

Table S1. Complete sequences of *Cydia pomonella* serpins

Gene name	chr number	CDS sequence	Protein sequence*
CpSPN1A	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCGGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTGCGACCCGAACCTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTCCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTGAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGATTTCGGTGTAACGTACCTGA GCGCATACGTTAAGCCCGAAACCTACTTCAACGCTGACCATCCATTTCATCTTATTCTTAAGTCGGGAGAAAGCGCGTTGTTCAAGTGGCGTTCCTTATAATTAG	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNLMANKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNALYFKGSWEKKFNDKATTDSD HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPEYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVN PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAAANDFGVTYLSAYVKPETYFNAD HPFIFILKSGESALFSGVFYN
CpSPN1B	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCGGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTGCGACCCGAACCTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTCCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTGAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGCATTCCAAGTTGTAAGCCGAT CAGGCAAATTCTACTACGTTGAACCAAAAGAATTTAACGCAGACCATCCTTTCCTCTTCTTAAATAGTCACTCAAACGAGCTTTTCAACGGAGCTTATATTCTATTA	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNLMANKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNALYFKGSWEKKFNDKATTDSD HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPEYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVN PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAAANAFQVVSRSKFYYVEPKEFN ADHPFLFFLNSHSNELFNGAYIH
CpSPN1C	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCGGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTGCGACCCGAACCTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTCCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTGAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGTGTTCAACATTGATAGAACGAT GATAATTCCGGAAACATACTTGTTTATGGCAGACCGCCCGTTCTTGTTTACCTTAACGTGCGCTCCAGCATTTTATTCAACGGCTCCTTCCAGTCTTAA	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNLMANKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNALYFKGSWEKKFNDKATTDSD HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPEYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVN PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAAANVFTIDRTMIIPETYLFMADR PFLFYLVNGSSILFNGSFQS
CpSPN1D	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCGGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTGCGACCCGAACCTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTCCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTGAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGTGTTCAACATTGATAGAACGAT AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTGAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNLMANKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNALYFKGSWEKKFNDKATTDSD HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPEYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVN SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVN

		GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAATCTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGACCTCGGGATATATGTAATGATGCTAAACCAGAAATATGGTTTAAGGCAGACCGGCCGTTTCTATTCTTCTTAACGCCGGCTCCACTACTTTGTTCAACGGCTCCTACCAATCCTAA	PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAANDLGIYVMMLKPEIWFKADR PFLFFLNAGSTTLFNGSYQS
CpSPN1E	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCCGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTCGACCCGAACTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCTGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTGCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTCAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGCATTTCTACTCGTGGAGGAGT CGTTGGCCCTAGTCGAAGAGCTGTACTTTGACGCCGACCATCCATTTATTTTTCATCTTAGGCAAGGAGCCGTACACTTTTTAACGGAGTTGTCAATTTCTGA	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNMANIKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNLYFKGSWEKKFNDKATTDSDF HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPPYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVNVYL PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAANAFLLVEESLALVEELYFDADH PFIFHLRQGARTLFNGVVNF
CpSPN1F	chr5	ATGAATACACTTATATTCTTTACAGCCGTCGTGGCCATGGCTTCAGCCACTGGTGAGGAGAAGATCCTCAATGATGGAAACAACGTGTTTACTGCCAACATGTTTTCGGAGGTGGTAAAA GAGCAGGCCCGCAAGAGCGTGGTGATGTCCGCCTTCTCTGTCTGCAGCCGCTGGCTCAACTGGCCCTGGCCTCTGTGCGCGAGTCCCATGACGAGCTCCTCAGAGCCATCGGCCTTCC CAACGACAATGTGACCAAAGCAGTGTTCCCCAAAGTGACCGCTCAACTTCGAGCAGTACAAGGAGTGAACTGAACATGGCCAACAAAATATACATTCCCACAAACGCTCAAGTTAAGG AAGACTTTGCCGCACTCTCAAAGAGCGTCTTCGGTTCAGAATTCAAGAACATTGACTTTACGAAAAATGTGCCTGCTGCTCAGGAAATCAACTCATGGGTGGAGGATCACACAAACCAC AAAATCAAGGACTTGGTCGACCCGAACTCCCTGGGAGCTGATACTCGTGCGGTCTCGTCAATGCTCTGTACTTCAAGGGTTCTGTGGGAAAAAAAAATTCAATGATAAGGCTACTACTGAT AGTGATTTCCATGTAACATAAGACAAGACAGTGAAAGTGCCGACGATGTACAAGAAAGACGACTTTAAATACGCCGAGAGCAAAGAGCTCGATGCTAAGCTCTTGGAAGTGCCATATGA AGGAAAGGAGGCATCTTTCCTTATCGTCTCCCCAACGAAATCGACGGTCTGCCAGCTTTCAGGAGAACTGAAGAACCCCACTGCCTTAGACAAAGCTGTTGCCGAGATGCGCGAG GTGGAAGTCAACGTCTACCTCCCTAAGTTCAAGATTGAACTACTATCGACCTGAAGAAAGTTCTGCAAAAGATCGGCATTACCAGCCTTTTCGACGCCGCCAAGGCCAGATTGGACAAT CTCTTGAAGAACGAAAGCGGTCTGTACGTCAGTGATGCCATCCAGAAGGCTTTCATTGAAGTCAACGAGGAGGGTGCCGAGGCAGCTGCAGCTAATGTGTTCCCGTTCCTCATGGCAG CAAGTTGGCCTCCACCTAGAGTGCGGGAGTTTATTGCAGACCATGCCTTCATTTTCTCCTGAAGGCGGGAGATAGCGCACTCTTTGGCGGAGTATTCGCTAACTAG	<u>MNTLIFFTAVVAMASATG</u> EEEKILNDGNNVFTANMFSEVVK EQAGKSVVMSAFSVLQPLAQLALASVGESHDELLRAIGLPN DNVTKAVFPKVTAQLRAVQGVKLNMANIKIYIPTNAQVKED FAALSKSVFGSEFKNIDFTKNVPAAQEINSWVEDHTNHKIK DLVDPNSLGADTRAVLVNLYFKGSWEKKFNDKATTDSDF HVTKDKTVKVPTMYKKDDFKYAESKELDAKLELPPYEGKEA SFLIVLPNEIDGLPALQEKLKNPTALDKAVAEMREVEVNVYL PKFKIETTIDLKKVLQKIGITSLFDAAKARLDNLLKNESGLYVS DAIQKAFIEVNEEGAEAAAANVFPVPMMAASWPPPRVREFI ADHAFILLKAGDSALFGGVFAN
