>*AfPAL* [*Anoectochilus formosanus*] the sequence of phenylalanine ammonia-lyase gene from *Anoectochilus formosanus*

ATGGACCATGCTAGGGAGAACGGTCACGTGATGGAGAACGGGCACGTGACGGAGAACGGGCTATGCCTAAAGGGGAAGGACCCGCTGGGATGGATCGCGGCGGCAAAGGCGGTGGAGGGGAGCCACCTTGAGGAGGTGAAGCGGATGGTGGAGGATTTCCGGCGTCCGGTGGTGAGGCTCGAAGGAGCGGAGCTCAAAATATCGCAGGTAGCCGCAGTGGCTGCCGGCGTTGTTTCCCAAGTACAGCTAGCGGAGTCTGCGCGCGCTGGGGTGAATGCCAGCAGCGACTGGGTGATGGAGAGCATGAGTGCTGGTGGCGACCACTACGGCGTCACTACCGGCTTCGGCGCTACATCTCACCGCCGCACCAAGCAGGGCGGCGCCCTGCAGAAAGAACTCATCAGATTCCTTAATGCGGGGATCTTCGGATCAGGGACAAACAACACGCTGCCTTCGGCCGCCAGCAGGGCTGCGATGCTTGTGAGGATCAACACCCTCCTCCAAGGTTACTCCGGCATCCGTTTTGAAATCCTGGAGGCCATTACCAGCCTCCTCAACAGCAAGATTACGCCTTGCCTGCCGCTGAGGGGAACCATCACCGCCTCCGGCGATCTTGTTCCACTATCTTACATTGCGGGTGTCTTAACCGGCCGTCCCAATTGCAAGGCTATAACGGCCGACGGTGTTACTGTCAACGCAGTAGAGGCCTTCCGTCTTGCAGGAATCTCCAGCGGGTTCTTCGATCTTCAGCCCAAGGAAGGGCTCGCACTTGTCAATGGAACCGCCGTCGGCTCCGGCTTCGCCTCCATTGTCCTGTTCGAGGCAAACATCCTCGCCCTTATGGCAGAGGTTCTCTCTGCTCTGTTCTGCGAGGTGATGCAGGGGAAGCCGGAGTTCACCGACCACCTCACCCACAAGCTGAAACACCACCCGGGACAAATCGAGGCCGCCGCCATCATGGAGCACGTGCTTGAAGGAAGCTCCTACATGAAGATGGCCAAGAAGCTCCACGATTTGGATCCTCTTCAGAAGCCAAAGCAGGATCGCTATGCTCTCCGCACCTCACCCCAATGGCTCGGCCCTCAGATCGAAGTGATCCGAGCAGCGACCAAGTCCATCGAGAGGGAGATAAATTCAGTCAACGACAACCCTCTGATTGATGTCTCGAGGAACAAGGCCATCCATGGAGGCAACTTCCAAGGGACCCCCATTGGCGTTTCCATGGACAACACCAGGCTCGCCATTGCTGCCATCGGGAAGCTCATGTTCGCCCAAATATCAGAGCTTGTCAATGACTTTTATAACAACGGCTTGCCTTCAAATCTATCCGGTGGGAGAAACCCTAGCTTGGATTATGGCTTCAAAGGCGCGGAGATAGCCATGGCTTCCTACTGCTCCGAGCTCCAGTACCTCGCCAATCCGGTCACAAACCATGTGCAGAGCGCCGAGCAGCACAACCAGGACGTGAACTCCCTGGGACTGATATCTTCGAGGAAGACGGGGGAGGCGGTGGAGATACTAAAGCTCATGACCTCCACCTTCCTGGTTGCACTCTGCCAAGCCATAGACTTGAGGCATCTGGAGGAGAACTTGAAGTGTGCCGTGAAGAATGCGGTGAGCCTGGCGGCAAAGAGGACTCTCACTTTCGGGGCCAATGGAGATCTTCATCCATCCAGGTTCTGCGAGAAGGATTTGATCAAGGTGGTAGATAAGGAGTATGTGTTCGCCTACGCCGACGATCCCTGCAGCTCTACCTACCCTTTGATGCAGAAGCTCAGGCAGGTGCTGGTTGAGCATGCCCTCAGCAACGGCGACAAGGAGAAGGCCAGGAGCACCTCCATCTTCCAAAAGATCACAGATTTTGAGGAGGATATCAATGCCGCGCTTCCCAAAGCGGTCGAGGCCGCCAGAGCGGCGTTTGAGAAGGGGTCGTCGGCGATAGAGAACAGAATCAAAGAATGCAGATCCTACCCACTGTACAGGCTTGTGAGGGAAGAGCTCGGGGCCGGCTTTCTCACCGGAGAGAAGGCGATGTCGCCAGGGGAGGAATTCGACAAGGTCTTCAATGCCATTTGCGAGGGGAGGGCGATAGATCCTCTGCTCGAGTGCTTGAAGGAGTGGAATGAAGCTCCTCTCCCTATTTGCTAG

