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|                                             |                             |                                 |                              |        |    |
|---------------------------------------------|-----------------------------|---------------------------------|------------------------------|--------|----|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | MTSSSSSSKKSRAVALRNYFSPFGNKL | VAGGHVDAEQLRQALVQVKKTGRSL       | PEELKAVTGRELSPELLRQYKKNQLFEL | K      | 80 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....MLTNLVA                | ILRQAEILSATQEAVVTQVSASGTSV      | PEALLEL..SIFHAQELTEQ.....LS  | 54     |    |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....MHSNLS                 | TLRQKGLLTSQEESLIEQVKASGISM      | PEALLSS..GFFTSSSELAEH.....LS | 54     |    |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....MLTNLST                | VLRRQAGILTFSSQEESSLIEQVKASGISM  | PEALLSS..GFFTSSSELAEH.....LS | 54     |    |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....MSVGLLR                | ILVQNNQVVTVEQAEHYYN.ESQAGKEV    | LPMFLSD..GVISPKSLAAL.....IA  | 53     |    |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....MALATEEYRLQ            | GIGQLLVLEKLLDKTKAIELHKLAAEKIS   | LLQYIVKN..KILSAEQIALT.....AA | 62     |    |
| NTDB id 422178 G0028 RS17405 WP 174493874.1 | .....MVSQGGTPKF             | SGFIRRLVDDGVIAAQMQSALDNAKKSKLN  | IVAYLIEY..ANLKPLQIAET.....IA | 62     |    |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....MSALHTSPKF             | TGFFRRLVEEKHVSAAATMQTALDAKRAKQD | TVAYLIEE..VHLSPSLLAET.....IS | 62     |    |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....MSAFTTPPKF             | SGFIRRLVEEGYVNAQNMQQALEKAKKFKQD | IVPYLIDN..FSISPLTIAEI.....IS | 62     |    |
| consensus                                   |                             | *** *!* ***** *                 | *** * * * * * * *            | *** ** |    |

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|---------------------------------------------|---------------------------------|---------------------------------|--------------------------------|-------|--|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | VLYGVDSVDPEVAPIATQQMAELIGRFFPLD | TCRRFKFLPLAQQEGDPSPSVLVAMVDPDNI | AAQDELNRILRVKGFELRR            | 160   |  |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | HIFGLPETDLRSYDYA.....NLCCQL     | LGLRELITRYDALPIAKQ...GNL        | LLLAVSDPTLLQAEFEFR...FATGLQVEL | 123   |  |
| NTDB id 1293 VP RS12240 WP 005479695.1      | SIFGLSQPELSQYDYA.....SLCQL      | LGLRELITRHNALPLHRT...PST        | LLAVADPTNQAEEDFR...FATGLQVEL   | 123   |  |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | SVFGLSCTSLNQYDYA.....SLCQT      | LGLRDLITRHNALPLNRT...SST        | LLAVADPTNLQAEEDFR...FATGLQVEL  | 123   |  |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | RVFSYSILDLRHYPRH.....RVL        | MGVLTEEQMVFEHCVVPVFR...GDK      | VFAVSDPTQMPQIQKTV...SAAGTAVEL  | 122   |  |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | QNFGVPMLDINCIDVG.....TIPVN      | LVNEKLIKRRHAMVPLFSR...GTN       | LYLATDDPSKQASLKEIQ...FHTGLNTHA | 131   |  |
| NTDB id 422178 G0028 RS17405 WP 174493874.1 | LEFAEPLFDLDSFDPE.....QFPKD      | VIESGLHKHMLPLVQR...GNV          | LYIAMSPTNIEALDAAR...FNSRLNIEV  | 131   |  |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | AEFAEPYFDLDVYDTS.....QIPKD      | LVDQKLILKHRILPLIQR...GQIL       | YVATSNPSNIEAIDAIR...FNSKLLVEP  | 131   |  |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | LEFGEPLLDLGVFDPA.....LFL        | KDKIDEKLIQKYRIMPLVHR...GHV      | LYVATSNPTNIEAMDAIR...FNSKLLVEP | 131   |  |
| consensus                                   | ***** ** ** *                   | *** ** *!* *                    | *****!***** ** *               | ***** |  |