CpSPN2	chr1	ATGTCAACGTTTTTACTAACCTTTCTGTTTTTATATTTTCAACAAACCAAATCAGTTCACAAATATGGATTCCGCTGCTGTATCCTCGGCTGTCGCCAAGTTCTCCATGCAGTTCTGCAATG AGCTGGATAAAAGCCAGAATGTGGTGTCTTCCCCCTATCGGCTGAAATTCTGCTGGCACTCCTTTCATTGGATCCTCTGAACCTGCCCTTCCAGAGCTTCTAGGAGCCATTGGATTTC AGACACTGATGCAATCCGCTCATATTTTCACTTGTGTATCAAGACTGAAATCCGTGAAAGGAGTCACTTTGGATGTGGCCAACCGGGTTTACTTACAACAGGGCCATGAGCTGGATCC CAAGCTTAAAGATGATGCAGTTAAAGTCTTTGATGCAGGACTTGAGCCCATGGATTTTTCCAATGGTGCTGTTGCAGCAAAAGTTATTAATGACTGGGTGGAGAGCAAGACTAACAACA AAATCAAGGATCTCATATCAGAAGACTCTCTCAATGCCCTGACTCGACTTGTAATTGTCAATGCTCTCTACTTCAAGGGTAAATGGAAGCATCAGTTTAAGCCCCATAACACAATGGACAAA CCATTCTATGTGAAGAAGGACACTACTGTGGATGTTCTATGATGTATATTGAAGAACAATTCAGATATGGGGAGAGTGACAAATTAATGCACAGTTACTGGAGATGCCGTATGAAGGCG ACGAGGCGAGCATGGTGATCGTGCTGCCCAAGGACATCGAGGGTCTCGACACGGTCTCAAGCAACTGGCCTCGGGCGTGCACCTCGTCCAGGAGCTGAACAACATGATCTCCACCAA GGTGACGGTCACCGTTCCCAAGTTCAAGATAGAGACCGAGATCGACCTTAAGGAACTGCTGCCTAAGCTAGGCATCAAGGCCATCTTCGACGAAAAGAACTCTGGCCTAACCAAGATCT TGGACAGCACCGAGCCCTGTACGTGTCCAAGGCGATACAGAAAGCGTTTCATCGAGGTGAACGAGGAGGGTGCGGAGGCGGCTGCGGCCACCGCGATGAATATTATGATGTGTTGTGC AATGGTGGACGTCGCCCCGTGCCAGTATTCAGTGGGATCGACCTTTCCTCGCGGTATCCAAGCTCACGGAATACTTTACTTCTGGCCGTACACAGCGGGAACGAATAA	<u>MSTFLLTFLFFIFSTNQIS</u> STNMDSAAVSSAVAKFSMQFCNE LDKSQNVVSSPLSAEILLALLSLGSSEPALPELLGAIGFQDTD AIRSSFSLVSSRLKSVKGVTLDVANRVYLQQGHEDLPKLKDD AVKVF DAGLEPMDFSNGAVAAKVINDWVESKTNNKIKDLI SEDSLNALTRLVLVNLYFKGKWKHQFKPHNTMDKPFYVK KDTTVDVPMMYIEEQFRYGESDKLNAQLLEMPYEGDEAS MVIVLPKDIEGLD TVLKQLASGVDLVQELNNMISTKVQVTV PKFKIETEIDLKELLPKLGIKAIFDEKNSGLTKILDSTEPLYVSKA IQKAFIEVNEEGAEAAAATAMNIMMCCAMVDVAPVPVFT ADRPFLAVIQAHGILYFLAVHSGNE
CpSPN3	chr3	ATGACTTTAATGCTGTGTTTAATACTTTTTGTGCTCCACTGTCACAATGCGACGTGGTTCGGACCAACAAATCCTCCAAAGTGATTTCGGAACCCCAGCGGGCTACGCTGGCCCTCTCCC CGCAGCCCAACCGGGCAAGCCAACACTCGGAACAAATGAGACCCTGGTGGACCATGATTATTGGGACTCCGACGATTATTATGTGCAGTCGCCGGCCGACTACGACTCGTTTGATTGGA CGGTTACTAAGCGCATAGCGGCATACTCAGAGGAAAACTTCTACTTTCGCCTTTAGGCTTGAAACTAGCGCTGGCCATCTTAAGTGAAGCAGCGACTGGCCCCACTCAAGCCCAGTTGG CCTCGGTCTAGGCTTTGACGTCAATAGAACCGTTGTTTCGGACTAAGTTCTCGTCCATCATATCTTCTCTCCAGCTAGCAAATCCAACTACACCCTGAACGTTGGCAGTAGAATCTACGTA GATAGCACAGTGCTGAGAGACAGCGTTCTCTTCGATTGCTGAAGAATTCTACAAAATGAGCTGAAGAAGGTGGACTTCCGCCTCCCCGCGGAAACTGCGGCCCAAATCAACGGAT GGGTCTCCAATTTGACTCACGGGAATATACCTAATCTAATCGATGAAGACGAGGTGAAAGGCAGTATAGTCTGGTCTTAACGACCCTGTTCTTCAAGGGCACCTGGAAGCACCAAGTTCA ACCCGAACACTACCAAACCAGGGCCTTCTACGTGACACCGACTGTACAAAAACAAGTGCCCTTCATGAATGTAAAGGACAAGTTTTATTATGCAGAGTCAGCGAAATATGACGCAAAGA TTTTGAGGATGCCATATTTGGGTAAAAAGTTCTCCATGTACATAGTAGTGCCGAACCTCCTGAAGGGCCTTCTCGAGTAATGGACTCGCTGAGCGACCTGCGCACGGAAATGCTATACCT CGCCGAGCGCACGGTTGATGTACGCTCCCGAAATTCAAGTTTCGACTTCACCTCCATATTGGATGGAGTCTTGAAAGATTGGGCATTTCGGCAAGCGTTTGAAGACACGGCATCCTTCCC	<u>MTLMLCLILFVAPLSQC</u> DVVPDQQLQSVFGTPAGYAGPLP AAQPGKPTLGTNETLVDHDYWDSDDYVQSPADYDSFDW TVTKRIAAYSEENFLLSPLGLKLALAILTEAATGPTQAQLASVL GFDVNRTVVRTKFSSIISSLQLANPNYTLNVGSRIYVDSTVSE RQRFSIIAEFEYKTELKKVDFRLPAETAAQINGWVSNLTHG NIPNLIDEDEVKGSIVLVLTTLFFKGTWKHQFNPNNTTKTRAF YVTPTVQKQVPFMNVKDKFYAESAKEYDAKILRMPYLGGKF SMYIVVPNSLKG LPRVMDSLSDLRTEMLYLAERTVDVTLPK FKFDFTSILDGVLKDLGIRQAFEDTASFPG LARGQSPQNR LK

		CGGCCTGGCTAGAGGGCAGTCTCCACAGAACCGACTGAAGATTTCCAAGGTTCTACAGCGCTCCGGCATCGAAGTCAACGAGCTGGGAAGCGTTGCGTACTCTGTACAGAGGTGTCGCTAGTAAATAAGTTTGGCGAGGACGAATACAGCGCCGGAGAGGTGATCGCCAACCGACCATTCTTGTTCTTCATAGAAGATGAGGCCACGAGACAACCTGCTGTTACCCGGGCGGGTGT CGGACCCTCTTGTTGGCCACCGCGGAGTTCAAAGCGCACACACCCAGTGCGTAA	ISKVLQRSGIEVNELGSVAYSVTEVSLVNKFGEDEYSAGEVIA NRPFLFFIEDEATRQLLFTGRVSDPLVATAEFKAHTPSA
CpSPN4	chr2	ATGCTTATATTTGTGCTCGAATTATGCGCGTGTTTTGTGTTGTGTTTCGGGCAGAATCAAGGAATTAAAGGACACGATGAACCGGAATATCCCACGAACTTACACAACGGCCTCAGCGAG GCGACGGGGAATTTCTCAGTGGAGCTATTATATCATGCAGCAAAAAACAAGGGAAGCAGAATCTCATATTGTGCGCGATCACAGCGTGGACGGTGTTGGCGGTGACGTGCGAAGGCG CACTGGGCAATACGCGGACTCAACTGGTCTCGGCCTTACGAATAAAAAGAAACCGGACGGTCACCAGACATGACTTCCAAGAAATCGCGCGATGGCTAGTCGTAAACACAACCTACGGTG CATCTTGCTAAATTCAATGGAATATTTGTGGACAAGTCTAAATCTCTGGAAGATGACTTCCGTCAATCTTCCAAAACATTTTATGATACGCAAACCTGTCGATTTAGACTTCAAAAACAGCGC AGCAACCGCCGCCACCATCAACGGAGCCGTGTCAACAGCAACCAAGGCAGAATTCTAAATTGGTTGATGAAAGTAATTTGAGTGATGCACAGATGATCATCACGAGTGCAGTATATTT TAAAGGCCAGTGGACTGCACCTTTTAATGTCTCCTCTACAATAAACAAAATTTTATAATAGTAGTGGGATGAAAATTGGGGAAGTGAACATGATGTACAATAGATACACATACCCATTG CTAATATTAAGGAGATTCAAGCAAGAGTAATTGAGTTGCCTTATGGTGTTGAAAATCGTCTGTCCATGCTATTAATGCTGCCAAATCCTGGTGTTACTCTAGAAGATATGTTCTTAAACTTCA AAAAAGTACCTCTTGATACTGTGTTTCAAGAGCTGAAACTCTCTCAAGAAGAGTATAGTGATGATGAAATAGATTGTTTCATTCTCGCTTCAAAATTGATTCAAGCATTGAACTGAATGAA ATATTGAAAGAGGGAATGGGAATATATGATCTGTTTGACCCTGTGAAAGCCAATTTGGGCCGCTTGGCTCGGGTGCCCATGTATGTGACTAGGGTTATCCATAAAGCAGAAATTGAGGTT ACAGAGGAAGGTACAACAGCGTCTGGGGCTACAGCTGCAGAGTTTGAAACCGGATTGGAGTTATAAGATTGAAGCCAACCGGCCTTTTAGTTACCTTATTGTGAAAAAGTCACAAA CACAATCGTTTTCGGAGGAGTGTAACACAGCCGATTTTGTACTGA	<u>MLIFVLELCACFVLCFGQ</u> NQGIKGHDEPEYPTNLHNLSEA TGNFSVELLYHAAKKQGKQNLILSPITAWTVLAVTSEGALGN TRTQLVSALRIKRNRVTRHDFQEIARWLNVNTTTVHLAKF NGIFVDKSKSLEDDFRQSSKTFYDTQTVDLDFKNSAATAATI NGAVSTATKGRIKLVDESNLSDAQMIITSAVYFKGQWTAP FNVSSTTKQNFYNSSGMKIGEVNMMYNRYTYPFANIKEIQ ARVIELPYGVENRLSMLLMLPNPGVTLEDMFLNFKKVPLDT VFQELKLSQEEYSDDCIDCFIPRFKIDSSIENEILKEGMGIYD LFDPVKANLGRLARVPMYVTRVIHKAIEVTEEGTTASGATA AEFANRIGVIRFEANRPFSYLIVEKVTNTIVFGGVYQQPILY
CpSPN5	chr23	ATGAGATTCACAGTTTTAATATTGTTAACATCATCATGTTACTGTGATGTGGAATTCAGTGAACGACCAAGAAACTTTAGCATAGAAGTCTTTATCATACTCAGAAGCAAACCTGGTGGACA TGTTGTGATATCTCCTTTTGAATTTGGACACTTATGACCGGTTTAGCCGTGGGTGCGACCGGCGACAGCTTCGAGCAAATAAGAGTGCGCTTTTATACTTCCCAGGAGCCTTAAAACCGTC GTATGTGGATCTAAACACTTGTCTAAATCAGTGCTGAAACGGACCTCCGATGGAGTATCTATAACGAGTAAGAATTTCTATTTCGCTGATGATGATTCTTACTTAAACCAGCATTTAAGCAG ACTATTACTGAAGATTTGACGCCACTGTCAAAGTGCTTGATTTTAAAGATTCTAACGAAGCTGCAGCTAAAGCAAACAATTTATACAAAACCTCCGGTGCTCGAGTTACTAATGTACTAAC TTCAGAAGATTTTGAACAATCAAGAATGATTTTGACAAACGTGATAACTTTTAAAGGACTATGGACATCGCCTTTCAATGCAAGTCATACAACCTCTGAATATTTCTATAACGAAAACAAAG AGATAATAGGCGAAGTGAATATGATGCATCAAAAAGGAGAATTTCCATTATCTAACATAATAGATCTTAAATCATTCGCTGTGAACTGACTTATGGAACCTGATGCGGCATATTCCATGCTAG TGATCTTGCCCTCATCCAGGTGTTAAAGTTGAAGACGTTTATAAGAAGTTTGAAAAATATCACCATACCTGACATAATAGCGAGACTCCAAAACGATGAAAAGGAATACGGTTTAGATGAAGT TGAAATTAATACCTAGATTCAAAATAAGCACGAATATAGTTATGAATAGACCTTTAAACGATATGGGTGTTTATGATATTTTCGATCCAGAATATGCTAGTTTTCAGAGAGCAACAAATGA GAGTATTTATGTGTCGGCCATAGTTCATAAAGCAGACATAGAAGTAAGTGAACAGGGACCGTTGCGTCAGCGGTATCTACAGCGTATTTAAGTAATAGATTGGAACAACCTAAATTGATT GCTGATAGACCTTTCCTGTACTTCATCATTGAGAAGTCGACAGCTACTGTGATTTTTCGGGGCATTATTCTAAGCCTTCTTTGTACTGA	<u>MRFTVLILLTSSCYC</u> DVEFSEPRNFSIELLYHTQKQTGGHVV ISPGIWTLMTGLAVGATGDSFEQIRVAFILPRSLKTVVCGS KHLKSVLKRTSDGVSITSKNFLFADDDFLKPAFKQTITEDF DATVKVLDFKDSNEAAAKANNFIQNSGARVTNVLTSDFE QSRMILTNVITFKGLWTS PFNASHTTLEYFYNNENKEIIGEVN MMHQKGEPPLSNIIDLKS FVCELTYGTDAAYSMLVILPHPG VKVEDVYKKFENITIPDIIARLQNDEKEYGLDEVEIKLPRFKIS TNIVMNRPLNDMGVYDIFDPEYASF SRATNESIYVSAIVHK ADIEVSETGTVASAVSTAYLSNRFGTTKLIADRPFLYFIIEKSTA TVIFAGIYSKPSLY