>AfPAL [*Anoectochilus formosanus*] the sequence of phenylalanine ammonia-lyase protein from *Anoectochilus formosanus*

MDHARENGHVMENGHVTENGLCLKGKDPLGWIAAAKAVEGSHLEEVKRMVEDFRRPVVRLEGAELKISQVAAVAAGVVSQVQLAESARAGVNASSDWVMESMSAGGDHYGVTTGFGATSHRRTKQGGALQKELIRFLNAGIFGSGTNNTLPSAASRAAMLVRINTLLQGYSGIRFEILEAITSLLNSKITPCLPLRGTITASGDLVPLSYIAGVLTGRPNCKAITADGVTVNAVEAFRLAGISSGFFDLQPKEGLALVNGTAVGSGFASIVLFEANILALMAEVLSALFCEVMQGKPEFTDHLTHKLKHHPGQIEAAAIMEHVLEGSSYMKMAKKLHDLDPLQKPKQDRYALRTSPQWLGPQIEVIRAATKSIEREINSVNDNPLIDVSRNKAIHGGNFQGTPIGVSMDNTRLAIAAIGKLMFAQISELVNDFYNNGLPSNLSGGRNPSLDYGFKGAEIAMASYCSELQYLANPVTNHVQSAEQHNQDVNSLGLISSRKTGEAVEILKLMTSTFLVALCQAIDLRHLEENLKCAVKNAVSLAAKRTLTFGANGDLHPSRFCEKDLIKVVDKEYVFAYADDPCSSTYPLMQKLRQVLVEHALSNGDKEKARSTSIFQKITDFEEDINAALPKAVEAARAAFEKGSSAIENRIKECRSYPLYRLVREELGAGFLTGEKAMSPGEEFDKVFNAICEGRAIDPLLECLKEWNEAPLPIC-

>*ArPAL* [*Anoectochilus roxburghii*] the sequence of phenylalanine ammonia-lyase gene from *Anoectochilus roxburghii*

