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CLUSTAL O(1.2.4) multiple sequence alignment


PR8_HA_pHW2000      AGCAAAAGCAGGGGATAATTCTATTAACCATGAAGACTATCATTGCTTTGAGCTACATTT        60
PR8_HA_NCBI         AGCAAAAGCAGGGGAAATAAAAACAACCAAAATGAAGGCAAACCTA---CTGGTCCTGT        57
PR8_HA_Illumina     NNNNNNAGCAGGGGAAATAAAAACAACCAAAATGAAGGCAAACCTA---CTGGTCCTGT        57
                    ********* ***    *  ***** * **        *           *  * * *


PR8_HA_pHW2000      TATGTCTGGTTTTCGCTCAAAAACTTCCCGGAAATGACAACAGCACGGCAACGCTGTGCC       120
PR8_HA_NCBI         TATGTGCACTTGCAGCTGCAGATGCAG------------ACA---------CAATATGTA        96
PR8_HA_Illumina     TATGTGCACTTGCAGCTGCAGATGCAG------------ACA---------CAATATGTA        96
                    *****   **  *** * *           ***               *  * * *


PR8_HA_pHW2000      TGGGACACCATGCAGTGCCAAACGGAACGCTAGTGAAAACAATCACGAATGACCAAATTG       180
PR8_HA_NCBI         TAGGCTACCATGCGAACAATTCAACCGACACTGTTGACACAGTGCTCGAGAAGAATGTGA       156
PR8_HA_Illumina     TAGGCTACCATGCGAACAATTCAACCGACACTGTTGACACAGTACTCGAGAAGAATGTGA       156
                    * ** *******        ** * *** *      *   *  *


PR8_HA_pHW2000      AAGTGACTAATGCTACTGAGCTGGTTCAGAGTTCCTCAACAGGTAGAATATGCG-----A       235
PR8_HA_NCBI         CAGTGACACACTCTGTTAACCTGCTCGAAGACAGCCACAACGGAAAACTATGTAGATTAA       216
PR8_HA_Illumina     CAGTGACACACTCTGTTAACCTGCTCGAAGACAGCCACAACGGAAAACTATGTAGATTAA       216
                    ******   *  ** * * *** *  *     *   *  ** * * ****        *


PR8_HA_pHW2000      CAGTCCTCACCAAATCCTTGATGGAGAAAACTGCACACTGATAGATGCTCTATTGGGAGA       295
PR8_HA_NCBI         AAGGAATAGCCCCACTACAATTGG-G-GAAATGTAACATCGCCGGATGGCTCTTGGGAAA       274
PR8_HA_Illumina     AAGGAATAGCCCCACTACAATTGG-G-GAAATGTAACATCGCCGGATGGCTCTTGGGAAA       274
                    **   *   ** *    *** * ***  * *  *    *     ** ******


PR8_HA_pHW2000      CCCACATTGTGATGGCTTCCAAAATAAGGA---ATGGGACCTTTTTGT---TGAACGCAG       349
PR8_HA_NCBI         CCCAGAATGCGACCCACTGCTTCCAGTGAGATCATGGTCCTACATTGTAGAAACACCAAA       334
PR8_HA_Illumina     CCCAGAATGCAACCCACTGCTTCCAGTGAGATCATGGTCCTACATTGTAGAAACACCAAA       334
                    ****  * ***    * *  *     *     **** *  ****      ** *


PR8_HA_pHW2000      CAAAGCCTACAGCAACTGTTACCCTTATGATGTGCCGGATTATGCCTCCCTTAGGTCACT       409
PR8_HA_NCBI         CTCTGAGAATGGAATATGTTATCCAGGAGATTTCATCGACTATGAGGAGCTGAGGGAGCA       394
PR8_HA_Illumina     CTCTGAGAATGGAATATGTTATCCAGGAGATTTCATCGACTATGAGGAACTGAGGGAGCA       394
                    *   * * * * ***** **    *** *  ** ****    ** **** *


PR8_HA_pHW2000      AGTTGCCTC---------ATCCGGCAC---CCTGGAGTTTAACAATGAAAGCTTCAATTG       457
PR8_HA_NCBI         ATTGAGCTCAGTGTCATCATTCGAAAGATTCGAAATATTTCCCAAAGAAAGCTCATGGCC       454
PR8_HA_Illumina     ATTGAGCTCAGTGTCATCACTCGAAAGATTCGAAATATTTCCCAAAGAAAGCTCATGGCC       454
                    * *  ***        *   **  *     ***  *** *******