CpSPN6	chr1	ATGTTCAAAATAGTAGCCCTCGGGTTGCTTATAATTGCGACGGTGACTGGTCAATGCTTCTATAAAGATGATTAGCTAAGAACTGGACCCCTGAGGCTCGCACGTCTCTTTATAGGGGCC AATTGGAGTTCACCCTAAATTTGTTTAACTCCATTAATGACGCGTATCCACCGACAACATATTCTTTTCGCCTTCTCAGTATACCACTCTCTACTGCTAGCTTACTTTTCTGCTGGGGGCCA GACGGAAGCGTCTCTGAAGGAGTCACTACAGATAGAAAAATCTTTGGATAAAATCAATTTGATATCAGCATACAAGGTAGACCGCCGGTCCCGCTTGACGAATAACAACAGCGCCAGCTA TGAGTTCAACAGCGCCAACAAAATGTTTCATCGATGAAACGCTCGACGTCAGGCAGTGCTTGCTCGACATCTTCGAGGACGAACTAGAGAGACTTAATTTCCACGAAACGCCCTCGGAAG CACGCGAGCACATTAACAAGTGGGTGGCCGCGGCGACGAAGAACCATATCCAGGCGTTGATCCCGGAGGACGGCATCACGCACACCACGAAGCTGGTGCTCGCCAACGCCGCTACTT CAAAGGCGTCTGGGCCTCTAAATTCCCCGCAGAAAGGACAAAGAAAGAGGCTTTCTTTGTTTCTGAAACTCTTCAAACGCTGGTACCGTTTATGAAGCAGAAAGGCACTTTCCATTTCAT GGTGAGCGAAGACCTCGGTGCACAGATTCTGGAGCTGCCCTACAAAGGCAACGACATCAGCATGTACATCCTCCTGCCGCCCTACTCTATGAAGGAAGACATGACAAATCGTTGCAAGC CATATGGAGAGTTTGCTTGCCCTACTCTATGCAAAATTTATTAGTGTGAGATTCCACAGGTGTGAAGAACATCATAGCCAACCTGACACCCCAGCGCGACTAGCCGCCGTAGTGGAGG AAAGCTACATGGGCCGCGAGGTATCGTCGAGATCCCCAAGTTCACCGTTGAGAAGAGCCTGCCCCTGAGGCCAATCTTGAGTCTCTGGGAGTAGGCGACTTGTTCAACAGCACCTCC GACTTCACGACGCTGACGGAGGACCAAGTCAGCTTCGACGATGCCGTCCACAAGGCCAAGATCCAAATCGATGAAGAAGGAACCGTGGCTGCAGCGGCAACGGCCATCTTCGGGTTC CGGTCATCGCGGCCCGCGGAGCCCACCCGCTTCGTGGCCAACCTCCCTTCGTGTACCTCGGTACGAGCGGCCACCAACTCTGTCCTTTCATGGGCGTCTACAGGGACCCCTAAGAAG TAA	<u>MFKIVALGLLIIATVTG</u> QCFYKDDSAKKLDPEARTSLYRGQLE FTLNLFNSINDAYPTDNIFFSPFSVYHSLLLAYFSAGGQTEAS LKESLQIEKSLDKINLISAYKVDRSRLTNNNSASYEFNSANK MFIDETLDVRQCLLDIFEDELERLNFHETPSEAREHINKWVA AATKNHIQALIPEDGITHHTKLVLANAAYFKGVWASKFPAER TKKEAFFVSETLQTLVPFMKQKGTFFHFMVSEDLGAQILELPY KGNDISMYILLPPYSMKEDMTNRCKPYGEFAWPYSMQNLL VSDFHRCEEHHSQPDTPARLAAVVEESYMGREVIVEIPKFT VEKSLPLRPILQSLGVGDLFNSTSDFTLTLEDQVSFDDAVHK AKIQIDEEGTVAAAATAIFGRSSRPAEPTRFVANFPFVYLVY ERPTNSVLFMGVYRDPKK
CpSPN7	chr2	ATGTGGAAGGTCATAATAGCCGCGTGCACGAGCCTGGTGGTACCCTCGGTCGATGATCGGGTCGATTTCTACCCATCAATCAATTCGCTCTAAGACTCTTAGACAACGCATATGCTT TTCAAGAGAACTTTGGGCGACAAAATTTTGCTATTTCTCATTATCAGTATGGAGCGTTTTCTCGTACTCGCCGAAGGATCGGCAGGGGACACCTTCCAGGAACATAAGGAACCTC AGCTACCTCAGGATTTGAGGGCAACTCAAGAGCTACATCTTGCGGCGGATAGCGTTTTAAGAAGCAACGACCCTGATCTCGTGATTACAAAACAAGCAGCCTTGTTCCCCGAATGTTTCAT TAGAGATACACCAAGAGTTTTGTCAAGCAGCTAACATGTACAGGACAGAAGGACAAATAAGAAACGCAGTGAAAGAAGAATTTCTTAGAGATTTAAGGCTGCTGATAGTAGACGCTTTG TACTTTAAAGCAAATTGGACACATCCTTTGACCCAACCGCAACCAGAGAAGAAGATTTTTACAATGGCCAAGGGAAAACAATTGGACGAGTAAACATGATGTTCCACAAAGCATCTCAC AATGTAGGAGACTCAAACCTCAATAGGAGCACAGATTCTTGAAATGACATATGGGAAACATGAAGAATTCTCAATGTTGATCCTCTTACCTTTTGAAGGAATGCCACTGAAAACACTACTTA	<u>MWKVIIAACTSLVV</u> TAPVDDRVD FSPINQFALRLLDNAYAF QENFGRQNF AISPLSVWSVFSLLAEGSAGDTFQELMKELQL PQDLRATQELHLAADSVLRSDPDLVIHKQAALFPECSLEIH QEFCQAANMYRTEGQIRNAVKEEFLRDLRLLIVDALYFKAN WTHPFDPATREEDFYNGQKGTIGRVNMMFHKASHNVG DSNSIGAQILEMTYGKHEEFSMLILLPFEGMPLKTLLSNLVT

		GCAATTTAGTTACGTCTCCATTAGACTGGATAACAGACTTCAAACGAGACGATAAACGGCCGGAAATTGATGTGTTATTCCCCGTTTCAAATATCTTCTCAGATTGATTTAATTCCTGCTT TAAAATACACCGGAATTCATACAATTTTCGACAGTGAGAAGGCGCAGTTGCCTGGTATTTCTGACAGTCCTTTATTTGTATCTAAACAATTCAAATGTAGAAATAGATGTAAAGAAGAA GGTACAGTTGCCGCCGAGCTACAGTGGTTGGGTAGAGAATCGATTCTTTCCAGCGGTTTGAGGCTAACAAAGAGTTGTTTTCATGATCACGCATAGGAAATCAAACGTTATCTTG TTTGCCGGTGTGTACAGTGACCCTGCTGTTGTGTGA	SPLDWITDFKRDDKRPEIDVFIPRFKISSQIDLIPALKYTGHTI FDSEKAQLPGISDSPLFVSKTIQNVEIDVKEEGTVAAAATVV GLENRFLSQRFEANKEFVMITHRKS NVILFAGVYS DPAVV
CpSPN8	chr19	ATGATTCTTTTTGTGCTCAAATTGTGCGCGTGTGTTGTGCTGTGTTAGGGCAGAATCATGGAGTTAAAGAACCGGTATATCGAATGAATTTAGCTAAATTCAGTGAGTCGACGGGCAATT TTACAATAGAGTTGTTATATCACGTGGCAAAACGACAACCGGACCAAACTTCGTTGTGTCCCCGTTTCGACAGCTGGACAATGCTAGCGGTGACTTATGAGGGCGCAGTGGGTAATACCA ATGAAGAACTGATCTTGGCCTTACGATTTCGCCGAAAAAGCCCTCGAACAAACAGTTAGATATTACTATCAAGAAATCGCGCAATGGCTTGTCGTCAACAGAACACAGCCCAATTTACAAA ATTCAGCGGAATATTATGACAGGGTATGGACTGGAATGGATAATGACTTCCGTCACATTGCGGAGGAGATTTATAATACAGAAGCAGTTGACTTACCGTTCAAACAAAGCAGCAGC GGCCACCATCAACCGAGCAGTATCTCTAACTACCGAAGACAGGATTCCACATTAATTGATGAAAGTCATTGAATAACACACAGCTGATTATCGCCAGTGCTGTATATTTAATGGGCAGT GGACTGCACCATTTAATGTTATTACAGTTAAACGAGATTTCTATAACAGTATTGGGGAGAAAATTGGTGAAGTGAATATGATGTATAATAGATACACATACCCGTTTGCGAATATTAGTGAAC TTCAAGCTAGTGTGATCGAGCTGCCTTATGGTGTGAAAACCATATGTCTATGATTTTAATTCTGCCAAACCCCTGGTATGACTCTAAAAGATATGTTCTTAATCTTCCTCAAAGCAAATCTTAA GACAGTATTTCAAGAGCTGAAAGTCTCTCAAGAAGAGCGTGGTGATGTTGAAATAGATTGTTTCATCCACGCTTCAAATTTGTTCAAATATTGAATTAAACGAAATTTTAAAAAATGGT ATGGGAATACATGACCTTTTTGACCCAAAGAATGTCTTCTTGCTCGCATGTCCCGGTGGCCCATTCGTGGTACAAGGGTCATACATAAAACCGAGATTGACGTAAGTGAAGAAAGCAGC ACACCATCCGGAAATATAGCTCCAGAATTTGCAAATGACAGTAAAGTTCTAATTTTTGAAGCTAATCGGCCATTTAGTTATTTTATTGTGGAAAAACACACAGACACTGTTGTTTGGCAGG AGTTTACCGAAAGCCTATTTTATATTGA	<u>MILFVLKLCACFVLC</u> LQNHGVKEPVYRMNLAKFSESTGNF TIELLYHVAKRQPDQNFVVS PFAAWTMLAVTYEGAVGNTN EELILALRFPKRSPRTTVRYYYQEIAQWL VVNRTTAQFTKFS GIFMDRVWTGMDNDFRHIAEEIYNTEAVDLPFKNKAAAA TINRAVSLTTEDRIPTLIDESH LNNTQLIASAVYFNGQWTAP FNVITVKRDFYNSIGEKIGE VNNMMYNRYTYPFANISELQAS VIELPYGVENHMSMILILPNPGMTLKDMFLIFLKANLKTVF QELKVSQEERGDVEIDCFIPRFKIVSNIELNEILKNGMGIHDL FDPKNVFLPRMSRWPIRGTRVIHKTEIDVTEESSTPSGNIAP EFANDSKVLIFEANRPFSYFIVEKHTDTVVLAGVYRKPILY
