Searching for homologs of sequence RIT389\_ITS It should take at most 18 seconds. Please wait...

Database(s) used: UNITE (fungi) + INSD ( = GenBank, EMBL, DDBJ) + Envir.

BLASTN 2.2.29+

Reference: Stephen F. Altschul, Thomas L. Madden, Alejandro A. Schaffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

Database: data/unite\_full\_blastn.fas

763,178 sequences; 435,288,657 total letters

Query= RIT389\_ITS

Length=774

Query= RIT389\_ITS

Length=774

Score E

Sequences producing significant alignments: (Bits) Value

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [KF411559](https://unite.ut.ee/bl_forw.php?id=396262) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411558](https://unite.ut.ee/bl_forw.php?id=396263) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411556](https://unite.ut.ee/bl_forw.php?id=396265) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411555](https://unite.ut.ee/bl_forw.php?id=396266) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411554](https://unite.ut.ee/bl_forw.php?id=396267) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411553](https://unite.ut.ee/bl_forw.php?id=396268) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411552](https://unite.ut.ee/bl_forw.php?id=396269) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411551](https://unite.ut.ee/bl_forw.php?id=396270) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411550](https://unite.ut.ee/bl_forw.php?id=396271) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411548](https://unite.ut.ee/bl_forw.php?id=396273) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411547](https://unite.ut.ee/bl_forw.php?id=396274) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411544](https://unite.ut.ee/bl_forw.php?id=396277) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411543](https://unite.ut.ee/bl_forw.php?id=396278) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411537](https://unite.ut.ee/bl_forw.php?id=396284) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411536](https://unite.ut.ee/bl_forw.php?id=396285) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411533](https://unite.ut.ee/bl_forw.php?id=396288) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411530](https://unite.ut.ee/bl_forw.php?id=396291) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411528](https://unite.ut.ee/bl_forw.php?id=396293) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411525](https://unite.ut.ee/bl_forw.php?id=396296) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411524](https://unite.ut.ee/bl_forw.php?id=396297) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411523](https://unite.ut.ee/bl_forw.php?id=396298) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411522](https://unite.ut.ee/bl_forw.php?id=396299) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411521](https://unite.ut.ee/bl_forw.php?id=396300) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411518](https://unite.ut.ee/bl_forw.php?id=396303) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411517](https://unite.ut.ee/bl_forw.php?id=396304) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411515](https://unite.ut.ee/bl_forw.php?id=396306) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411512](https://unite.ut.ee/bl_forw.php?id=396309) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411503](https://unite.ut.ee/bl_forw.php?id=396318) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411501](https://unite.ut.ee/bl_forw.php?id=396320) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411494](https://unite.ut.ee/bl_forw.php?id=396327) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411488](https://unite.ut.ee/bl_forw.php?id=396333) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411486](https://unite.ut.ee/bl_forw.php?id=396335) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411484](https://unite.ut.ee/bl_forw.php?id=396337) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411481](https://unite.ut.ee/bl_forw.php?id=396340) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411475](https://unite.ut.ee/bl_forw.php?id=396346) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411472](https://unite.ut.ee/bl_forw.php?id=396349) | Rhodotorula | mucilaginosa | 1397 | 0.0 |
| [KF411468](https://unite.ut.ee/bl_forw.php?id=396353) | Rhodotorula | mucilaginosa | 1395 | 0.0 |

The 15 first alignments

**559 Rhodotorula mucilaginosa**

ngth=1136

2017-6-7 Blast output

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%) Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 5 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 64 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 65 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 124 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 125 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 184 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 185 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 244 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 245 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 304 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 305 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 364 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 365 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 424 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 425 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 484 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 485 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 544 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 545 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 604 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 605 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 664 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 665 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 724 |
| Query  Sbjct | 721  725 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 778 |  |

**> KF411558 Rhodotorula mucilaginosa**

Length=1132

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 4 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 63 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 64 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 123 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 124 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 183 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 181 | Blast output  CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 184 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 243 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 244 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 303 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 304 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 363 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 364 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 423 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 424 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 483 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 484 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 543 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 544 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 603 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 604 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 663 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 664 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 723 |
| Query  Sbjct | 721  724 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 777 |  |

**> KF411556 Rhodotorula mucilaginosa**

Length=1140

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 5 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 64 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 65 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 124 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 125 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 184 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 185 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 244 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 245 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 304 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 305 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 364 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 365 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 424 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 421 | Blast output  TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 425 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 484 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 485 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 544 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 545 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 604 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 605 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 664 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 665 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 724 |
| Query  Sbjct | 721  725 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 778 |  |