PR8_HA_pHW2000      GACTGGAGTCGCTCAGAATGGAACAAGCTCTGCTTGCAAAAGGAGATCTATTAACAGTTT       517
PR8_HA_NCBI         CAACCACAACACAACCAAAGGAGTAACGGCAGCATGCTCCCATGCGGGGAAAAGCAGTTT       514
PR8_HA_Illumina     CAACCACAACACA---AACGGAGTAACGGCAGCATGCTCCCATGCGGGGAAAAGCAGTTT       511
                    *       * *    ** ***  **  * ** ***          * ******


PR8_HA_pHW2000      CTTTAGTAGATTGAATTGGTTGCACCAATTAAAATACAGATATCCAGCACTGAACGTGAC       577
PR8_HA_NCBI         TTACAGAAATTTGCTATGGCTGACGGAGAAGGAGGGCTCATACCCAAAGCTGAAAAATTC       574
PR8_HA_Illumina     TTACAGAAATTTGCTATGGCTGACGGAGAAGGAGGGCTCATACCCAAAGCTGAAAAATTC       571
                    * *** *** *  *** *   **  *    *    *  *** *** *****     *


PR8_HA_pHW2000      TATGCCAAACAATGACAAATTTGACAAATTGTACATTTGGGGGGTTCACCACCCGAGTAC       637
PR8_HA_NCBI         TTTATGTGAACAAGAAAGGGAAAGAAGTCCTTGTACTGTGGGGTATTCATCACCCGTCTAA       634
PR8_HA_Illumina     TTTATGTGAACAAGAAAGGGAAAGAAGTCCTTGTACTGTGGGGTATTCATCACCCGTCTAA       631
                    *     *****   *    **    *  * ***** **** ****** **


PR8_HA_pHW2000      GGACAGTGACCAAACCAGCCTATATACC---CCATCAGGGAGAGTCACAGTCTCTACCAA       694
PR8_HA_NCBI         CAGTAAGGATCAACAGAATCTCTATCAGAATGAAAATGCTTATGTCTCTGTAGTGACTTC       694
PR8_HA_Illumina     CAGTAAGGATCAACAGAATCTCTATCAGAATGAAAATGCTTATGTCTCTGTAGTGTCTTC       691
                    *  ** ***   *  * ***      *   *      *** ** **        *


PR8_HA_pHW2000      AAGAAGCCAACAAACTGTAATCCCGAATATCGGATCCAGACCCTGGGTAAGGGGTATCTC       754
PR8_HA_NCBI         AAATTATAACAGGAGATTTACCCCGGAAATAGCAGAAAGACCCAAAGTAAGAGATCAAGC       754
PR8_HA_Illumina     AAATTATAACAGGAGATTTACCCCGGAAATAGCAGAAAGACCCAAAGTAAGAGATCAAGC       751
                    **     *   *   * * ****  *** *  ***      ******   *****  *  *


PR8_HA_pHW2000      CAGCAGAATAAGCATCTATTGGACAATAGTAAAACCGGGAGACATACTTTTGATTAACAG       814
PR8_HA_NCBI         TGGGAGGATGAACTATTACTGGACCTTGCTAAAACCCGGAGACACAATAATATTTGAGGC       814
PR8_HA_Illumina     TGGGAGGATGAACTATTACTGGACCTTGCTAAAACCCGGAGACACAATAATATTTGAGGC       811
                    * ** ** * *   ** ****  *  ******* ******* **  *  ** **


PR8_HA_pHW2000      CACAGGGAATCTAATTGCTCCTCGGGGTTACTTCAAAATACGAAGTGGGAAAAGCTCA--       872
PR8_HA_NCBI         AAATGGAAATCTAATAGCACCAAGGTATGCTTTCGCACTGAGTAGAGGCTTTGGGTCCGG       874
PR8_HA_Illumina     AAATGGAAATCTAATAGCACCAAGGTATGCTTTCGCACTGAGTAGAGGCTTTGGGTCCGG       871
                    * ** ******** * **  **   *   *** * ** ** ******      * **