CpSPN9	chr2	ATGGCCACTTATTTGTACTTGCTGGCCATCTTCTGCCTCCGATATTAGGGCAGTGTTGCGTCGAAAAGGCCGGTCATAGTTTCAGTCGCGCGGTTTACGAGTTTTCTCTGGATTTAATACA AAGAGTGGGACAGGAAAACGATAACCATTTCGTCACGTCACCATTCTCGCTATGGACTGTTCTAACAACAGCATCTTTAGGGGGCCGAAGACGAGACCCTTGCGGAAATGAAGCGAGTAC TCCGCCTTACCATTACCCGTGCTTCAACGACAGGTACCTAGAAATCGTGAAAGGGATCACAGTGTAACCTCGAAGACCACACTGGAGAGAAGTTCTGTGCTCTTCGTTGACAAGACT GTTTCGTTGCTCGAATCTTTCATAGAAAACAGTGAGTGGCACC GGAGTGTGCGACGTCATGATCCTACCTTTCGACAAC TACAACAACGTGGCTACAAC TATAAATAATTACGTGAGCCAAG CGACCCACAACACCATCCAAGAAATCGTGAATTCAAATGACATCGAAGGAGTCTATCTGCTTCTGCTCGACGCTGTTACTTTAAAGGAATGTGGAATATTCCTTTGAGCCCTCAGAAAC TGAAGTCACTTCTTCTACGACGAGAGAAAACAACCTGTTGGAGATGTAAACATGATGTTCTCCATGCGGCAATATAATTTAGCATCCATTGATCAGCTACAAGCGAAGGTCCTAGAACTG CCCTATGGAGATGGAGACCGTTTTTCCATGCTCATATTCCTTCCCTACCAATCCAGTTCTGTGGCCAAAGTCACAGACCAGCTGAAGAGAGTGACTTTAAAGTCCATATTCTACATTTTCCA GCGTAACGGACGCGACACAGTTCAAGTTCAGATCCCGAGTGCTCAGTTCCCGCATATATCTGACTACAGTTTCTACATTTCGAATGTGGTG CAGAAGGCTGATGTGGAGGTGACAGAGG AAGGGACGGTGGCGGCGGCGGCTCGGCGGCGGAGTTCGAGGCAAGACGCCTACCTGACTCCTTCCAAGCGAACAGGCCGTTCTGTGTT CATGATTGTGGACAAGTTGAACTATATTCC GCTGTTCACTGAAGAAGATGGGACGGAGAGAAGCAGGCTGCGCGACAGCCTCACAGGATTTAGATAG	<u>MATYLYLLAIFLPPILG</u> QCSVEKAGHSFSRAVYEFSLDLIQRV GQENDNHFVTS PFSLWTVLTTASLGAEDETLAEMKRVLR HHYPCFNDRYLEIVKGITVYNSKTTLERSSVLFVDKTVSLLS FHRKLSGTGVCDVMILPFDNYNNVATTINNYVSQATHNTI QEIVNSNDIEGVYLLLLDAVYFKGMWNIPFEPSETEVTSFYD ERNNPVGDVNMMFMSMRQYNLASIDQLQAKVLELPYGDG DRFSMLIFLPYQSSSVAKVTDQLKRVTLKSIFYIFQRNGRDT VQVQIPSAQFPHISDYSFYISNVVQKADVEVTEEGTVAAAA SAAEFEARRLPDSFQANRPVFVMIVDKLNYIPLFTEEDGTER SRLRDSLTGFR
CpSPN10	chr3	ATGCGAATACTATTTGTGCTATGCCTCGCGTGGGTCTGAGCAGCGCGCGGTGGGTGCGGCGCGGCCGAGCCCCGCCAAGACCACAGGCTTCGTCGGGGAAGCCACCAACCAACTAT CCACTGCCATCTTTCAGGGTTACATCGACGATAATAAGAATATTGCATTCTCACCATTGGTTACTCTGCTATCCTCGCCATACTTGCCGAAGGCGCGACGGGTCAGACGAGGGAACAACT CGTATCTGCCCTCCACCTCCCAGAGAATCCGAACCTTATTAGAAAAACATATCGATACATCATGGAAGACTGAAGAATACACACGAGTACAAATACAACCAACCTGAATTAAAGAATTATT TCTACATCTATAAAAATTACACAATCAACGATGACTACAAGAAAATCTTAGAAGATTATTACCTTACAGATGTTAGATCCGTAGAAAGGTATAATGACGTAGACCACTTAAAGCCCGATGAAT CTAATGATGATGATGAAACAATTGAAATTTCCGACAAGAAAGCTGCAGAAAAGTAACAAGAATGAAGAAATTGTAGACCTTGTTCCACCTAAAGAATCTGGTGAGAAGTTTATTTCTTTTG CTGTAGAAGATAAACCTGAAAAAGTAGACATATCTCAAATTGAGTACAAACCCGCGAAGAATATTAAAGAAAAGATAAAGCTTGTA AAAACTTACCCAAAAAGGACGATTCCGGAGAA GAAGAAGAGACTATGGTTGCTGTGCGAGGCTAGAAATCATGCGAGAAGCCACCACGTTTTGCAGGAAAAATCCGATATTGCGTCAAGTATATCGGTTAATACTGTCGGAAAGAAATC GGAAAAAACTTCGCCATCAAACCTCTGATGCTTATCTTCAACGGGATGTATTTCCGCGGCGCGTGGAACAACCTTTCCTAAAGGTCGAGCCAGCTATGTTCTACACGTCCAACAGTGA GAAAAAGCAAGTG CAGATGATGTGTACGAAGGGCATCTTCAAGACTGGCTCTCTTCTGCTGTTGACAGTTCAGCTATTGAACTGCCTTACGATGGCGGTGCGTACTCCTTGCTGATCGT GTTGCCTCGCACCCGCGACGGTCTGACGCGGCTGACGGCTGATCTGCCGCGGCGCGCTCGAAGACATCCAGGACAGCTTGCGCGAGGAGGAGCTGCAGGTTTCGCTGCCCACATT CTACGTGGAGACCACTACAAAACAGTTGCAGCCTTAGCCAAGTTCGGAGTGAGCAGCATCTTCAGCCGCGACGCCGAGCTGTGCGGTGTTTCTTCAGCGGAGGGACTCTTCGTGCAG GAGCTGGTCCAGCACGTAGCGGTTGCGTGTGACAACGCGGACACCTCTGCGTCACAACGTGTCAGCAATTAACGCAGTCCAGGAGTCTCTTAAGAACATCCCATTGTCCAGCATCAAAGA ACCACGCCGCTTCAGCGTCGACCGACCCCTTCATGTTCTTCATCATTGATCGCCTTGACAACTTGGTGGTTATTGCTGGAAAAGTTATAGACCCAGAAGCACCGACGCGGTCGAAATTTAA	<u>MRILFVLC</u> LAVGLSSARWVRRGRAPPKTTGFVGEATNQLST AIFQGYIDDKNIAFSPLGYSAILAILAEGATGQTREQLVSAL HLPENPNLIRKTYRYIMERLKNTHEYKYNQPELKNYFYIYKN YTINDDYKKILEDYYLTDVRSVERYNDVDHFKPDESNDDE TIEISDKKAAESNKNEEIVDLVPKESGEKIFISFAVEDKPEKV DISQIEYKPAKNIKEKIKLVKTYPKKDDSGEEETMVAVEAR NHARSHHHVLQEKS DIASSIVNTVGKKSEKSPSNSMLLIF NGMYFRGAWKQPFLKVEPAMFYTSNSEKKQVQMMCTKG IFKTGSLPGLDSSAIELPYDGGRYSL LIVLPRTRDGLRLTADL PAAPLEDIQDSLREEELQVSLPTFYVETTTKPVAAALAKFGVSS IFSRDAELSGVSSAEGLFVQELVQHVAVRVDNADTSASQLS AINAVQESLKNIPLSSIKEPRRFSVDRPFMFFIIDRLDNLVVIA GKVIDPEAPTPEI
		ATGACTACTGTGAACCAAAACAAAATTTGCCTTCTTTCACCATGCAAGATTTTGCTAAGATCTTGACTACATAGGTGTTTTCTTAGCCTACCTTCAAAGTTTAGAGTGCATTGATAATAAG AGGCCAGAAAATGCTCGTCTAAACTATTTGACACAGATCTCCTTAAATATACGACTGAAGACCGAAGTGGAATGTGGTGGTCTCCCCGGCGAGCATCAAATCGACTCTGGCTATGCTCC TTGAAGGAGCAAGTGGAACACTGAAGTTGAAATAAGATGTTCTTACGATTGTCACCGAATAAAAATGAGTTCAGAGAACAACCTGAATATCTATCTATCAGCGTTACAATGCAATAATAC TGCAGCCAAACTTCAAATGCTAATGGCGTCTTCGTGTGCAACAAATTGATACTGAAGAAAGAGTACGAGAGAGTCATAGAAAAAGTATACCTTACAAAAGTCGTCAATTCTGAATTTTCTG	MTTVEPKQNLPSFTMQDFAKILDYIGVFLAYLQSLLECIDNKR PENARLNYFDTDLKYTTEDRSGNVVVSPASIKSTLAMLLEG ASGNTEVEIRCSLRLSPNKNEFREQLNIYLSALQCNNTAAKL QNANGVFVSNKLILKKEYERVIEKVYLTQVILNFLDPVGS A

CpSPN11	chr3	GATCCGGTAGGGTCTGCTGCCATCGTAAACGATTGGGTTGGCAACCAGACCAGGGGGCTAATACGATCCCTAATAGAACCTGCCACATCCCCCATCATCCGACGTTCTCGTCATCAACGCTCTGTACTTCAAAAGCGCCTGGCAGCACGCCTTCGATCGCAGCCTAACAAAGGTCTGCCTGTTTTCGCGTCCAGGGCGCTTGTAAGAAGCAAGTCGCTATGATGGAGATCAGTACTGAGCTCAACTACGCGTTCGTTGACAACCTTGAGGGCTCATGCCGTTGAATTACCTTATGAGGGTGGCCGTTATTCTATGGTGTTATTAGTACCGCAAGACCACGACGGCTTGGCAGGACTGATAAGGGACTTGCCGTACATGAGCCTGCCGAGATATGCAAGATGATGGAACCGTCTCACGTGCAGTCTCTGTTGCCGAGGTTTACCGTGGACTATAGCGAGGATATGGTCGGACCACTTAGGAGTATGCGAATCACAACCTCTTCTCGTCAAAATCCAACCTGTCTGGAATCATCGAAGGTGGCCCCGCCAAATCAACCCTTATACCACAGGGTGTACGTATCCGTTGACGAAGACGGAAACAGTGCCGCTGCAGCTTCTGCTGCCCTTGTCGTGCCTTTAATAGAAGGGAATGTGCAACTTGTTGGTGGACAAACCTTTGCGTTCTTTATAAAGGACAATACTTTGGGTTTGGTTCTTTTGAAGGAAAGATTGAAGAGCCACATGAATATGTGGCACCGAAAAAGGGTTCAGAGAACAAATTTGTAAAAAGCAGTCGGAATAGTTTGGGACTCGCTTCTGA	AIVNDWVGNQTRGLIRSLIEPAHIPSSDVLVINALYFKSAW QHAFDRSLTRSACFRVQGACKQVAMMEISTELNYAFVDN LRAHAVELPYEGGRYSMVLLVPQDHDGLAGLIRDLPYMSL PQICKMMEPSHVQLSLPRFTVDYSEDMVGPLRSMRITTLF SSKSNLSGIIEGGPAQINHLYHRVYVSVDDEGTVAAAASAAL VVPLIEGNVQLVVDKPF AFFIKDNTLGLVLFEGKIEEPHEYVA PKKGSENN FVKSSRNSFGTRF
CpSPN12	chr3	ATGAGGTTTTCAGATTTTATTGACAATAGTCTGCCTGACTTTAAGAATAGATTCCCAAAGTCTGAAGCCGACACGGACTTCCAATAGATATGAACCTGGATCTGAACAGTTATTTTTCGAAGATACTTGCCAGGAATTATAATAGAAATAACGTGAATCTGAGTAGTGACAACGCAAAAGCCAGCTTACAACAGGCGCAGACGCAGTCCCTTAATGACAGTCACTTGCGAGCTGATCACCAAGGACAACGAAACACAAGAAATGGTAACAAACAGGATGAAAGATTAAAGATCGTAAATAAAGCAGTAATTCAAATGGTAACTTACAGAATCAGTACCAAACAATTAATCAAAACGATAATACACAGAGTCAAAACCAAAATCAATTTAATCCGAATTTGGACCAAAATCAAACCTACCAGTTTCAACAAAGCATAGAACTTGACCCGCTTTGCAATCAAGTCAAGATTATTATTCCAAGCAAAATTTAAAGCAATCAATATCGGTGGTATTGACAACAGCTATACAACCTCGAGCCAACGTCGTTCCCTGTGTCTCAGAGTTCACAGCTGTTGAATATGACCAATGATATAAAACTTGCGTCTGCGGTTATCTCACATGTTGGTATTTTCATGATGAAGAGTGCAAGAGAAAAATCATTCAAACGTTGTGGTTTTCCCAACGTCGTGTGGTGAATATGCTGGCGCTCCTGCAAGCTGGCGCAACGGGCGTGACTCAAGAACAGGTCTCGAATGCATTGAGATTGTCTCCAGAGAAGTCAGCAGAAGCATTTGACTTATGAATACCGAGTTGCGGAAGCGAAGTACCGAACGAAACATTTTGCGATCGGCGAGCAGTATTTTCGCAGCAGATTCAATTCGAACTTAGTCGTGATTTCAAGAATATTGCCATTCAAACCTTTGGCAGCGAAGTATCAAGAATCAGCTTTGATAACCCAAATGCTGCTGCCCAGAAGATAAATCTTGATTGCTAGTAAGACAAATGACCAGATCGACAGGCTGGTATACCAGATTCATCGGTGTCAATACTCAACTCGTGCTTGCCAATGCGATATACTTCAAGGGTATATGGGAGACCATGTTCAAACCGTCAGAAACGTCAGTGCAGGACTTCAATCTAAGCAATGGTAGCAAAAAATCTGTTCCATTGATGACGCTGCGGAGTGGCTTCAGGGCAGGTGTAGACAAGGCTAATAAAGCCCTGTTATCGTTTTACCTTTTGAGAACAATGAATATCCCTAGTCATGTTGCTGCCAGTTCTGGCGCCGACGTATCAGCTGTGTTGACGTCGCTCGACGGTGAACTCTAGCAAACTACCAGAAATTTACGGCGCCAGGATGTTCTTCTCGAAATACCGAAATTCAGTGTCCGTAGTAATGCTAATCTGCAACCGATTTTCGCGAAGATGGGAATCACAAAGATGTTTTCTCCAACATCGGAACTCAGTCACATCGCCTGTACCGTGCCAATTCGCCCAAGTCTCCTCAGCGGTTCACTCCGCCATGATGTCAATAGATGAACGGGGTGCCACAGCCGCCGATCTACAGTGGTTGCAGTTGTAGCATTGTCATTGACAACCCGTCGGTTGTGTTTCAGAGCAGACCGGCCGTTTTTAGCTGTGCTGTGGGATAATCAGCTAAACGTGCCTTTGTTTCATGACC