**> KF411555 Rhodotorula mucilaginosa**

Length=1141

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 12 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 71 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 72 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 131 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 132 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 191 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 192 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 251 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 252 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 311 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 312 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 371 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 372 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 431 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 432 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 491 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 492 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 551 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 552 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 611 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 612 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 671 |

https://unite.ut.ee/cgi-bin/seq\_search3.cgi 4/14

|  |  |  |
| --- | --- | --- |
| 2017-6-7  Query | Blast output  661 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| 672 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 731 |
| Query  Sbjct | 721 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  ||||||||||||||||||||||||||||||||||||||||||||||||||||||  732 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 785 |  |

**> KF411554 Rhodotorula mucilaginosa**

Length=1150

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%) Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 12 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 71 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 72 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 131 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 132 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 191 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 192 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 251 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 252 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 311 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 312 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 371 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 372 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 431 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 432 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 491 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 492 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 551 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 552 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 611 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 612 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 671 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 672 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 731 |
| Query  Sbjct | 721  732 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 785 |  |

**> KF411553 Rhodotorula mucilaginosa**

Length=1139

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2017-6-7 Blast output

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%) Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 5 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 64 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 65 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 124 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 125 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 184 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 185 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 244 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 245 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 304 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 305 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 364 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 365 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 424 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 425 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 484 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 485 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 544 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 545 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 604 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 605 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 664 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 665 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 724 |
| Query  Sbjct | 721  725 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 778 |  |

**> KF411552 Rhodotorula mucilaginosa**

Length=1150

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 13 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 72 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 73 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 132 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 133 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 192 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 181 | Blast output  CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 193 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 252 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 253 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 312 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 313 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 372 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 373 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 432 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 433 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 492 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 493 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 552 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 553 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 612 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 613 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 672 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 673 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 732 |
| Query  Sbjct | 721  733 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 786 |  |

**> KF411551 Rhodotorula mucilaginosa**

Length=1141

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 8 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 67 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 68 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 127 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 128 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 187 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 188 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 247 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 248 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 307 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 308 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 367 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 368 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 427 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 421 | Blast output  TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 428 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 487 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 488 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 547 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 548 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 607 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 608 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 667 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 668 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 727 |
| Query  Sbjct | 721  728 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 781 |  |

**> KF411550 Rhodotorula mucilaginosa**

Length=1131

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 2 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 61 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 62 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 121 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 122 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 181 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 182 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 241 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 242 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 301 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 302 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 361 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 362 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 421 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 422 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 481 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 482 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 541 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 542 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 601 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 602 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 661 |

https://unite.ut.ee/cgi-bin/seq\_search3.cgi 8/14

2017-6-7 Blast output

|  |  |  |
| --- | --- | --- |
| Query | 661 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
|  | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |  |
| Sbjct | 662 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 721 |

Query 721 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774

|||||||||||||||||||||||||||||||||||||||||||||||||||||| Sbjct 722 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 775

**> KF411548 Rhodotorula mucilaginosa**

Length=1130

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%) Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 2 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 61 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 62 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 121 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 122 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 181 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 182 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 241 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 242 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 301 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 302 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 361 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 362 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 421 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 422 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 481 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 482 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 541 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 542 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 601 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 602 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 661 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 662 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 721 |
| Query  Sbjct | 721  722 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 775 |  |

**> KF411547 Rhodotorula mucilaginosa**

Length=1133

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2017-6-7 Blast output

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%) Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 3 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 62 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 63 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 122 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 123 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 182 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 183 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 242 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 243 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 302 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 303 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 362 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 363 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 422 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 423 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 482 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 483 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 542 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 543 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 602 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 603 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 662 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 663 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 722 |
| Query  Sbjct | 721  723 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 776 |  |

**> KF411544 Rhodotorula mucilaginosa**

Length=1129

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 2 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 61 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 62 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 121 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 122 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 181 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 181 | Blast output  CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 182 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 241 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 242 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 301 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 302 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 361 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 362 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 421 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 422 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 481 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 482 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 541 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 542 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 601 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 602 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 661 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 662 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 721 |
| Query  Sbjct | 721  722 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 775 |  |