PR8_HA_pHW2000      -ATAATGAGGTCAGATGCACCCATTGACAAATGCAATTCTGAATGCATCACTCCAAATGG       931
PR8_HA_NCBI         CATCATCACCTCAAACGCATCAATGCATGAGTGTAACACGAAGTGTCAAACACCCCTGGG       934
PR8_HA_Illumina     CATCATCACCTCAAACGCATCAATGCATGAGTGTAACACGAAGTGTCAAACACCCCTGGG       931
                    ** ** * *** * * * ***  * ** *  *  **  ** ** **    *  **  **


PR8_HA_pHW2000      AAGCATTCCCAATGACAAACCATTTCAAAATGTAAACAGGATCACATATGGGGCCTGTCC       991
PR8_HA_NCBI         AGCTATAAACAGCAGTCTCCCTTTTCAGAATATACACCCAGTCACAATAGGAGAGTGCCC       994
PR8_HA_Illumina     AGCTATAAACAGCAGTCTCCCTTTTCAGAATATACACCCAGTCACAATAGGAGAGTGCCC       991
                    * *  **    **  *  ** ** ** ** ** **   ** ***    **  *  ** **


PR8_HA_pHW2000      CAGATATGTTAAGCAAAACACTCTGAAATTGGCAACAGGATGCCGGAATGTACCAGAGAA      1051
PR8_HA_NCBI         AAAAATACGTCAGGAGTGCCAAATTGAGGATGGTTACAGGACTAAGGAACATTCCGTCCAT      1054
PR8_HA_Illumina     AAAAATACGTCAGGAGTGCCAAATTGAGGATGGTTACAGGACTAAGGAACATTCCGTCCAT      1051
                    * **** ** *     **   *** *  *** *****  *  **** *  **         *


PR8_HA_pHW2000      ACAAACTAGAGGCATATTCGGCGCAATCGCGGGTTTCATAGAAAATGGTTGGGAGGGAAT      1111
PR8_HA_NCBI         TCAATCCAGAGGTCTATTTGGAGCCATTGCCGGTTTTATTGAAGGGGGATGGACTGGAAT      1114
PR8_HA_Illumina     TCAATCCAGAGGTCTATTTGGAGCCATTGCCGGTTTTATTGAAGGAGGATGGACTGGAAT      1111
                    ***  * ***** *** *  ***** **  **** * **     ** ***   ** *****


PR8_HA_pHW2000      GATGGACGGTTGGTACGGTTTCAGGCATCAAAATTCTGAGGGCACAGGACAAGCAGCAGA      1171
PR8_HA_NCBI         GATAGATGGATGGTACGGTTATCATCATCAGAATGAACAGGGATCAGGCTATGCAGCGGA      1174
PR8_HA_Illumina     GATAGATGGATGGTATGGTTATCATCATCAGAATGAACAGGGATCAGGCTATGCAGCGGA      1171
                    *** ** ** ***** ****    ***** *    **     **** ****   *****  *


PR8_HA_pHW2000      TCTTAAAAGCACTCAAGCAGCAATCAACCAAATCAACGGGAAACTGAATAGGTTAATCGA      1231
PR8_HA_NCBI         TCAAAAAAGCACACAAAATGCCATTAACGGGATTACAAACAAGGTGAACTCTGTTATCGA      1234
PR8_HA_Illumina     TCAAAAAAGCACACAAAATGCCATTAACGGGATTACAAACAAGGTGAACTCTGTTATCGA      1231
                    ** ******* *** **   ** **  ***  *  * * *  * ****     * *****


PR8_HA_pHW2000      GAAAACGAACGAGAAATTCCATCAAATTGAAAAAGAATTCTCAGAAGTAGAAGGGAGAAT      1291
PR8_HA_NCBI         GAAAATGAACATTCAATTCACAGCTGTGGGTAAGAATTCAACAAATTAGAAAAAAAGGAT      1294
PR8_HA_Illumina     GAAAATGAACACTCAATTCACAGCTGTGGGTAAGAATTCAACAAATTAGAAAAAAAGGAT      1291
                    ***** ****     *****   ** *    * ********   **   *****    ** **


PR8_HA_pHW2000      TCAGGACCTCGAGAAATATGTTGAGGCACTAAAATAGATCTCTGGTCGTCAACGCGGA      1351
PR8_HA_NCBI         GGAAAATTTAAATAAAAAAGTTGATGATGGATTTCTGGACATTTGGACATATAATGCAGA      1354
PR8_HA_Illumina     GGAAAATTTAAATAAAAAAGTTGATGATGGATTTCTGGACATTTGGACATATAATGCAGA      1351
                    * *  * * ***** *   *** ** ** *    ** ****       ** ** ** **


