

Sequence data of mint (*Mentha Canadensis*) menthol biosynthesis pathway genes

>Seq1 [organism=Mentha canadensis] geranyl diphosphate synthase large subunit

ATGAGTGCTCTTGTAAATCCTGTGGCGAAATGGCCTCAGACGATCGGCATTAAAGATGTTACGGCGGCCGG
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ATCCCCCTCAAAGCTCCCGCCACTTTTTCCGTTTCTGCAGTTTATACCAAAGAAGGCAGCGAAATTAGGGA
TAAAGATCCGGCGCCTTCGACTTCGCCGGCGTTTCGATTCGACGGATACATGCTCCGGAAGGCGAAATCCGT
CAACAAGGCGTTGGAAGCGGCGGTGCAGATGAAGGAGCCGCTGAAGATCCACGAGTCCATGCGGTACTCC
CTTCTCGCCGGCGGCAAGAGAGTGCCTCCGATGCTGTGCATCGCGGCCTGCGAGCTCGTCGGCGGCGACG
AGTCCACGGCGATGCCGGCGGCTGCGCCGTCGAGATGATCCACACGATGTCGCTGATGCACGACGACCTC
CCCTGCATGGACAACGACGACCTCCGCCGCGCAAGCCGACGAACCACATGGCTTTGCGCGAGAGCGTGG
CGGTCCTCGCCGGCGACGCGCTCCTCTCCTTCGCGTTTCGAGCACGTGGCAGCGGCGACCAAGGCGCGCC
GCCGGAGCGGATCGTGAGGGTCTCGGCGAGCTGGCGGTCTCGGTCGGGTCGGAGGGGCTGGTGCGGG
GGCAGGTGGTGGACGCTGCTCGGAGGGGATGGCGGAGGTGCGGCTGGACCACCTCGAGTTCATCCACC
ACCACAAGACGGCGGCGCTGCTGCAGGGGTGCGTGTTCTGGGGGCAATTTGGGCGGCGAAACGAGG
AGGAGGTGGCGAAGTTGAGGAAATTCGCGAATTGCATCGGATTGCTGTTTCAGGTGGTGGACGATATCCTA
GATGTGACGAAATCGTCCAAGGAATTGGGGAAGAAGGCGGGGAAGGATCTGGTGGCGGATAAAACCACA
TATCCGAAGCTAATAGGCGTGGAGAAATCCATGGAATTCGCGGATCGGTTGAACAGGGAGGCGCAGGAGC
AGCTCCTCCATTTTCATCCTCATAGGGCAGCTCCATTGATTGCTCTCGCCAATTATATTGCTTATAGGGACAATT
GA

>Seq2 [organism=Mentha canadensis] geranyl diphosphate synthase small subunit

ATGGCCATTAATCTCTCCCATATCAACTCCAAAACATGTTTCCCTCTCAAAACAAGATCTGATCTCAGCCGTTT
TTCTTCCGCGCGTTGTATGCCAACTGCCGCCGTGCCGCCTTCCCCACTATCGCCACCGCCGCCCAAAGTCA
GCCGTACTGGGCGGCCATCGAGGCCGACATAGACAGATACCTGAAGAAATCCATCACAATAAGGCCGCCGG
AGACAGTTTTCGGGCCCATGCACCACCTCACCTTCGCCGCCAGCCACCGCCGCCTCCGCCCTATGCTTGG
CGGCGTGCGAGCTCGTCGGCGGCGACCGAAGCCAAGCCATGGCAGCCGCGGCGGCGATCCATCTCGTGCA
CGCGGCAGCCTACGTCCACGAGCACCTCCCTCTAACCGACGGGTCGAGGCCCGTATCCAAGCCCGCAATCC
AGCACAAGTACGGCCGAACGTCGAGCTCCTCACGGAGACGGGATTGTCCCGTTGCGGTTTGAGTTGCTG
GCCGGGTCAGTGGAACCGGCCGAACAGACGACCGGATAGGATTCTGAGAGTTATAATAGAGATCAGTCG
GGCCGGCGGGCGGAGGGAATGATAAGCGGGCTGCATAGGGAAGAAGAAATTGTTGATGGAAATACGAG
TTTAGACTTCATTGAATATGTGTGCAAGAAAAAATACGGCGAGATGCATGCTTGGCGCGGCTTGTGGAGC
CATATTGGGCGGCGCAGCCGAGGAGGAGATTGAGAAGCTGAGGAATTTGGGGCTTTATCAAGGAACTCTC
AGAGGAATGATGGAAATGAAAAATTCTCATCAATTAATTGATGAGAATATAATTGGAAAAATTGAAAGAATTG
GCTCTCGAGGAGTTGGGAGGCTTCACGGAAGAACGCTGAGCTGATGTCGAGCCTTGTAGCCGAGCCGA
GCCTTTACGCGGCTTAG

