facilitator protein Sros_0534
[CATCGAGGCCGCCCCGGGACCGCAGCCGCCAGCTCGCCGGGGGCTG](#)ACCGTCCCCCTCTAT
TAGGAACTTTCCTGCATAAGGCATCATTTCCACAGAACTTCGGTGGGAATGAGGCAATC
[GTG](#)

>Streptosporangium roseum beta-hexosaminidase GH3 Sros_2183
[GTGCGCAT](#)CTCTGTCGTCCTCTCGTGGGTGACTTCTCTTCGGGCAGGCGACGGGGCA
TGGGTACCCCGGACAGACTTTTAATAGGAAAGTTTCCTGTCTATTTACGCAACCCGAAT
GCTACACATGTGGTACGCCTGAAACAAGCGACAAGTGGTGCACCGAATTTGGAGGCTTTG
[ATG](#)

>Streptosporangium roseum ROK protein Sros_2195
CGGGTGCCGGCGTGGTCCCCATGCCGCGCCACACCTGATCGAAGGCGCCTCCTCACGGTC
GGCGCTCTGACATCCCGCAGCCTGCTGTCACTCTTGCCTGCGGGCTGACTACGGTTAAAC
TAACAGAAACTTTCTTAAAGAAACGATCGTTAGCGGATCGTGACGGGGGAGCCGATC
TTG

>Streptosporangium roseum chitinase Sros_2284
GAGCCGTACGGCGGCCAGGGCGGCTGCGAGATCGTGCGGCGGAAGGGATCGCACGCTCCG
TTGACCGCTATGCGGCAAATCCACGGAAGACCGTTGACGCTCAGTTCGCCCAGGTCTACG
ATCCGGGAAAACCTAAAGGAAAGTTTCCTATAAGTTATCCCCCAGCAGTGAGAAAGCCC
GTG

>Streptosporangium roseum GH9 hydrolase SROS_2851
GGGTGACGGTCAATGTTCCGCGATGCTATTGACCGCCGCTCTTGACCCCCCTCCCAGGTGTC
GCTACCTTCCCGACAAAGGTTAGGAAGGTTTCCTAACTTCCCCCGCACCAAGAGCGCCG
ATG

>Streptosporangium roseum Chitin binding protein SROS_3599
CCCAGTCCTACCCGACGGAGCCGACCGGTGGCCCCGCCGGGCGGGCCGGGTCTCGCCGCC
GAGGAGTCCGCGCAGGGCGCCGGGCATCCGGCGAAAGCCGGGGAACCGCATGACTAAAGC
ATTTACTGTTAGGAAACTTTTCCTTTACGTTTGGCTTATCCCCCAGTAAAGGAGTACCAC
GTG

>Streptosporangium roseum GH18 chitinase Sros_7134
TGGTCTCCGGCGTGCTGGGCATCGCCTGGCGCTGGCCGTAAACCTCTCTTCCCGCGATTG
GGCCCCCGAAATTTTCGACCATTTGACGGCGCGTGCGCGCGTGATTACGTTACCTCAA
TTGACAGTAAAGTTTCCTGTTAATTAACCCCCAGTTCCAGCGCGTAGAGGCGGCGGCC
ATG

>Streptosporangium roseum GH18 chitinase-like Sros_7591
CGTACGGCGCCGGCCGTCCGCCCCGGCGTGTCGGCGTGGTCGGCGGGGCCCTCGTGGCCG
TCGGATCCACCGCGCCACCTCCGCTCGAACTGCGCCGTTTTGGGTCTTGTCGACATGGA
GCGCCAGGTTTACGATCCGCGTAATTGTTAGGAAACTTTTCCTTTAAGAAAGAGTCCACGC
ATG

>Streptosporangium roseum GlcNAc transport system Sros_7707 Sros7706
Sros_7705
GTGCCGATCTGTCAGGGGAATGTCCTCCTTTGACGTTTGCTTTCTACCGGAAATGTCGCG
AGGACATTACGGCTCGGTCTAGACCGGCTGCGACCTCTTGACGGTGGACTCCAGGGGTAC
GTACCTTCGGGCAAACGTTTAGGAAACTTTTCCTAATTGATCCCCCGTCCAGGAGGGTTAC
ATG

>Streptosporangium roseum chitin binding protein Sros_7908
GTCGCCTGCCGTACGGCCTCGCCGCCGCGGTCCCGCCGGCGACGGTAACGGCCGGCGGCG
GGGGGAGCGGGCTCCGGGACCGCGTGGGGTCATGACCGGGAATCGGGAATCCTTCTTCG
GATGCGCCGGAACCTATGGCATCGGAGGCCGAATTTTTAGTAAGGTTTCCTTGTAAATAAC
GTGCTATCCGTGCGCCGTTGGACATGTCCACCTCCATCCCCCTGTAGGAGGAGTCCAC
GTG

>Streptosporangium roseum GH18 chitinase Sros_8171
GCCCCGTTTCATGTCCGGGGGCGCCGGGGGGCGTGGAACGAACCTTAAATCAGCCTTAT
ATCGATCGGTGAGGCATTGACCGCCCGGGAACGAGAATCTACGCTCTGGAACTAATAGG
AAACTTTTCCTATGAATTCGGGGGCTTGGCACTCTCTGACCTGGAGCAACCCTTGCGACGA
ATG

GH18_7591 CGATCCGCGT AATTGTTAGGAAACTTTCTTTAAG AAAGAGTCCA
 GH18_8171 ACGCTCTGGA AACTAATAGGAAACTTTCTATGAA TTCGGGGGCT
 CBP_0283 GATGGATATT TACTGTTAGTAAAGTTTCTTTATA TTTGGTCCAA
 ABC_7707 CCTTCGGGCA AACGTTTAGGAAACTTTCTAATTG ATCCCCCGTC
 GH18_2284 GATCCGGGAA AACTTAAAGGAAAGTTTCTATAAG TTATCCCCC
 GH3_2183 CCGGACAGAC TTTTAAATAGGAAAGTTTCTGTCTA TTTACGCAAC
 CBP_3599 CTAAAGCATT TACTGTTAGGAAACTTTCTTTACG TTTGGCTTAT
 GH18_7134 GTTCACCTCA AATTGACAGTAAAGTTTCTGTTAA TTAACCCCC
 MFP_0534 GACCGTCCCC CTCTATTAGGAAACTTTCTGCATA AGGCATCATT
 CBP_7908 TCGGAGGCCG AATTTTTAGTAAGGTTTCTTGTTAA TAACGTGCTA
 Ron_2195 ACTACGGTTA AACTAACAAGAAACTTTCTTAAAG AAACGATCGT
 GH8_1551 GCCATCTTTC CCTAGTTAGGAATCTTCTAATA GTTGATCGCA
 GH9_2851 CCTTCCCGAC AAAGGTTAGGAAGGTTTCTAAGTT CCCCCGCAC
 GH46_2053 CAGCGGTTAG GTTCGTTAGGAAAGTTTCTAACGA GCGGGCGAGG
 ROK_5819 TAGATTCACT CCGAGTTAGGAAACTTTCTAAGTC CGTTTTACGG