PR8_HA_pHW2000      GCTTCTTGTTGCCCTGGAGAACCAACATACAATTGATCTAACTGACTCAGAAATGAACAA      1411
PR8_HA_NCBI         ATTGTTAGTTCTACTGGAAAATGAAAGGACTCTGGATTTCCATGACTCAAATGTGAAGAA      1414
PR8_HA_Illumina     ATTGTTAGTTCTACTGGAAAATGAAAGGACTCTGGATTTCCATGACTCAAATGTGAAGAA      1411
                    * *  * *** *  ***** **  **   ** ** **  *  ***     **** ** **


PR8_HA_pHW2000      ACTGTTTGAAAGAACAAGGAAGCAACTGAGAGAGAAAATGCTGAGGATATGGGCAATGGTTG      1471
PR8_HA_NCBI         TCTGTATGAGAAAGTAAAAAGCCCAATTAAAGAATAATGCCAAAGAAATCGGAAATGGATG      1474
PR8_HA_Illumina     TCTGTATGAGAAAGTAAAAAGCCCAATTAAAGAATAATGCCAAAGAAATCGGAAATGGATG      1471
                    *** *** * *  **    * *  * **   *  *  **** *  ** ** **   *****  *


PR8_HA_pHW2000      TTTCAAAATATACCACAAATGTGACAATGCCTGCATAGGGTCAATCAGAAATGGAACTTA      1531
PR8_HA_NCBI         TTTTGAGTTCTACCACAAGTGTGACAATGAATGCATGGAAAGTGTAAGAAATGGGACTTA      1534
PR8_HA_Illumina     TTTTGAGTTCTACCACCAAGTGTGACAATGAATGCATGGAAAGTGTAAGAAATGGGACTTA      1531
                    ***    *   **** *    ******* * *   ** ***     **   * ******** *****


PR8_HA_pHW2000      TGACCATGATGTATACAGAGACGAAGCATTAAACAACCGGTTCCAGATCAAAGGTGTTGA      1591
PR8_HA_NCBI         TGATTATCCCAAATATTCAGAAGAGTCAAAGTTGAACAGGGAAAAGGTAGATGGAGTGAA      1594
PR8_HA_Illumina     TGATTATCCCAAATATTCAGAAGAGTCAAAGTTGAACAGGGAAAAGATAGATGGAGTGAA      1591
                    ***  **     *** *** **   **   **   *** ** ***  * *  *** *****  *


PR8_HA_pHW2000      GCTGAAGTCAGGATACAAAGATTGGATCCTATGGATTTCCTTTGCCATATCATGTTATTT      1651
PR8_HA_NCBI         ATTGGAATCAATGGGGATCTATCAGATTCTGGCGATCTACTCAACTGTCGCCAGTTCACT      1654
PR8_HA_Illumina     ATTGGAATCAATGGGGATCTATCAGATTCTGGCGATCTACTCAACTGTCGCCAGTTCACT      1651
                    * ** *  **    *  ***  **** * *  ** **  *    **  **  * ***  *


PR8_HA_pHW2000      GCTTTGTGTTGTTTTGCT---GGGGTTCATTATGTGGGGCTGCCAAAAAGGCAACATTAG      1708
PR8_HA_NCBI         GGTGCTTTTGGTCTCCCTGGGGGGCAATCAGTTTCTGGATGTGGTTCTAATGGATCTTTGCA      1714
PR8_HA_Illumina     GGTGCTTTTGGTCTCCCTGGGGGGCAATCAGTTTCTGGATGTGGTTCTAATGGATCTTTGCA      1711
                    * *  *  * * ***   **   ** * * *** **   **  **   ** *


PR8_HA_pHW2000      GTG-------------CAACATTTGCATTTGAGTGCATTAATTAAAAACACCCTTGTTTC      1755
PR8_HA_NCBI         GTGCAGAATATGCATCTGAGATTAGGAATTTCAGAAATATGAGGAAAAACACCCTTGTTTC      1774
PR8_HA_Illumina     GTGCAGAATATGCATCTGAGATTAGAATTTCAGAAATATGAGGAAAAACACCCTTGNNNN      1771
                    ***          * *** * **** **   *  *  ************* *


PR8_HA_pHW2000      TACT      1759
PR8_HA_NCBI         TACT      1778
PR8_HA_Illumina     NNNN      1775
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