>Seq3 [organism=Mentha canadensis] limonene-3-hydroxylase

ATGGAGCTCCAGATTCGTGCGGCGATTATAATCCTTGTAGTAACCTACACCATATCCCTCCTAATAATCAAGCA
ATGGCGAAAACCGAAACCCCAAGAGAACCTGCCTCCGGGCCCCGCGAAGCTGCCGCTGATCGGGCACCTC
CACCTCCTATGGGGGAAGCTGCCGCAGCACGCGCTGGCCAGCGTGGCGAAGCAGTACGGCCAGTGGCGC
ACGTGCAGCTCGGCGAGGTGTTCTCCGTCTGCTCTCGTCCCGCGAGGCCACGAAGGAGGCGATGAAGCT
GGTGGACCCGGCCTGCGCGGACCGGTTTCGAGAGCATCGGGACGAAGATCATGTGGTACGACAACGACGAC
ATCATCTTCAGCCCCTACAGCGTGCCTGGCGCCAGATGCGCAAGATCTGCGTCTCCGAGCTCCTCAGCGCC
CGCAACGTCCGCTCCTTCGGCTTCATCAGGCAGGACGAGGTGTCCCGCCTCCTCGGGCACCTCCGCTCCTC

GGCCGCGGCGGGGAGGCCGTGGACCTACGGAGCGGATAGCGACGCTGACGTGCTCCATCATCTGCAG
GGCGGCGTTCGGGAGCGTGATCAGGGACCACGAGGAGCTGGTGGAGCTGGTGAAGGACGCCCTCAGCAT
GGCGTCCGGGTTTCGAGCTCGCCGACATGTTCCCTCCTCCAAGCTCCTCAACTTGCTCTGCTGGAACAAGA
GCAAGCTGTGGAGGATGCGCCGCCGCTCGACGCCATCCTCGAGGCCATCGTGGAGGAGCACAAGCTCAA
GAAGAGCGGCGAGTTTGGCGGCGAGGACATTATTGACGTACTCTTTAGGATGCAGAAGGATAGCCAGATCA
AAGTCCCCATCACCACCAACGCCATCAAAGCCTTCATCTTCGACACGTTCTCAGCGGGGACCGAGACATCAT
CAACCACCACCCTGTGGGTGATGGCGGAGCTGATGAGGAATCCGGAGGTGATGGCGAAAGCGCAGGCGG
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GGAAACGATTTTCGAGTTCATCCCGTTTGGAGCTGGAAGAAGAATCTGCCCCGTTTGAATTTTCGGGTTGGC
AAATGTTGAGGTCCCATTGGCACAGCTTCTTTACCACTTCGACTGGAAGTTGGCGGAAGGAATGAAGCCTT
CCGATATGGACATGTCTGAGGCAGAAGGCCCTACCGGAATAAGAAAGAACAATCTTCTACTCGTTCACAC
CCTATCATCTTCCTCCTCATGA

>Seq4 [organism=Mentha canadensis] isopiperitenol dehydrogenase

ATGGCAATCGTGAAGAAGCTCGCAGGCAAGGTAGCCATCGTAACCGGCGGCCAGCGGCATCGGCGAGG
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CGGTACCGTGGCGGAATCCATCGGTGGCCGGCGGTGCAGCTACGTCCACTGCGACATCACCGACGAGGAA
CAGGTCAAGTCCGTCTGTGGATTGGACCGCCGCCACTACGGCGGCGTCGACGTGATGTTCTGCAACGCCGG
CACCGCCAGCGCCACCGCTCAGACCGTCTGGACCTGGACCTGGCGCAGTTCGACCGCGTCATGCGCGTCA
ACGCCCCGCGCACGGCGGCGTGCCTGAAGCAGGCGGCGCGGAAGATGGTGGAGCTGGGGAGGGGAGG
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AGCGCGGGGTGCTGGGGCTGGTGCAGTTCGGCGAGTTTGAGCTCGGGGTGCACGGGATTAGGGTTAACA
GCGTGTGCGCGACGGCGCTGGCCACGCCGCTACCGCGACGATCGGGCTCCGGACGGCCGCCGATGTGGA
GAGCTTCTATGGGCAGGTACGAGCTTGAAAGGGGTGGCGATCACGGCGGAGCACGTGGCCGAGGCGGT
GGCGTTTCTGGCTTCGGATGAGGCGGCGTTCGTACCGGCCATGATTGGCTGTGGATGGTGGATTGCAGT
GTTTACCATTCTGTGGCCGTGGCCAAGTGA