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|---------------------------------------------|----------------------------------|-------------------------------|---------------------------|-------------|--|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | LVVTQDDFNQLLEQYYAIREEWEAAQEKRD   | QERALDKLNDLTDIVGSIDMNLGEDKEDV | DNALDSNDANQAPVINLVNKI     | 240         |  |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | ALADHRAIQAAIRRLYGRSIQGAANQGKE..  | T.SQDELA.....NLVKVS           | DDDELQSIEDLSQDDSPVSRFINQV | 189         |  |
| NTDB id 1293 VP RS12240 WP 005479695.1      | VLADFRELTAAIRRLYGRSLSHEKSGLKE..  | I.NQEELA.....SLVDVG           | ADEIDNIEDLSQDESPPVSRINQI  | 189         |  |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | VLADFRELTAAIRRLYGRSLGQKSGLKE..   | I.NQDELA.....GLVDIGE          | DEIENIEDLSQDESPPVSRINQI   | 189         |  |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | VIVEDDQLAGLLDWVGRSSTLL...QELGEG  | .....QEEEE                    | SHTLYIDNEEAEDGPVPRFIHKT   | 179         |  |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | IVVETDKLSALIDNLLTAKESQGLSEYVEDSG | .DLEGLE.....I.SADDE           | QDDIDTATSVTDDAPIVKFVNKI   | 198         |  |
| NTDB id 422178 G0028 RS17405 WP 174493874.1 | VIVEHHKLVKCLEKYFTEDTSFDFGGD...D  | T.DV.DII.....S.TDDVN          | PADDHDDNESEDEAPIVKYINKL   | 194         |  |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | VIVEHHKLEKVLGQHFEESSFDFNDE...EF  | .DL.DVN.....L.DG.PTAQ         | EDEEAPQGDEAPIVKYINKL      | 193         |  |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | IIVEHDKLERLLSEHFVEETHFNFDTE...EL | .DL.DVE.....V.DP.HTTD         | DDDDDKLKDDEAPIVKYINKL     | 193         |  |
| consensus                                   | ***** * ** *** * *               | * ****                        | * ** * * *                | *****!***** |  |

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|---------------------------------------------|---------------------------------|-----------------------------------|---------------------|-------|--|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | LAKALQEGTSDIHVEPQEETLRIRFRKDGVL | NQAFDPLPRKITPAVVARFKIMADMDIAERR   | SPQDGKIRRIYQ..GRKV  | 318   |  |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | LLDAVRKGGASDIHFEPYENQYRIRLRCDG  | ILVETQPP.ASHLSRRLAARIKILSKLDIAERR | LPQDGRIKLRLSR.DTAI  | 267   |  |
| NTDB id 1293 VP RS12240 WP 005479695.1      | LLDAVRKGGASDIHFEPYEXMYRVRLRCDG  | ILVETQPP.PNHLRRLSARIKILSKLDIAERR  | LPQDGRIKLKLNQ.DTAI  | 267   |  |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | LLDAVRKGGASDIHFEPYENMYRVRLRCDG  | ILVETQPP.PSHLSRRLSARIKILSKLDIAERR | LPQDGRIKLKLNQ.DTAI  | 267   |  |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | LSDALRSGASDIHFEPYEHNRIRFRVDGQL  | REVVP.PIAVRGQLASRIKIVMSRLDISEKR   | IPQDGRMQLTQKGGKPV   | 258   |  |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | LLDAIRQGASDIHFEPYEREYRIRYRQDG   | ILHEVATP.PASLSSRITARIKVMSNLDISERR | IPQDGGFKMKISK.SRAI  | 276   |  |
| NTDB id 422178 G0028 RS17405 WP 174493874.1 | LIDAIRMGASDIHFEPYEKSYRVRYRVDG   | VLRITNP.PLQLATRLASRLKVMQMDISEKR   | IPQDGRMKLKLKSK.TKAI | 272   |  |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | LIDAIRMGASDLHFEPYEKSYRVRYRVDG   | VLRITNP.PLQLANRLASRLKVMQMDISEKR   | VPQDGRMKLKLKSK.SKAI | 271   |  |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | LIDAIRMSASDLHFEPYEKSYRVRYRVDG   | VLRITNP.PLQLATRLASRLKVMQMDISEKR   | VPQDGRMKLKM.SKTI    | 271   |  |
| consensus                                   | ***** **!* **!* **!* **!* *     | *****!***** **!* *                | *****!*****         | ***** |  |

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NTDB id 1018 ACIAD RS01685 WP 004920473.1  
consensus



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|---------------------------------------------|-------------------------------------|-----|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | EMRAKRKSALTCRTCAAELQQEWLDCPYCMTSRFS | 672 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                               | 562 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                               | 561 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                               | 561 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                               | 558 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                               | 574 |
| NTDB id 422178 G0028 RS17405 WP 174493874.1 | .....                               | 571 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                               | 570 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                               | 570 |
| consensus                                   |                                     |     |

-  non conserved
-  similar
-  ≥ 50% conserved