AAGATTGAAGACCTTCACTGTAA	<u>MRFQILLTIVCLTLRIDS</u> QSLKPTRTSNRYEPGSEQLFEDNL PRNYNRNNVNLSSDNAKSLQQAQTQSLNDSHLRADHQ GQRNTRNGNKQDERFKIVNKAVIQNGNLQNQYQTINQN DNTQSQNQNQFNPNLDQNSNYQFQQSIELAPPLQSSQDY YSKQNLKQSNIGGIDNSYTTTRANVVPVSQSSQLNMTNDIK LASAVISHVGIFMMKSARENHSNVVVSPTSVMNMLALLQA GATGVTQEQQVSNALRLSPEKSAEAFRLMNTELRKRSTERNI LRSASSIFAADSFELSRDFKNIAIQNFGSEVSRISFDNPNA QKINSWIASKTNDQIDRLVSPDSIGVNTQLVLNANAIYFKGIW ETMFKPSETSLQDFNLSNGSKSVPFMTLRSGFRAGVDKA NKALVIVLPFENNEYSLVMLLPVGADVSAVLTSLDGETLAN YQNLRRQDVLLIIPKFTVRSNANLQPIFAKMGITKMFSP TSELSHIGLYRANSPQVSSAVHSAMMSIDERGATAAASTV VAVVALSFDNPVSVFRADRPFLAVLWDNQLNVPLFMTKIEDPSL
CpSPN13	chr3	ATGGATTGGAGGTCGCGAGTCTTCTGTTCTGATGTTCAATAGCGTCGCCATCTCTGAACATGAGGAAAACACAACGGATCCGAGCGTCACAGACCAACCACATGAGCAACAGTTATCCAACACAATCAACGAGTTGGGTTTCAAATTGCTCACTGAGGAGATGAAACGATACGCGGACACAAACATAGTTATGTCCCCTACTGGTATCGCAGGTCTCCTCGCGATGGTACTTCTGGGAAGTGCTGGCAACACGTACACGGAGCTGGCAGCGCGCTCGGGTTTTCCCAAGATATTCTCCGAAACCGCGCGCACACCAGAACAGTTCGGCTCGCTGCTCCAACTCCTGAACTCCAGCACCATACGCCGACGCCATATTGGTGGAGCCGCTACACGTATTCTGTCGGTTGTACAGAGAGTTCCTTCAACGCGGTACCAAGGCGACGCGCGCTGTGGAGTTTACCGACGCGCCCTTGCTAGAGACACCGTCAATGATTGGATCAAAAACCACACGAAAGGGGAAAATAGAAGATTTCTGAAAAGAACCCCTCCAGTGAGACAAGGGTTGTGTTGCTGAGCGCCCTCTACTTCAGCGGACAATGGACTCATCCCTTCTTGCCGGAACACACGAAGAAGATGGCGTTCAAGACTCCTACTGGCGACGTATGGCCGATATGATGTTGAACTTCGGACATTTCCAATACACATACTCAGCTGAAGATGGCGTGCAAATGATAGCTTTGCCCTACAAAGACAACACAACCACGATGTACGTGTTGAAGCCACTTAAAAAACTTCTTGAAGACCTCATGAGCCGCTAACTACTCGAGGATCGACCAACTCATCTCCAACATGACCAATGACAGAGCGGTATCAGATTTCCAAAAATGGACCTAAAAAACTCAATCCAGTTAGAAGACAGCCTTAAATCTATAGGTCTCAGCGAAATGTTCTCTCCACTGCGAATTTGCTCTCATGATCGATACGGATAGAGATAAATCTAATGAAGAATTGTTGACGAGAATAATTTTGAGGATAAGTCGAGCATATTCAGGATGCGGTGAACGGCCTGCCAATCCGGGGGTGCATGTGGACAAGGTGCTACATGAAGTTAGGATCACTATAGATGAATACGGCACGGAGGCGGTGGCGGCCTCGGGCGGGTTCTGTCTCGCACGGCGGAGCAGTTCTATGTGGACTCCCCCTTCTACATGTTTCATCAGGGACGAGAGCACCAAAGTACCTTCAGCGCCGCCATTTTAACTCTAATCTATAG	MDWRSRVFLFLMFISVAISEHEENTTDPSVTDQPHEQQLS NTINELGFKLLTEEMKRYADTNIVMSPTGIAGLLAMVLLGSA GNTYTELAAALGFSQDILRNRAHHEQFGSLLQLLNSSTTYA DAILVEPRTRIRPLYREFLQRVYQGDARAVEFTDAPLARDTV NDWIKNHTKGKIEEFLKEPLPVETRVVLLSALYFSGQWTHP FLPEHTKKMAFKTPTGDVMADMMLNFGHFQYTYS AEDG VQMIALPYKDNTTTMYVLKPLKLSLQDLM SRLNYSRIDQL ISNMTNDRAVIRFPKMDLKNSIQLED SLK SIGLSEMFSP TANFALMIDTDRDKSNEELLTRIIFEDKSQHIQDAVNGLPNPGVH VDKVLHEVRITIDEYGTEAVAASGGFLSRTAEQFYVDSPFYM FIRDESTKLVTFSAAIFNP NL
CpSPN14	chr2	ATGAGACGCGCCGTTTTTTTTGATAAGTTTTTGCTGTACTCGTTAGCGAAGAACTGCGATGAGCGGTCCGTTACCGCGTACTACAAAAAGCCTATTTATGAGTTCTCAACCGGGCTTTTGGACAGAGTTTTCCCAAGAAACGGATGGTCATTTCTGTCTGTTACCGATAAATCCGTGGCTGCAGCTCGTGAACTCGCACAGGGCGCCCATGGAGTACCCTCAAGCAGATCTGGAAGGTGACCGGACATGGGAAGCCATGTATGCAACGGACTTTGAGAAAAACCTGAACAGCTTATACGGGGAAGGGAAGGACTATAAATGCCAAAGTTAGTGATAATAGATAAATATTTAGCAGTGAAAAATTATTTTAAAGAGAGTTGAACGATCAAAAACAGTTAAAGTGGCATCTTTAGATAGAGATACTCCTTATGACTCTGCAGATGAAGCTAGTGAAATTATAGAAAGAGCTACTGGTGTTGGGAATAGTATAGACCCATTCGAGTTCAAGCTGACTTCTCTGATGTTGGCTGATGTGGCCACGTTTAAAGCTGCTTGGCGGCAACCTTCGATCCTGGATTCACTGCTGTACAGCCTTCTACCACGGAACGTTAACTGGGCGAAGTCAATATGATGTCCAGCATAGGATACTTCAACTACATTAACCTTAACAGCCATTAATGCCGAAGTTTGGAACTCCATGCATTGACAAAAGGCGTTCTATGCTCATATTTCTACCCACAAACGGAACCATCAAAGATTTATTTTCCACATGAAACGAATAAGGATAGCTACTATTTTCAATCTTTTCAAGAAATCCAAAAGCAAATTAGTGGTTTAAAGATTGCCTAGGTTTAAAGATAAGCAGTGAAATTGTGAACTTACCGGAGCTGATCAGCGATATGGGGGTGTCGTATATTTTAAAGATTAAACGGTAATCTTAAAGGTATAAGTGATTCCCGATACGAGTGAATAGGATGAAGCAAGTGGTGGAGATAGAGGTGACAGAGGAAGGTGTGGCGGCTGATATAGTTCAAAATCTAATTGATCCGGAAGTGGAACCGATGAAGTTTGAGGC	<u>MRRAVFLISFCCYSLAKN</u> CDERSVTAYYKKPIYEFSTGLLD RVSQETDGHFVCSPINPWLQLVNLAQGAHGATLKQIWKVTG HGKPCMQRTRLRKTLSLYGEGKDYKQSLVII DKYLAVKNYF KRRVERSKTVKVASLDRDTPYDSADEASEI IERATGVGNSID PFEFKLTSLMLADVATFKAAWRQFPDPGFTAVQPFYHGNV KLGEVNMMSIGYFNINLTAINAEVLELPCIDKRRSMLIFLP TNGTIKDLFFHMKRIRIATIFNLFKSKSKLVLR LPRFKISSEI VNLPELISDMGVSYIFKINGNLKGISDFPIRVNRMKQVVEIE VTEEGVAADIVQNLIDPEVEPMKFEANRPFAFMLVDKPT EII

		AAACAGACCGTTTGCTTTTATGTTGGTAGATAAACCGACAGAAATCATATTATTTGCTGGAGTATACTCTATCCCATCAGTGTTCTAA	LFAGVYSIPSVF
CpSPN15	chr22	ATGGATCCGAAATTATCGCTAAGTCTTTGGAATTTGCGGCGAGGTTTGCATGAGCTGGAGAAGGGTAAAAGTCAGGTGTGCTCCCCGTTGTCGGCGCAGGCGGTGCTGGCGCTGACGGCGCTCGGCAGCGGTGGCGACACCCGCAAGGAGCTGCTGCAGGCCATGGCGCTACCCGATGATGAGGCGATTGCTCCTTATTTGGCTATTTAACATCCACTCTAAATTCAATCCAAA CAGTCAAGCTGCGTTTCGCCAACAGAATATACGTGTCGAAGCATGGAACCTCTGAAACCTGGCATCCAGAAGGACTCAGTAGAAGTCTTCGGATCTAGTCTGCAGCAGGTGGACTTCATG GAAAAAGGAGGGTGCCGCAGATAGTATTAATAAATGGGTAGCAGCAAAGACCAACAATATGATCAGAAACATAGTCTCTCTAACTCGTTGCACTACGCCACCCGTTTGTTGCTGGTGAAC GCCATCTACTTCCAGGGAACCTGGGAAAAGCCGTTTAAAAAGGATTTAACGAAAGAAAGGATATTCCATGTAAATAATAGGGACACAGTCGAAGTTCCTATGATGTTTATGGATGAGGAA TATTTTCGGTACAGACACAGTCTAGAGTTGAAAGCACAACTCCTGCAGATGAATTACAAAGGCCGTCGAAGCAAGCATGATACTAATAGTACCAGACGCAGTCGAAGGTCTGGGAGCCAT GCTGCAGCAGCTCTCAGACCACGACCTGATGGATGAAGTGGCTGTGATGAGGGCCACCAGGATAGAAGTCATGATACCAAGTTCGAAGATAGAACTGATATCAACCTGGAGGAACTGT TACCAAGATGGGAATCCATGATATATTCGATCAAAACAAGTCAGACATTGCAATGTTTACATCTCATGACAGGATGTGCGTGACGCAAGCCATCCAGAGGGCCGTCATCGAGAATGAGA CGGGAAGTGAAGGCTGCAGCCTGCACACTAACCGCTATCAGCGAAATCTGCGCCGTCATAGAACTGGAACCTCCGAAGCGTTTTGTGGCAGACCGGCCGTTTCTGTATTTGCTGCTGGCG CGTGGTGTACCCACCTTCATAGGCGTTTACCATCAGTAG	MDPKLSLSLWNFAARFCNELEKGKSQVCSPLSAQAVLALTA LGSGGDTRKELLQAMALPDDEAIRSLFGYLTSTLNSIQTVKL RFANRIYVSKHGTLKPGIQKDSVEVFGSSLQQVDFMEKEGA ADSINKWVAAKTNNMIRNIVSPNSLHYATRLLLNVNAYFQG TWEKPFEDLTKERIFHVNNRDTVEVPMFMDEEYFRYR HSLELKAQLLQMNYKGRQASMLIVPDAVEGLGAMLQQLS DHDLMDEVAVMRATRIEVMIPKFIETDINLEELLPKMGIH DIFDQNKSDIRMFTHSDRMCVTQAIQRAVIENETGTEAAA CTLTAISEICAVIELEPPKRFVADRPFLYLLLARGVPTFIGVYH Q