>Seq5 [organism=Mentha canadensis] isopiperitenone reductase

ATGGCAAATGTACAGAGGTATGCATTGGTGACGGGAGCAAATAAAGGAATCGGGTTCGAAATCTGCAGGCA
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AGGCTGCTTAAGGAATTAACATTTCTAAAAATCATTTGGTTTTTCATCAACTCGATGTTACCGATCTGCTAG
CATCGCCGCTGTTGCCGTCTTCATCAAATCTACATTCGGAAAACTCGATATTCTGGTGAATAATGCCGGAGTTA
GCGGAGTAGAGATGGTTGGAGATGTTTCCGTGTTCAACGAGTATATTGAGGCTGACTTCAACGCCCTTCAA
GCACTCGAAGCTGGTGCAAAGGAAGAGCCGCCATTTAAGCCCAAAGCAAATGGAGAAATGATCGAAAAAT
TCGAAGGAGCCAAAGATTGCGTCGAAACAACTACTATGGTCCAAAGAGACTAACACAAGCCCTCATTCTCT
TCTTACAACTATCTCCTTCGCCGAGAATCGTCAACGTCTCCTCCTCCTTCGGGAGTTTACTGCTTCTGTGGAAC
GAATGGGCAAAGGGAGTGCTGGGGGACGAGGATAGGCTGACGGAAGAGAGAGTGGACGAAGTAGTGGA
GGTTTTTCTCAAGGATATAAAGATGGTAAGCTCGAAGAAAATCAATGGCCTCCACATTTTTCGGCGGAAAG
AGTCTCGAAGGCGGCGCTGAACGCGTACACTAAGATCGCGGCGAAGAAGTACCCGAGTTTCCGCATAAATG
CAATATGCCCCGTTATGCGAAAACCGACATTACCTTCCATGCGGGACCTTTGAGTGTGTCGGAAGCTGCCC
AGGTTCCGGTGAAGCTGGCTCTGCTGCCTGATGGTGGGCCCTCCGGGTGCTTCTCCCGCAGACAAAGCT

TTGGCTTTGTATTAA

>Seq6 [organism=Mentha canadensis] pulegone reductase

ATGGAAGTGGACATGGTGATGAACAAGCAAATTGTAACAACAACACGTCAACGGTTCCTTTAAAAGAATCC
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AACTTGTAAGTGTCCGTCAATCCTTATCTCATTCTTCGCATGGGAAAACGATATCCCACAGTTTGATTCCATC
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GCGAACTGATTTGGGGGTCACAAGCTGGATGGGAGGAATATACCCTTATCCAAAATCCATATAATTTGTTTAA
AATCCAAGACAAAGATGTGCCTTTATCCTACTATGTTGGAATTCTAGGAATGCCTGGGATGACAGCATATGCA
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CTTTGAAGAGGCACTTCCCCGAAGGAATTGATATATACTTCGATAATGTTGGAGGGAAGATGCTTGAAGCTG
TGATCAACAACATGAGAGTCCACGGCCGCATCGCGGTATGTGGGATGGTCTCCAGTATAGCCTGAAGCAGC
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AGACATATCTGAAGGCCTTGAGAGTGCAGCTAGTCTCTTGGGGGTGTATGTGGTCTGTAACATTGGCAA
TCAGGTTGTTGCCGTTTCTCGCGAGTAA

>Seq7 [organism=Mentha canadensis] menthone:menthol reductase

ATGGCAGATACTTTTACACAGAGGTATGCTTTGATTACCGGTGCAAACAAAGGAATCGGGTTCGAGATATGC
AGGCAGTTAGCTTCGAAAGGAATGAAGGTGATTTAGCTTCAAGAAACGAGAAGAGAGGCATCGAAGCTC
GAGAAAGGCTACTTAAGGAATCGAGATCAATTTCTGATGACGATGTTGTTTTTCATCAACTTGATGTTGTTGA
CCCTGCTAGCGCTGTTGCTGTTGCTCACTTCATCGAAACCAAATTCGGGAGGCTTGATATTCTGGTGAATAAT
GCGGGATTTACTGGAGTAGCGATAGAGGGAGATATTTCAAGTGTATCAAGAGTGTATTGAGGCAAAACATTATT
GCAGCTCAGAGTGGACAGGCACGTCCATTCCATCCCAAATCAAATGGTAGGCTTATTGAAACATTGGAGGG
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GAAAGCTGCTGTTAATGCATATACTCGGATCATAGCGCGAAAGTACCCGAGTTTCTGCATAAATTCAGTGTGT
CCTGGTTTTGTTAGAACAGATATTTGCTACAATCTTGAGTACTAAGTGAAGCTGAAGGTGCTGAAGCTCCG
GTGAAGCTGGCTTTGTTGCCAATGGCGGGCCCTCGGGCTCCTTCTCTCTCGAGAGGAAGCCTTGTCCTT
GTACTAA

>Seq8 [organism=Mentha canadensis] menthone:neomenthol reductase

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AAGAGAGGTATCGAAGCTCGAGAAAGGCTGATTAAGGAATTGGGATCAGAGTTTGAAATTATGTGATTTT
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CTTGATATTCTGGTGAATAATGCAGGAATCAACGGAGTAGAGGTGGAGGGAGATGTTTCGGTTTATACAGA
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CTCAAGGAAATGGAAGGTTTGTGAGACATTGGAGAGTGCAGAAAGAGTGCATAGAAACAACTACTATGGC
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TTCATTAGGGAGTTTAGTGCTTCAGCCTAATGAATGGGCAAAAGGAGTGTTTAGCAGTGAAGACAACAGCC
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TTGGGCAATTTAGTGTAGCTGAATCTACTGAAGCTCTGGTGAAGCTGGCTTTGCTGCCCCACGGAGGGCCG
TCCGGATGCTTCTTCACTCGAGACGAAGCGTTCTGCTTGATTAA