

Q3KFC3_PSEPF ----- MTK-S-LRP LLLAGLLLP ALPVA--AT INT----- --ALTP NV-----EKA LKASKLQPSA LSLVMVPLDG
DACC_BACSU ----- -MK-KSIKLY VAVILLFVVA SVPYMHQAA AAE-----KQ -----DALSG QIDKIL----ADHPALEGAM AGITVRSAT
A0A106C1X3_SHEFR MNSILFCLPQ PRFFHQPQL QFT----QA LCLLGAPITS SLPNVSLAAE VPNQIALSQ QTIHSDNINQ QPTAVYLDNM LQLLKPASQ LGITVWDMTT
Q082P9_SHEFN MNSILFCLPQ PRFFHQPQL RFT----QA LCLLGAPITS SLPNVSLAAE VPSQVALSQ QTIHSDNINQ QPTALYLDNM LQLLKPASQ LGITVWDMTT
A1SZR5_PSYIN ----- MFK-----RI LCFAL--F LLPVNLADQ W-----SA LHALLPKGTQ LSYLLDPAN
Q8X9K8_ECO57 -----M RFSRFIIGLT SCIAF--S -----VQAN V----- --DE YITQLPAGAN LALMVQKVGA

Q3KFC3_PSEPF PGTPTVYNAD VSVNPASTMK LVTTYAALM LGPNHQWTE FYT----- DGDNLGGILN GNLYLKGGD PKLNMEKLWL LMRDLRANGV TQVTDGLVD
DACC_BACSU GAVLYEHSQ TRMRPASSLK LLTAAALSV LGENYSFTTE VRT----- DGTLKGGKLN GNLYLKGGD PTLTPSDFDK MAEILKHSV KVIKGNLIGD
A0A106C1X3_SHEFR QKTVEFYNNQ SLMQPASVQK LLTALAATKQ LGKDFTYQTR LTTLAQQPLD KSLIENGYS GDIIYEFSGD PTLKYQDLRQ LLASLSQLGI TELTGNIVLT
Q082P9_SHEFN QKTVEFYNNQ SLMQPASVQK LLTALAATKQ LGKDFTYQTR LTTLAQQPLD KSLIENGYS GDIIYEFSGD PTLKYQDLRQ LLASLSQLGI TELTGNIVLT
A1SZR5_PSYIN NQLLAESNAE ILRTPASLQK LLTATAAKLY LGENFRYQTT LBG-----N KSHLKNHNYQ GDILRLRFVGD PTLRSLADKE MLTSFKALGV KQIRGDLIN
Q8X9K8_ECO57 SAPAIDYHSQ QMALPASTQK VITALAALIQ LGPDFRFTTT LET----- KGNVENGVK GDLVARFGAD PTLKRQDIRN MVATLKKSGV NQIDGNVLID

Q3KFC3_PSEPF RSFFVQPQL- PE---FNDGN * D---ENKPF L VKPDSLLVN KALRFVARND NGRVLISVE PIASININEN-----T VKAL-----N
DACC_BACSU DTWHDDMRSL PDMPWDEYT YYGAPISALT ASPNEDYDAG TVIVEV---T PNQ-KEGEEP AVSVSPKTDY ITI-----KND AKTTAAGSE-
A0A106C1X3_SHEFR SEQ-DSQLQA PGWVWDDLGI CYAAPISPF IDKNVYGR L ATTGYN-KVA NIT-MMGNRP -IEISNDAYF VTPIVNRPVA KPAVQTLTDE VVLPAYLTES
Q082P9_SHEFN SEQ-DSQLQA PGWVWDDLGI CYAAPISPF IDKNVYGR L ATTGYN-KVA NIT-MMGNRP -IEISNDAYF VTPIVNRPVA KPAVQTLTDA VVLPAYLTES
A1SZR5_PSYIN AAHFSGYQWS DGGAWNLDLV CYTSPSNAI VNRNLCVLGN SVVSDAKKA RLF-IPSYEP -IEISSNDYF ---VVTSQRD
Q8X9K8_ECO57 TSIFASHDKA PGWPWNMTQ CFSAPPAVAI VDRNCFVSL YSAPKPGDMA FIR-VASYYP -VTMFSQVR-----TLPRGSAE