CpSPN16	chr2	ATGAAGACCATAGTTTTCTACTATTTGTGCGGACATGTTATGCTGAGGAGTTTAGTGCGCGATCAAGAACTTCAGCATCGAACTTTGCATCATACACAGAAACAACTGGTGGACATG TTGTAATATCGCCTTTTGGAAATATGGACCCTAATGACCGGAGTCGCGCTCGGTGCAACAGGCAACAGTTTCGCGGAGTTGCAACGCGCTTTCATCCTCCCAAGGAGCAAGAAAACCGTTA TTGCCGTTACAAAAGATTGACAAAAGCCGTGCTAAATCCATCCACAAACGGAGTATCACTAACAAGCAAAAACCTTTGTATTATTGACGACGATTTCACTTTGAATCCGGACTTTTCGGAA AACGATTAGCACAGATTTGACGCAACAATAAAAGTACTCGATTTTAAGAATCCTGACCTGGCGGCCGGCAAAGCGAACAATTTTATCCAAAATTCGGGGGGGCGAGTCTCTAACGTGCT AACCTCAGATGACTTTGCTGAGTCCAGGATGATTTTAACTAATGTGATATCCTTTAAAGGCTTATGGTTATCTCCCTTCAACACGAGCGAAACAACAGTTGAGAACTTTTACAATGAAAACA ATGATGTCGTAGGGCAAGTCAACATGATGTATCAGAGAGCGGAGTTTCCATTCTCCAATATCGTTGAACTAAAAGCGTTTGTGTGCAATTGCCGTACGGAATGATGGAAAATATGCTAT GCTGTTAATTCTGCCACATCCCCGAGTAAAGTTGGACGATGTCTATAGAAGGCTAGCGAATGTGACTCTTACAGAAATAACAAAGAAGCTACAGAGCGATATAGACGAATACGGAATGAC TGATGTTGACATTAACTTCCAGATTCAAGATTAGTACGAATGTTGTTATGAACAAGCCCTTAAATGACATGGGTGTTTACGACATTTTCAACCAGATGTCGCGAGTTTCAAACGTGTGA CGAATGAGAATATTTATGTCTCGGCCATTGTGCACAAAGCTGACATTGAAGTCACTGAACTGGGACAGTAGCCTCTGCTTCGACTTCGCCAATTTCCCGGATAGGATATCGACGCCACT TATGAGAGCCAATAAGCCTTTTGCCTACTTTATTATTGAGAAAACTACCACGACTGTTATATTTGGTGGCATATATTCGAAACCTACTGTTTATTAA	<u>MKTIVFLLFVATCYAE</u> EFSARSRNFSIELLHHTQKQTGGHVVI SPFGIWTLMTGVALGATGNSFAELQRAFILPRSKKTVIAGYK ELTKAVLNPSTNGVSLTSKNFVIFDDDFTLNPDFRKTTISTDFD ATIKVLDFKNPDLAAGKANNFIQNSGGRVSNVLTSDFAES RMILTNVISFKGLWLSPFNTSETTVENFYNNENDVVGQVN MMYQRAEFPSNIVELKAFVVELPYGNDGKYAMLLILPHPR VKLDDVYRRLANVTLEITKKLQSDIDEYGMTDVIKLPFRKI STNVVMNKLNDMGVYDIFQPDVASFKRVTNENIYVSAIV HKADIEVTETGTVASASTSANFADRISTPLMRANKPFAYFIE KTTTTFIFGGIYSKPTVY
CpSPN17	chr15	ATGACATCGATTTCTCACGTAGCGAATTTGCGGGCGCGGTTCTGCAATGAACTGGACAACAGCAAAAACCTTCATCTGCTCTCCTCTGTGCGGTGGAGACGGTGTGGCATTAGTGGCCCTC GGCAGCAGCAACGAATCTCGCGCAGAAATATTCAAGGCGCTCGACATCCCTAATGAAGACGATCTCTTTTCCACATTCTATCCCTGACAACAACCTCTAGCTTCGAAGCCTTCAAAACATA AAACATCCAACGACGTTACGTTAAAAATCGCGAACAAGATCTACGTGAAACAGGGGGCAGCCCTAAAGGCGGCTCTCAAGAAGAAGCCGAAGAAGTCTTCAAGCCAGTTTGGAAAC AAATAGATTTTACACAAAGTAATAATGCTGCGAATGCCATTAATAATGGGTGTCAATCAAACCAACAATACTATTAAAGACATTGTTTCTGCCGACATGCTCGATGAAGACACACGACTA GTACTCATCAATGCCATCTACTTCCACGCTTTCTGGGAGTATCAATTTGACGCCGACGATACATACACCAGAGTATTTATGTCAATAAATCGAAGAAAATCGATATTAACAGATGAGTTTA ATGGGAAAACCTTTTAATTACAAACACAGTCCCGAGTTAAAGGCCAAAATACTGCAGATGTTCTACGTTGGAGGTGAAGCTAGTATGGTGATAGTTCTGCCAGATGAAATCGAGGGTCTA AGTGCTGTGATGAAACAACCTGGCAACCGGGTATGATCTGATGGCAGAGATCAAAAGCTACAAAAAAAACAACCTCAAGTAATCATACCTAAGTTTAAAATTGAATCGGAGATCAATCTG AAGGAACTGTTACCTAAGGGTACCTCCCTACACGTAAAGTGGGGGTGAATATCTTTTTTGTGCAACCTACAGTGTGGGGTATCGTTGGAAAGATGGGAATCAAGGCAATTTTGTAT CCAATTAAGTCAGAGGTCAACATGTTGTCAAGTGATGATCGACAATTTGTATCCCAAGCCATTCAAAGGCCCTTCATCGCGGTGGATGAACTGGGCACGGAGGCGGCAGCAGCCAGTCT TCTCACTACATGGCCGTACCAGCGCAAGCGCGATTCTACGACTTGTCTTGATCGGCCCTGATCTTATATGTAGATTCCGTGGATGTAGACATTAGGCACTTTATCGAACATGGTCACTCCTG CGGCCTACCTGAGCATCCGCATTTCCACCACATGAACTCTGTTCACTGTAA	MTSISHVANFGARFCNELDNSKNFICSPLSVETVLALVALGS SNESRAEIFKALDIPNEDDLFSTFISLTTLASKPSKHKTSNDV TLKIANKIYVKQGAALKAALKKNAEEVFQASLEQIDFTQSN NAANAINKWVSNQTNNTIKDIVSADMLDEDTRLVLINAIYF HAFWEYQFDADDTYTRVFHVNSKKIDIKQMSLMGKPFN YKHSPELKAKILQMFYVGGEASMVIVLPDEIEGLSAVMKQL ATGYDLMAEIKSLQKKQLQVIIPKFKIESEINLKELLPKGTSPT RKVGVNIFCCNPTVWGIVGKMGIKAFIDPIKSEVNMLSSD DRQFVSQAIQKAFIADDELGTEAAAASLLTWPYQRKRDST TLSCIGLILYVDSVDVDIRHFIEHGHSCGLPEHPHFHHMNSV QL
CpSPN18	chr15	ATGGTGAAATGGGGACGGAGGAATAAGGTTGTGCAGTTCTCGGCACACTCTCCGAAATGTATCCTGAATTGGACAGCAACAAAAACCTTCATCTGCTCTCCTCTGTCCGTGGAGACAGT GCTGGCACTGGTGGCCCTCGGCAGCAGGAACGACTCACGCGAGGAAATATTCAAGGCTCTAGACATCCCTAATGAAGATAATCTTCGTTCACTGTTTACGTCTGTACACAAAATCTGAA GAAACCATTCATAGAATCTCTCACATCAAACTCAATCCTTTTAAATCGTGACTCCACCCTCCAATCGCTACCAAAATCTACGTGAAATGTGGAAAATCTGTGAAACCGGAGCTTAAGAAAG ATGCTGAAAAAGTTTTCAATTCCAGTTTGGAACAGATAGATTTTGTAAAAGTTCTGATGCAGCAAATCCATTAATAATTGGGTGAAAAAACGAATAACAATATTATTAAGGACTTAGTT TCTGCCGACATGCTGGACGGAGACACAGGACTTGTGCTAGTAAATGCAATCCACTTTCACATTTTGCAAATGCCCTATGTGGGAGGAGAAAGCTAGTATGGTGATAATATTGCCTGATGAAA TTGAGGGCGACACAGGTAGCGTGACTGATTTGGTGAAGAACTGGCAGCTGGATTTGACCTGATGTCAGAGATCAAGCGTCTGAAAAAACAGATCTTCAAGTAAAAATACCGAAGTT TAAAGTTGAACTGAGATAAATTTGAGGGAATTACTGCCGAAGATGGGAATCCAGACGATTTTCGATAAGAATAAGGCAGAAATTAACATGCTCTCTTCTAACGATCCACTACATGTATCA GAAGCTATTAGAAAGCTTTCATCACAGTGGATGAGAAAGGAACGGAAGCGGCAGCAGCTAATGAAATTACGTTGCAATTATTATGCTTGCGATGGTGGATGGGTGAAACGTTTATAGC AGACCACCCCTTCTCTACATACTTCTGGCTCAGGAGATACCTATATTTTACGGAATTTTTCATGGAAATGAAACTTCGCTGTAG	MVKWGRNRNKVVQFLGTLSEMYPELDSNKNFICSPLSVETV LALVALGSRNDSREEIFKALDIPNEDNLRSVFTSVTQNLKKPF IESLTSKLNPFNRDSTLQIATKIYVKCGKSVKPELKKDAEKVF NSSLEQIDFVKSSDAANSINNWWVKRTNNIIKDLVSADMLD GDTGLVLVNAIHFHILQMPYVGGEASMVILPDEIEGDTGSV TDLVKRLAAGFDLMSEIKRLKKTDLQVKIPKFKVETEINLREL LPKMGIQTIFDKNKAENMLSSNDPLHVSEAIQKAFITVDEK GTEAAAANEITLQLLCLRWWMGETFIADHPFLYILLAQEPI FYGIFHGNESL
		ATGACATTGCATGTGAATCATGTGGCGAATTTGCGGGCGCGATTTTGCATGAATTGGATAGCGAAAAACCTTTATCTGCTCTCCTCTGTCACTGGAGACGGTGTAGCATTAGTGGCCC	MTLHVNVHANFAARFCNELDSEKTFICSPLSVETVLALVALG

CpSPN19	chr15	TTGGCAGCAGTAACGAATCTCGCGCGGAAATATTCAAAGCTCTCGACATCCCTAATGAAGATAATCTTCGCTCTGTGTTTACGTCTCTCACCCAAAATTTAAAGAAGCCATTTCATCGAAACC ATTACATCAACTTTAAACCATTTCAGCCAGGAGTATACACTTAAAATCGCCAACAAAATCTACGTGAAACAAGGAAAAGATCTAAAATCTAATTTTAAGAAGGATGCTGAAAAAGTCTTCA ATGCTAGTTTGGAGCTAATCGATTTTGGCAAAAATGATGATGCAGCTAATTCTATTAATAACTGGGTAGCGAAACAAACAAATGATATTATTAAAGACATCGTTTCTGCTGACATGCTGATGC AAGACACACGGGTTGTGTTAGTGAATGCAATCTACTTTCACGGTTTTTGGGAAATTCATTCAAAGCGAACGCCACATTTACCGAAAAATTTCAAGTCAATAGAACCAAAAGTGTAATG TCAAAATGATGACCCTGGAAGGACCAAGCTTCAATTACAAACATAGTCCAGAATTACAAGCTAAAAATATTGCAAATGTTTTATAAGGGAGGTGAGGCCAGTATGGTGATAGTACTGCCAGA TAAGATCGAGGGTGAGACAGCGGGCGTAGGTGGCCTGATGGAACGACTGATAGCCGGGTATGACCTGATGGCAGACATTAAGAGTCTGCAAAAAACACCTCTCAAAGTAATCATACCG AAGTTCAAAGCTGAAACAGAAATAAATTTGAAGGAACTTCTGCCAAAGATGGGAATTAAGGCAGTTTTCGATATGAATAAGGGAGATACAACCATGCTCTCATCTGATGAGCCACTCTAC GTATCGGAAGCCATCCAGAAGGCCTTCATCTCGGTGGATGAGGCAGGAACGGAAGCTGCAGTCTGCTACTCAAATGGTCCGACGTCGTCTCTGCGGCCACTGGTGACCGGGCGAGACTT TCGTTGCAAACCGTCCCTTCTCTACCAACTTACAGCTCGCGAAATTCCTATATTCTATGGAACTTTCTATGGAAATGGATATTCACAATAA	SSNESRAEIFKALDIPNEDNLRSVFTSLTQNLKPFIIETITSILK PFSQEYTLKIANKIYVKQGKDLKSNFKKDAEKVFNASLELIDF GKNDDAANSINNWWAKQTNDIKDIVSADMLMQDTRVVL VNAIYFHGFWEIPFKANATFTEKFQVNRKTSVNVKMMTLE GPSFNYKHSPELQAKILQMFYKGGQASMVIVLPDKIEGETA GVGGLMERLIAGYDLMADIKSLQKTPLKVIIPKFAETEINLK ELLPKMGIAKAVFDMNKGDTTMLSSDEPLYVSEAIQKAFISV DEAGTEAAAATQMVRRRLCGHWWTGETFVANRPFLYQLT AREIPIFYGTFYGNYSQ