**> KF411543 Rhodotorula mucilaginosa**

Length=1128

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 2 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 61 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 62 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 121 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 122 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 181 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 182 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 241 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 242 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 301 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 302 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 361 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 362 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 421 |

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|  |  |  |  |
| --- | --- | --- | --- |
| 2017-6-7  Query | 421 | Blast output  TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 422 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 481 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 482 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 541 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 542 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 601 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 602 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 661 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 662 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 721 |
| Query  Sbjct | 721  722 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 775 |  |

**> KF411537 Rhodotorula mucilaginosa**

Length=1147

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 11 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 70 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 71 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 130 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 131 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 190 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 191 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 250 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 251 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 310 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 311 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 370 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 371 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 430 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 431 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 490 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 491 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 550 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 551 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 610 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 611 | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 670 |

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|  |  |  |
| --- | --- | --- |
| 2017-6-7  Query | Blast output  661 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| 671 TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 730 |
| Query  Sbjct | 721 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  ||||||||||||||||||||||||||||||||||||||||||||||||||||||  731 TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 784 |  |

**> KF411536 Rhodotorula mucilaginosa**

Length=1134

Score = 1397 bits (1548), Expect = 0.0 Identities = 774/774 (100%), Gaps = 0/774 (0%)

Strand=Plus/Plus

|  |  |  |  |
| --- | --- | --- | --- |
| Query | 1 | AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 60 |
| Sbjct | 5 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGTGAATATAGGACGTCCAACTTAACTTGGAGTCCGAACTCTCACTTTCTAACCCTGTGC | 64 |
| Query | 61 | ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 120 |
| Sbjct | 65 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| ACTTGTTTGGGATAGTAACTCTCGCAAGAGAGCGAACTCCTATTCACTTATAAACACAAA | 124 |
| Query | 121 | GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 180 |
| Sbjct | 125 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GTCTATGAATGTATTAAATTTTATAACAAAATAAAACTTTCAACAACGGATCTCTTGGCT | 184 |
| Query | 181 | CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 240 |
| Sbjct | 185 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CTCGCATCGATGAAGAACGCAGCGAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTG | 244 |
| Query | 241 | AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 300 |
| Sbjct | 245 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AATCATCGAATCTTTGAACGCACCTTGCGCTCCATGGTATTCCGTGGAGCATGCCTGTTT | 304 |
| Query | 301 | GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 360 |
| Sbjct | 305 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGTGTCATGAATACTTCAACCCTCCTCTTTCTTAATGATTGAAGAGGTGTTTGGTTTCT | 364 |
| Query | 361 | GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 420 |
| Sbjct | 365 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| GAGCGCTGCTGGCCTTTACGGTCTAGCTCGTTCGTAATGCATTAGCATCCGCAATCGAAC | 424 |
| Query | 421 | TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 480 |
| Sbjct | 425 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TTCGGATTGACTTGGCGTAATAGACTATTCGCTGAGGAATTCTAGTCTTCGGATTAGAGC | 484 |
| Query | 481 | CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 540 |
| Sbjct | 485 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| CGGGTTGGGTTAAAGGAAGCTTCTAATCAGAATGTCTACATTTTAAGATTAGATCTCAAA | 544 |
| Query | 541 | TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 600 |
| Sbjct | 545 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCAGGTAGGACTACCCGCTGAACTTAAGCATATCAATAAGCGGAGGAAAAGAAACTAACA | 604 |
| Query | 601 | AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 660 |
| Sbjct | 605 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| AGGATTCCCCTAGTAGCGGCGAGCGAAGCGGGAAGAGCTCAAATTTATAATCTGGCACCT | 664 |
| Query | 661 | TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 720 |
| Sbjct | 665 | |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| TCGGTGTCCGAGTTGTAATCTCTAGAAATGTTTTCCGCGTTGGACCGCACACAAGTCTGT | 724 |
| Query  Sbjct | 721  725 | TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 774  |||||||||||||||||||||||||||||||||||||||||||||||||||||| TGGAATACAGCGGCATAGTGGTGAGACCCCCGTATATGGTGCGGACGCCCAGCG 778 |  |

|  |  |  |
| --- | --- | --- |
| Lambda | K | H |
| 0.634 | 0.408 | 0.912 |
| Gapped Lambda | K | H |

https://unite.ut.ee/cgi-bin/seq\_search3.cgi 13/14

2017-6-7 Blast output

https://unite.ut.ee/cgi-bin/seq\_search3.cgi 14/14