Q3KFC3_PSEPF SKQ* TGGVRY NPVPQADGSV TVTVAGQL-G EG*-----S SQTYSLLDH ATYTAGAVRA IWKELGSIQ GKDRLA--- --PTPSSAKM LARAFSPDLA
DACC_BACSU ---KDLTIE- ---RHGHTN TITTEGSPVP DA-----NKTKE ---WISWVEP AGYALDLFKQ SLKKQGIVK GDKTGE--- --APSSSDV LLSHRSMPLS
A0A106C1X3_SHEFR VPQ* QLTLS- ---RFDNN RYHLSG- ---CHVG-AKS LPLAIAITEP QLYAQQIVAK QLASLGIVHQ LPITASIMNT EAQFMAQRQV IASHQSAALP
Q082P9_SHEFN VPQ* QLTLS- ---RFDNN RYHLSG- ---CHVG-AKS LPLAIAITEP QLYAQQIVAK QLASLGIVHQ LPITASIMNT EAQFMAQRQV IASHQSAALP
A1SZR5_PSYIN EQFCALKMT- ---RNSDN RYHLWG- ---CMVPRNRP FGLAFSVNDP FAYASQIIES ELKNVGIKLT GKVKIEQ--- IKTAKKVSQV LVKYQSPELG
Q8X9K8_ECO57 AQYCELDVV- ---PGDLN RFTLTG- ---CLPQRSEP LPLAFAVQDG ASYAGAILKD ELKQAGITWS GTLLRQT--- --QVNEPGTV VASKQSAPLAG

Q3KFC3_PSEPF EIIRDINKYS NNTMAQQFL SLGQKFRNDA DGDDAKAAQR VVRQWL-AKK GITAPHLVME NGSGLSR SER VSAREMANML QAAWHSPYAA EYISSLPAG
DACC_BACSU KLFVPFMKLS NNGHAEVLVK EMGKVK-K-G EGSEWEGLE- VLNSTL-PEF GVDSSKSLVLR DSGGISHIDA VSSDQLSLL YDQDQSWFS AXLNSLPVAG
A0A106C1X3_SHEFR QLLETMLLKS DNLIADSLK KLGEVYYQ-A PSDFARSQ- ALKTLT-YSI GIDLNSANIA DSGSLSRYNL LTPHVLVSVL TTLYQQPEYR FLLELLPQSG
Q082P9_SHEFN QLLETMLLKS DNLIADSLK KLGEVYYQ-A PSDFARSQ- ALKTLT-YSI GIDLNSANIA DSGSLSRYNL LTPHVLVSVL TTLYQQPEYR FLLELLPQSG
A1SZR5_PSYIN KLLIIMLKDS DNLIADSLF KTLGAAYFQ-Q DGNFWRLAGAK- ALKLIL-QEN GVDLENAYLA DSGSLSRHNL MSAKLFMTVL KYVYQNDAKL NLLDSFSIAG
Q8X9K8_ECO57 DLLKIMLKKS DNMIADTVFR MIGHARFN-V PGTFRAGSD- AVRQGLTIA GVDIGNTIIA DSGSLSRHNL TAPATMMQVL QYIAQHNEI NFISMLPLAG

Q3KFC3_PSEPF TDGTM----- RKRLKTTAMR GEAHVKTG* NTVRAITAGFS RDVNGNTWAV VAILNDKAPF GASSV----- -LD-QVL LDLYKQPRTA QTASVL
DACC_BACSU NPDRMVGGLT RNRMGTPAQ GKVRKGTGSL STVSSLSGYA ETKSGKKLVF SILLNGLIDE EDGKDIEDQI AVILANQ--- -P---FSAVFL QTMMDVPR--
A0A106C1X3_SHEFR VSGTL-----RY KRYFNKSPKL NHVFAKTGSM LGIANLAGRV NASNGHDYLF VLFENGLSPQ IKKQK---A P---FSAVFL QTMMDVPR--
Q082P9_SHEFN VSGTL-----RY KRYFNKSPKL NHVFAKTGSM LGIANLAGRV VLFENGLSPQ IKKQK---A P---FSAVFL QTMMDVPR--
A1SZR5_PSYIN VDGTL-----HY HKGVAGPLK GNIVAKTGS M KGVANLLGIV KTARGERLF- ALIINGYNWP ETDLTAKTS PVVIFEHAF ETIKSSRK-----
Q8X9K8_ECO57 YDSSL-----QY RAGLHQAGVD GKVSAKTGS L QGVYNLAGFI TTASQGRMAF VQYLSGAYE PAD-QNRRI PLVRFERSLY KDIYQNN-----

signal sequence ↓↓ active Ser residue ● conserved residue
XX signal cleavage site ↓↓ active Lys residue * substrate binding residue