CpSPN20	chr1	ATGTTTCAGGAAAACACTAGATCAAGTTGAACGTAAGTTTTATTGTGCGGCATTTAATAAGTTGACCGCTATTAGTCCAGACAATCGGAAAGAAAACGGGATTAGCTTTTTACAATCAGGGC TTTTCTTATACCACCTGCTGATGTCGCTGTCTCTTACAATGGATCAAAACGCAGTTCGAGAAATAGAGAATATTTTGGCTTAAATATGTGCGAAGCAGACAAAATCGAGATTTTAGAACGA ACAGTATCATGGCTTCCAAAATCCAGCGAAGAGCTGAAATTCGGGTGGTCTGTCGCGGTGGTGTGTCAGCGGGTGGCAGCTGGAACCGGGCTCCACGGCGCCGCCGCGCGCTTCTG CCGCTGCGCCTGAGCTGGCTCGTCGGAACGAACTTCTACACAACCTTGCCGAAACCTTAACAGTATGGTGTGTGCGGACTCCGGAGGCAGCATGCACGACACGTTCTCGGAGGAGG AGGTGGAGGCGGGCGTGTGCGCGGCGGCGCTGGGCACGGTGTACCTGCGCGGCAGTGGCGCACGGCGCTACGCTGTCTCAACGACACGCTGCCCTCCGCGACTCGCCCGCCGCG CCCAACCGCTCGTCGCGCTACTTTGCCTCAACGACCTCATGGCTTACTCCTACTTGACGAATGGGACACAGAGGCCATAGAGATACCGTACGCTACGCCTGGCCTCACGCTACTCATCC TGGTGCCGAAAGAGCTGTCGCTGCGGCCGTTGGTGAGCGCGCGGCCGCCGTGGGGCTGGACGCCGTGGTGGCGTTATGCACACGATGAGGATAGCCGTCACACTACCGCTCTATAC GTTGCGCATGACTTTATTGCTGCCTAATAAACTACAAGATATGGGTATGCAAAGTTTGCTAACGAATGGCACCGACTGTCAGCCTGTGAGGCTGTCCCACGCCGTACAGCGTCTCATGTTC TGGGCAGAAGCTGGTCGAAACGCGTTCAAAGACGATGGTATAGAATGGGACCCGCGTCCAGAATTGGAAATTGCTGTAGACCGTCCATATCTGTTCTTCGTTCTGTTGAATAACGTAACC ATTATGAATGGAGTATTCGTACTGTGA	MFRKTLDQVERKFLLSAFNKLTAISPDNRKENGISFLQSGFL YHLLMSLSLTMDQNAVREIEEYFGLNMSEADKIEILERTVS WLPKSSEELKFRWSSRLVLQ RVAAGNGLHGAAARVLPRLS WLVGNETSTQLAETLNSMVLSDSGGSMHDTFSEEEVEAG VCAAALGTVYLRGTWRTAPTLLNDTLPFRDSPAAPNRRSRY FRLNDLMAYSYLHEWDTEAIEIPYATPGLTLLILVPKELSLRPL VERAAAVGLDAVVGMHTMRIAVTLPLYTLRMTLLLPNKL QDMGMSLLTNGTDCQPVRLSHAVQRLMFWAEAGRNA FKDDGIEWDRPELEIVDRPYLFFVRWNNVTIMNGVFVL
CpSPN21	chr15	ATGACATCGATTACGTTGCGAATTCGGGGCGCGGTTCTGCAATGAACTGGATAAAAAACAAAACCTTCATCTGCTCTCCTCTGTCGGTGGAGACGGTGTGGCGTTAGTGGCCCTCGGC AGCAGCAACGAATCTCGCGCAGAAATATTCAAGGCACTTAACATCCCTAATGAAGACAATCTTTTTTCCACATTACATCCCTGACGGCAACTCTAGCTTCGAAGGACCCGTCAGAATTTA AAACATGTGAAGACGTTACATTAAAAATCGCGAACAAGATCTACGTGAAACATGGAGGAGCCCTAAAGGCGGCTCTCAAGAAGGACGCCGAAGAAGTCTTCCAAGCCAGTTTGGAAACA AATAGATTTTACACAAAGTAATAATGCTGCGAACGCCATTAATAAATGGGTGTGCAATCAAATAACAATACTATCAAAGATATTGTTTCTGCCGACATGCTCGATGAAGACACACGGCTTG TACTCATCAATGCTATCTACTTCCATGCTTTCTGGGAGTATAGATTTGACGCCGACGATACATGCACCAGAGTATTTCATGTTAATAACTCCAAGAAAATCGATATTAAACAGATGAGTTTAAT GGGAAAACCTTTTAATTACAAACACAGTCCCGAGTTAAAGGCCAAAATACTGCAGATGTTCTACGTTGGAGGTGAAGCTAGTATGGTGATAGTTCTGCCAGATGAAATCGAGGGTCTAAG TGCTGTGATGAAACAACCTGGCAGCCGGGTATGATCTGATGACAGAGATCAGAAGTCTACAAAAAAAAGAACTTGAAGTAATCATACCTAAGTTTAAATTTGAATCGGAAATCAATCTAAA GGAAC TATTACCTAAGATGGGAATCAAGACAATTTTTGATCCAATTAAGTCAGAGGTCAACATGTTGTCAAGTGATGATCGACAATTTGTATCCCAAGCCATTGAGAAAGCGTTTCATAGCA GTGGATGAACTGGGCACGGAGGCGGCAGCAGCCACATCGATGTGGCAACGAGAACGCTGCGGCCATTTTTGGACCGGCGATACGTTACGGCGGACCGCCCCCTTTCTCTTTCTACTCC AGGCTCATGAGATCCCTGTATTTTATGGAACTTTCAATGGATCAGACATCATTTTCTTTAAATAT	MTSIHVANFGARFCNELDKNKNFICSPLSVETVLALVALGSS NESRAEIFKALNIPNEDNLFSTFTSLTATLASKDPSEFKCEDV TLKIANKIYVKHGGALKAAALKDAEEVFQASLEQIDFTQSN NAANAINKWVSNQTNNTIKDIVSADMLDEDTRLVLINAIYF HAFWEYRFDADDTCTRVFHVNNSSKKIDIKQMSLMGKPFN YKHSPELKAKILQMFYVGGEASMVIVLPDEIEGLSAVMKQL AAGYDLMTEIRSLQKKELEVIIPKFKIESEINLKELLPKMGIKTI FDPIKSEVNMLSSDDRQFVSQAIQKAFIADDELGTEAAAAT SMWQRRERCGHFWTGDFTADRPFLFLQAHEIPVFYGTFN GSDIIFKY
CpSPN22	chr5	ATGTCAGCAATGTCGGTGTTCACTCCGATAGCCGAGCTTTGTCTGTACACGGAGGACGGTCCCGCCTTTGATCAGTGCATCAAAATACTTAACTTGAAGGACAAAAAAGATATCCGAGAT ACCTTTGCCAATTTCTCCTCTTATACGAAGGTGTGACCAAGTGTTAACTTTTCCACTGCCGCCAAAGTGATTCCAGTGAGAAATACGAGCTGAGCGTGTTTCATAAAAGATGCCATTG AAGTCTTCCACGCCGAGCACAAAATCTTGATTTTAGCAAAAACGTTGAAGCTGCAGCTATAATGAATGCCTGGGTTGAGAGTCAAATAACAATCGTATTAAAGATTTAGTTACACCAGA TATGATAAGTGCATTAACAAGACTTGACTCATCAATGCTATTTACTTCAAGGGTAATTGGCTTTACAGATTTAACGAACTAATACGAAAGAAGAAGATTTCTATCTAAGTGATGGTTCAAC TGCGAAAGTAAAGTTGATGTATCAAGAGATTAATGATCTTGAGTATGGAGAAGTTCCTTCTTAGACTGCAAGGTGGTTGCAATCCTTTTACTGCGAAAGAAAGCTCCGCGATCATTATT TTGCCAAACAGCATTAAACGGCACAATGCAATTGGCGAAAGACCTGCAAAATACAGCGAATTGGAAAAAAGTCATAGATAGCCTTTATCCTCAAAAAGTGAAACTGTATTTACCAAAGTTT GTCATTAGTACAAC TACAGACTTAAAGGTTTTGTTACAGAAGTCTGAAGTTAAGTTAATGTTTTATGTCATTATGTGTGATGTAAGTCTGGCCACAGACAGTTAG	MSAMSVFTPIAELCLYTEDGPAFDQCILNLKDKKDIRDTF ANFSSLYEGVTSVNFSTA AKVVSSEKYELSAGFIKDAIEVFHA AAQNLD FSKNVEAAAIMNAWVESQTNNRIKNLVPDMIS ALTRLVLINAIYFKGNWLYRFNETNTKEEDFYLSDGSTAKVKL MYQEINDLEYGEVPSLDCKVVRILYTGKESSAIILPN SINGT MQLAKDLQNTANWKKVIDSLYPQKVKLYLPKFVISTTTDLK VLLQKSEVKLMFYVIMCVVTLATDS
CpSPN23	chr15	ATGTCCTTCTGTTCTGCAGGAAAACAAGATTTGAGGAGATTGCTCTTTTCCACATT CATATCCCTGACAACAAC TCTAGCTTCGAAGCCTTCAAAACATAAAACATCCAACGACGTTACGTT AAAAATCGCGAACAAGATCTACGTGAAACAGGGGGCAGCCCTAAAGGCGGCTCTCAAGAAGAACGCCGAAGAAGTCTTCCAAGCCAGTTTGGAACAAATAGATTTTACACAAAGTAAT AATGCTGCGAATGCCATTAATAAATGGGTGTCAAATCAAACCAACAATACTATTAAAGACATTGTTTCTGCCGACATGCTCGATGAAGACACACGACTAGTACTCATCAATGCCATCTACTTC CACGCTTTCTGGGAGTATCAATTTGACGCCGACGATACATACCAGAGTATTTCATGTCAATAAATCGAAGAAAATCGATATTAAACAGATGAGTTTAATGGGAAAACCTTTTAATTACAA ACACAGTCCCGAGTTAAAGGCCAAAATACTGCAGATGTTCTACGTTGGAGGTGAAGCTAGTATGGTGATAGTTCTGCCAGATGAAATCGAGGGTCTAAGTGCTGTGATGAAACAAC TGG CAACCGGGTATGATCTGATGGCAGAGATCAAAAGTCTACAAAAAAAACAAC TCAAGTAATCATACCTAAGTTTAAAATTGAATCGGAGATCAATCTGAAGGAACTGTTACCTAAGATGG	MSFCSAGKQDLRRLLFSTFISLTTTLASKPSKHKTSNDVTLKI ANKIYVKQGAALKAAALKNAEEVFQASLEQIDFTQSN NAA NAINKWVSNQTNNTIKDIVSADMLDEDTRLVLINAIYFHAF WEYQFDADDTYTRVFHVNKS KIDIKQMSLMGKPFNYKH SPELKAKILQMFYVGGEASMVIVLPDEIEGLSAVMKQLATG YDLMAEIKSLQKKQLQVIIPKFKIESEINLKELLPKMGIKAI

		GAATCAAGGCAATTTTGTATCCAATTAAGTCAGAGGTCAACATGTTGTCAAGTGATGATCGACAATTTGTATCCCAAGCCATTCAAAAGGCCTTCATCGCGGTGGATGAACTGGGCACGG AGGCGGCAGCAGCCAGTCTTCTCACTACATGGCCGTACCAGCGCAAGCGCGATTCTACGACTTTGTCTTGATCGGCCTGATCTTATATGTAGATTCCGTGGATGTAGACATTAGGCACTTT ATCGAACATGGTCACTCCTGCGGCCTACCTGAGCATCCGCATTTCCACCACATGAACTCTGTTCAAGCTGTAA	PIKSEVNMLSSDDRQFVSQAIQKAFIAVDELGTEAAAASLLT TWPYQRKRDSTTLSCIGLILYVDSVDVDIRHFIEHGHSCGLP EHPHFHHMNSVQL