ATGGACCATGCTAGGGAGAACGGTCACGTGACGGAGAACGGGCACGTGACGGAGAACGGGCTATGCCTAAAGGGGAAGGACCCGCTGGGATGGATCGCGGCGGCGAAGGCGGTGGAGGGGAGCCACCTTGAGGAGGTGAAGCGGATGGTGGAGGACTTCCGGCGGCCGGTGGTGAGGCTCGAAGGAGCGGAGCTCAAAATATCGCAGGTAGCCGCAGTGGCTGCCGGCGTTGTTTCCCAAGTACAGCTAGCGGAGTCTGCGCGCGCTGGGGTGAATGCCAGTAGTGACTGGGTGATGGAGAGCATGAGTGCTGGTGGCGACCACTACGGCGTCACTACCGGCTTCGGCGCTACATCTCACCGCCGCACCAAGCAGGGCGGCGCCCTGCAGAAAGAACTCATCAGATTCCTTAATGCGGGGATCTTCGGATCAGGGACGAACAACACGCTGCCTTCGACCGCCAGCAGGGCTGCGATGCTTGTGAGGATCAACACCCTCCTCCAAGGTTACTCCGGCATCCGTTTTGAAATCCTGGAGGCCATTACCAGCCTCCTCAACAGCAAGATTACGCCTTGCCTGCCGCTGAGGGGAACCATCACCGCCTCCGGCGATCTTGTTCCTCTATCTTACATTGCGGGTGTCTTAACCGGCCGTCCCAATTGCAAGGCTATAACGGCCGACGGTGTTACTGTCAACGCAGTAGAGGCCTTCCGTCTTGCAGGAATCTCCAGCGGGTTCTTCGATCTTCAGCCCAAGGAAGGGCTCGCACTTGTCAATGGAACCGCCGTCGGCTCCGGCTTCGCCTCCATTGTCCTGTTCGAGGCAAACATCCTCGCCGTTATGGCAGAGGTTCTCTCTGCTCTGTTCTGCGAGGTGATGCAGGGGAAGCCGGAGTTCATCGACCACCTCACCCACAAGCTGAAACACCACCCAGGACAAATCGAGGCCGCCGCCATCATGGAGCACGTGCTTGAAGGAAGCTCCTACATGAAGATGGCCAAGAAGCTCCACGATTTGGATCCTCTTCAGAAGCCAAAGCAGGATCGCTATGCTCTCCGCACATCACCCCAATGGCTCGGCCCTCAGATCGAAGTGATCCGAGCGGCGACTAAGTCCATCGAGAGGGAGATCAATTCAGTCAACGACAACCCTCTGATTGATGTCTCGAGGAACAAGGCCATCCATGGAGGCAACTTCCAAGGGACCCCCATTGGCGTTTCCATGGACAACACCAGGCTCGCCATTGCTGCCATCGGGAAGCTCATGTTCGCCCAAATATCAGAGCTTGTCAATGACTTTTATAACAACGGCTTGCCTTCAAATCTATCCGGCGGGAGAAACCCGAGCTTGGATTATGGCTTCAAAGGCGCGGAGATAGCCATGGCTTCCTACTGCTCCGAGCTCCAGTACCTCGCCAATCCGGTCACAAACCATGTGCAGAGCGCCGAGCAGCACAACCAGGACGTGAACTCCCTGGGTCTGATATCTTCGAGGAAGACGGGGGAGGCGGTGGAGATACTAAAGCTCATGACCTCCACCTTCCTGGTTGCACTCTGCCAAGCCATAGACTTGAGGCATCTGGAGGAGAACTTGAAGTGTGCCGTGAAGAACGCTGTAAGCCTGGCGGCAAAGAGGACGCTCACTTTCGGGGCCAATGGAGATCTTCATCCATCCAGGTTCTGCGAGAAGGATTTGATCAAGGTGGTAGATAAGGAGTATGTGTTTGCCTACGCCGACGATCCCTGCAGCTCTACCTACCCTTTGATGCAGAAGCTCAGGCAGGTGCTGGTTGAGCATGCCCTCAGCAACGGCGACAAGGAGAAGGCCAGGAGCACCTCCATCTTCCAAAAGATCACAGATTTTGAGGAGGATATCAAAGCCGCGCTTCCCAAAGCGGTGGAGGCCGCCAGAGCGGCGTTTGAGAAGGGTTCGTCGGCCATAGAGAACAGAATCAAAGAATGCAGATCCTACCCACTGTACAGGCTTGTGAGGGAAGAGCTCGGCGCCGGATTTCTCACCGGAGAGAAGGCGATGTCGCCAGGGGAGGAATTCGACAAGGTCTTCAACGCCATTTGCGAGGGGAAGGCGATAGATCCTCTGCTCGAGTGCTTGAAGGAGTGGAATGAAGCTCCTCTCCCTATTTGCTAG

>ArPAL [*Anoectochilus roxburghii*] the sequence of phenylalanine ammonia-lyase protein from *Anoectochilus roxburghii*

MDHARENGHVTENGHVTENGLCLKGKDPLGWIAAAKAVEGSHLEEVKRMVEDFRRPVVRLEGAELKISQVAAVAAGVVSQVQLAESARAGVNASSDWVMESMSAGGDHYGVTTGFGATSHRRTKQGGALQKELIRFLNAGIFGSGTNNTLPSTASRAAMLVRINTLLQGYSGIRFEILEAITSLLNSKITPCLPLRGTITASGDLVPLSYIAGVLTGRPNCKAITADGVTVNAVEAFRLAGISSGFFDLQPKEGLALVNGTAVGSGFASIVLFEANILAVMAEVLSALFCEVMQGKPEFIDHLTHKLKHHPGQIEAAAIMEHVLEGSSYMKMAKKLHDLDPLQKPKQDRYALRTSPQWLGPQIEVIRAATKSIEREINSVNDNPLIDVSRNKAIHGGNFQGTPIGVSMDNTRLAIAAIGKLMFAQISELVNDFYNNGLPSNLSGGRNPSLDYGFKGAEIAMASYCSELQYLANPVTNHVQSAEQHNQDVNSLGLISSRKTGEAVEILKLMTSTFLVALCQAIDLRHLEENLKCAVKNAVSLAAKRTLTFGANGDLHPSRFCEKDLIKVVDKEYVFAYADDPCSSTYPLMQKLRQVLVEHALSNGDKEKARSTSIFQKITDFEEDIKAALPKAVEAARAAFEKGSSAIENRIKECRSYPLYRLVREELGAGFLTGEKAMSPGEEFDKVFNAICEGKAIDPLLECLKEWNEAPLPIC-