CpSPN24	chr22	ATGGAGCCGTCGCTCGCAGCGTCACTCTCGCATTTTCGCAGCGCGGTTTCGCGAATGAACTGGAGAAGGGTAAAAGTCAGGTGTGCTCCCCGCTGTCGGCGCAGGCGGTGCTGGCGCTG ACGGCGCTCGGCAGCGGTGGCGACACCCGCAAGGAGCTGCTGGAGGCCATGGCGCTGTCTGATGATGAAGCGCTTCGTTCTTTATTCTCCTACGTAACATCTACCACGAAGTCCGTGCA AGGCATCACGCTGAAGATGGCCAACAAAGTCTATGTCACCAATAAAAGCAAGCTGCAGCCAGACATCCAGAAGGATGCCGAGGAGGTGTTCCAGTCCGCGCTGGAGCAGTTGGACTTT ACGGAGAGTGCAGCAGCTGCGGGGGCTGTTAATAAATGGATGGCCAACAAAGTCTACGTACCAATAAAAGCAAGTTGCAGCCAGACATCCAGAAGGATGCCGAGGAGGTGTTCCAG TCCGCGCTGGAGCAGTTGGATTTTACGGAGAATGCAGCAGCTGTGGGGGCTGTTAATAAATGGGTGGCGGAGCAAACCTGAAGACATGATAAAGGACGTAGTAGACGCCAAGTCACTG AACAGTGACACGCGCTGTTGCTCATCAACGCCATCTACTTCCAGGGATTTTGGGAGACACCGTTCAGGACTCGAGCCACCCGCGACCGACCGTTCATGTGGACCTCAACACGCAGAT CAAAGTGCCGATGATGAGCATGCACGATGTCCACTTCCGGTACAAGCACAGCCCCGAATTGAAAGCTCAATTGATAGTAAAAAAAATATTGGGTCTAGTTTTTGACATCAGGATTCATTTT CCATTCCAGTTCTCCAGATGGACTACAAAGGTCGACAGGCGAGCATGGTGATAGTCTCCCCGATGAGATCGAGGGTCTCGGAGCCGTGCTGCAGCAGCTCGCCGCCGGCCACGACCT GATGGCTGAACTGACAGATATGAAGAGCACGCTGCTGGACGTCATGGTTCCCAAGTTCAAGATTGAGACGGAGATAGATTTGACGCAGCTTCTGCCTGAGATGGGCATCAAGCTAATAT TCAACGATCGCTATTCAAACATCAATATGCTAACGTCCAACGAGCCCCCTCTACGTGTGCAAAGCTGTCCAGAAGGCTCTGATCGAGGTGGACGAGGCAGGGACGAAGGCTGTTGCACGC ACGATGATACCCCCGAAATGCCTTGTGTATACGGAGGCCACGGAAGTTTAAAGCGGACCGTCCCTTTGTATATTTACTGGCGGCACGAGAGTTCCCGATTTTCTTGGAATCTATCAAG GAAGCGAATTTGCAGTACCAGATGTGTCTGATAGTGATATTGACCAAACGAAACCGGTTAACGTCGGTGTCAAAAAGCAATTATCAAATAA	MEPSLAASLSHFAARFANELEKGSQVCSPLSAQAVLALTAL GSGGDTRKELLEAMALSDDREALRSLFSYVTSTTKSVEGITLK MANKVYVTNKS LQPD IQKDAEEVFQSALEQLDFTESAAA AGAVNKWMANKVYVTNKS LQPD IQKDAEEVFQSALEQL DFTENAAAAGAVNKWVAEQTEDMIKDVVDAKSLNSDTRL LLINAIYFQGFWETPFRTTRATDRPFHVDLNTQIKVPMMS MHDVHFERYKHSPELKAQLIVKKILGLVFDIRIHFPFQLQMD YKGRQASMVIVLPDEIEGLGAVLQQLAAGHDLMAELTDM KSTLLDVMVPKFKIETIDLTQLLPEMGIKLIFNDRYSNINML TSNEPLYVSKAVQKALIEVDEAGTKAVARTMIPPEMPCCIRR PRKFKADRPFVYLLAAREFPFLGIYQGSEFAVPDVS DSDIDQ TKPVNVGVKKQLSK
CpSPN25	chr5	ATGGCGTTGTGAGCAAAACCTGCCCGGTCAACGAAGAATACTCCTCCTGCATCAACGGTGGATGTGGACCCAGAACTGCAGTCAGATCGACAAGTCGAGGACCTGTGTGGATCCTGT CAAGTGCATTGAGGGATGCGTCTGTAAGCAGGGGCTGGTTGAGGGCCGGAAATGGAACCTGCGTACCTAAGGACCAATGCAGAACAAAAATGCGGACTAAACGAAGTGTTACAGCGACTG TCCCAACCCCTGTCCGCCAGGAAGTGCAACCTCAAAAACGCAGTGTTCAAATGCAAGGCACCAACCAAGCCAGGGGATCCTGAATGCAAGCCTGGGTGCACGTGCGCTAAAACTATT ACAGAAATGCGACAGGATCGTGTGTGCTGAAGGAGAACTGCGAAAAACCATTAATAATGCCAGTAAACGAACAGTATGATCCCTGCCAATGATCTGTCCGCCTCAAAAATGTGATGTCA ACCCAGCTCTGATCCTGTGCCTTCCTAATCCAGAGTATGGCAATCCTAACTGTAAACCAGGCTGCATCTGCAAGAACTTAGAAGTACGGAACGATGCCGGACAATGTGTCCCGAAGGATA AATGCCCAAAATGTACTGGCCAGAACGAATACTGGGAACCCCTGCATTCAAGGCTGCTCCAACCAAAACCTGCGGAAGCATCGGTGAGAAATACTACTGCCCGTTACAGAAAGGCTGCAAG AGTGGCTGCAGATGCAAGCCCGATTCTACAGGAAAGATGTTGGATCACCTTGCACTCTCACAGAGGAACAGTGCACCAAAGGAAAGTGTCGCCCTGGTGAGAATTGGAACACGTGTC CTGCGATCAAATGCGATGCGGATTACTGCGGAAAAAATAAAGATTACCAAAATGGTGCCGATTGGGATAGTATGTGACCCGCCAAGATGTACATGCGAAAAACAATAAAAAAGAGAC AGGAAAAATGGCAAATGTATCCAGTGTTGACTGTGCAAAATGGATATCCATTACCTGAATTGAAAGCAGAAAAAGTAAGGATAGCCAATCTATCAAAAACACCATTCCCATGCCCCGCA ATGAAGAGTATAAAGTTTGTCCACCACCATGCCCCGGAGAGACGTGTTCTGAGCACATTACCGGGCCGCCGGATGGGCACTGTCCGCCGAACGAGCCCGTGACTATCTGCACTCCACAG TGCAGGTGTTGCAAAGGATATTCCAGAAACGATAATGGAACGTGCATACCAAGCCTTAAGGCAACACCTACAACCTACAGTAAAACCGCCTACTATCAGCACCGGTGACAGAGGCTCTGG ATTAGCAGGCGTACTTGATGGCATCACAGCATTCACTGGAAAATGTCTTTATGAACGCATGCAATCTGCACCTAACGAGAACATAATAATGTCCGCCATGTCCGGTGTCACTCCGATAGCTC AGCTTTGTCTCTACTCGAACGGACCCGCCTTTGATCAATGCATCAAAACACTGAATCTTAAGGATAAACAAAGACATCCGAGATACATTTGAAAATTTCTCCTCCTTATACGAAGGCGTTACC AGTGTTAACTTTTCACTGCTGCCAAAGTCTATTCCAGTGATAAGTACCAGCTGAGCGATGGTTTCAAAAAGATGCCATCGATGTCTTCCACGCCGACGACAAGAGATCGATTTTCATTA AAAAAATCAAGCTGCAGCTATAATGAACGCTGGGTTGAGAGTAAAACCAACAATCGAATTAAAGATCTAGTTTCACTGACATGCTAAGTGAATCGACAAGGATTGTACTTATCAATGC CATTTACTTCAAGGGTAAATGGTTGAAACAATTTAATGAAAATGATACGAAAAAAGAAGATTTCTATTTAAGCGATGGTTCAACTACAAAAACCAAGTTGATGTATCAAGAAATCAAGGAC CTAGAGTACGGAGAAGATGCATCTTTAGATTGCAAGGTCGTTTCAATTCTTACACAGGCGAAGAGAGCTCCGCGATAATTGTTTTGCCAAACAGCATTAAACGGCACAATGCATTGGCC CAAAATCTACAATTTCCAGCAAATTGGAAGAACTCTTAGATAGCCTCTCCCCTCAAAAAGTGCAACTATATTTACCGAAATTTGTAATTAGCACTACTACAGACTTGAAGGACTTATTA GAAGGCTAATATAACTAATTGGTTTAACTGCGGCAATTCTGGTTTATCCGGGCTTTTAGCCAAGCCAGAAGATATCTGCATAACAGAGGCCATTCAAAAAGCGTGGTGTGAATTCAATGAA ATAGGAACAGAGGCTACTGCAGCTAATGTTGTAGTAGGCGTAGGTGGCGCCATGCCAATGCCGCCAGTGATTTAAAGCTAACCGTAGCTTCTCTTCTATATTCTACTAAAGAATGCAA GCGAATTGCCCATTTTCTGTGGAAAATACGGAAATCCAAACTAA	MALSAKPCPVNEEYSSCINGGCGPRNCSQIDKSRTCVDPVK CIEGCVCKQGWLRAGNGTCVPK DQCRTKCLNEVFSDCP NPCPPRKNLKNVFKCKAPPKPGDPECKPGCTCAKNYYR NATGSCVLKENCKPLKCPVNEQYDPCPMICPPQKCDVNP ALILCLPNPEYGNPNCKPGCICKNLEVRNDAGQCVPKDKCP KCTGQNEYWEP C IQGCSNQTCSIGQKYCPLQKGCKSGC RCKPGFYRKDVGPSCLTEEQCTKGKCPPGENWNTCPAIKC DADYCGKNKDSPKWCPIGIVCDPPRCTENNKKRDRKNGK CIPVVDCRNGYPLPELKAEKVRIANLSKTPFCPRNEEYKVC PPPCPGETCSEHITGPPDGHCPPNEPVTICTPQCRCKGYS RNDNGTCIPSLKATPTTTVKPPTISTGDRGSLAGVLDGITA FTGKCLYERMQSAPNENIIMSAMSVFTPIAQLCLYSNGPAF DQCIKTLNLKDKQDIRDTFENFSSLYEGVTSVNFSTA AKVYSS DKYQLSDGFKKDAIDVFHAAAQEIDFIKKNQAAAIMNAWV ESKTNNRIKDLVSPDMLSESTRIVLINAIYFKGKWLKQFNEN DTKKEDFYLSDGSTTKTKLMYQEI KDLEYGEDASLDCKVVRI PYTGEESSAIIVLPNSINGTMHLAQLNLQFPANWKKLLDSLSP QKVQLYLPKFVISTTTDLKDLLKANITNWFNCGNSGLSGLL AKPEDICITEA IQKAWCEFN EIGTEATAANVVVGVGAMP MPPVVFKANRSFLFYILLKNASELPFCGKYGNPN
		ATGTACGGACAAGTACGAGCGGAATGCACTATGACTAATGACATCAATCAGATATTGGCCTCATTGGCCTGGTTCTTGAGTGATGGGCGGACGAGATGCGTGCGACACTGTGTGTGCTG CTTGACAGCCACCTGCGTATTGGCTGATGAAAGCAGGGGGCTCCAAGCGTCCGTACATCGCCGACGCGGTTGGCAATACTTTGCCCCACCATCTAATGGGCCAGCGACCGTTCGGCAGCCC TGTC AACCTCCTAACCCGAGACCGCTATGAGTTCTACACTTTCGATGAATCCGGAGAAGTGGTTAAACGACTCATGACTTTACAAGAAATTCAAGCCATAGTTGCGGCTGGTGAAGAAGC AGAAGGACTGGTTACGTTTGCTAATGATAATCAGCCGACGATTGCATTAAATTCAGTCAACCACCTTACACTAAAGTTTCATAGCGTTGTCACTAATGTGCAGAATGTACTCAAGGCTCAAA TGGAAGCTCATAAAAAACAACCACAATTGAATCCTACATTGGATACACCTGATGTGTCTGATTCTTGAGTCTAATTTTACCATCGATCTTTGGAAACACTGGAGTGCATATCGTACCAGATA AGACTTCTGCATCTTTTACTACCCAGAAACAGAAACAATTGAGTTTGACCGTATTAACCTTTGATGACAATCTTAGCAAGGAAGGAAGTAACCCGATCGGAAGTTCCACTACAGTACAAAA	MYGQVRAECTMTNDINQILASLAWFLSVWADEMRTL CV LLAATCVLADES RGSKRPIADAVGNTLP PPSNGPATV GSPV NLLTPDRYEFYTFDES GELVKRLMTLQEIQAIVAAGEEA EGL VTFANDNQPTIAFNFSQPPYTKVHSVVTNVQNVLKAQME AHKNKPQLNPTLDTDPVDSWSLILPSIFGNTGVDIVPDKT SASFTTPETETIEFDRINFDDNLSKEGSPNIGSSTTVQNVAKP

