**Additional File 3.** Sequences of *Providencia vermicola* DSM\_17385 putative antibiotic resistance-associated proteins

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004122\_OmpK37

MKRNILAMVIPALLAAGAANAAEVYNKDGNKLDVYGKVDVRHYFADGKGSGKTSSEDGDDSRVRLGLKGDTQITDQLTGFGRFEWETKTNKAEDSNENKNRLAYAGLKFADFGSIDYGRNYGVIYDTNAWTDVMPLWGGDTMAQSDNFMTSRNRNLLTYRNNNAFGYVDGLSFALQYQGKNGDDNKSSSGNPRKDNGDGYGFSTAYDLGWGVTLGGGYSNSSRTPDQRNKTTAGGQKAQAWNVGGKFDANNVYLAAMYGQTLNTTRYGSGNLVANKTENVELVAQYLFDFGLKPSLGYNQSKGKDLGGYGNKDLVKYISVGSYYYFNKNMSAVVDYKINLLKDNTFTDQVGINTDNVVGLGLIYQF

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3001329\_MdtG

VLNMTGNMTGKTEYWKRNLYVVWFGCFLTGAAFSLIMPFLPLYIEELGVKDHASLNLWTGAVFSITFLFSAIAAPFWGRLSDRKGRKLMLLRSALGMAIVMVLIGFAQNIWQLLALRALLGLLGGFVPNANALIATQIPVKKSGWAMGVLATGAVSGALIGPLIGGFLADQYGLRPVFFITATVLFICFFVTLFYVRERFTPVSRKDALTSKQVFASLRNKNLVISLFFTTMIIQAAMGSINPVITLYVRELSDSLENLAFVSGVIASIPGVAALISAPMLGKLSDRIGPEKVLLAVLGTSIFVLFPMGLVSSYWELGFLRFLLGALNAALLPAVQTLIIYNISHQVTGRIFSYNQALRDVGNVTGPLMGSFVAATYGFRAVFFFTAALVLFNLIYSWLIIRRQSDGLRASPTEQ

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000002\_VanW

MRRPLSSYHPILYWLRVTQKRLARRLHWAFSSKYYSKAKSSERLEYRYNKHTSKLIRKLGDSDLRLQHNKVINLRIAVQAMNGVTIYPGEYFSFCRLVGKPTARRGFVEGMELSFGEARSGIGGGICQLSNLIHWMILHSPLQVVERANHSFDPFPDEGRVLPFGSGAAIFYNYIDLVFYNPTQSAFQLVFNIAEHQLEGELLCSEPRDVKYHIYQKNHKFTREKNIVYRHNEIWQKVITKGQEPVTLQDNCLYRNKVVVKYAIDDSQIMAS

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3005162\_FosA7.5

MLNGINHLTLAVRDITKSIYFYQSLLGMKLHAKWKHGAYISCGDLWLCLSVDISRQHLAPNETDYTHYAFSISESNFALLVNKLKENEVVVWKENKSEGDSFYFLDPDGHKLELHVGDLTQRLKSCQCSPYDGMEFY

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3002685\_CatIII

MSYTRFNVEAWQRKEHYHVYNEQVNCGFSLTVKIDITSLYRFISLRDYRFYPTMIYLLSSIVNKHDEFKLSKKNNELILWDKVHPSFTIFHNQTETFSSLWCEYSDNIHIFMDNYHHQLALYKDDNKLAPQPAQAENIFYISSLPWVSFDSFNLNIANIASNFTPIFTMGKFYREGDKILLPLSIQVHHAVCDGFHVGRFVNELQMLCNQLAD

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3001216\_MdtH

MAQVSRARSLGKYFLLLDNMLVVLGFFVVFPLISIRFVDQLGWAAVVVGFALGLRQFVQQGLGIFGGAIADRFGAKPMIVIGMLLRASGFALMAIAYDPWVLWLSCVLSALGGTLFDPPRTALVIKLTRPYERGRFYSLLLMQDSAGAVIGALIGSWLLQYDFHYVCWAGAVVFIIAAICNAWLLPAYRISTVRTPIKEGMSRVLKDKRFVTYVVTLAGYFMLSVQVMLMFPIVVNELAGTPTAVKWMYAIEAMISLTLLYPIARWSEKHFRLEQRLMAGLFLMSLSMFPIGMTTSLNMLFGLICLFYLGTVTADPARETLSASLADPRARGSYMGFSRLGLALGGAVGYTGGGWMYDIGHQWNMPQLPWFLLGIIGFITLWALHKQFNRKKIETVMLSGQ

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000164\_ErmX

MNNRVHQGHFARKRFGQNFLTDQFIIDSIVDAMNPLPGQSIVEIGPGLGALTEPVGSRIEKMTVVELDRDLAARLHVHPQLKDKLTIIQQDAMTVDFGELAKQAGQPLRVFGNLPYNISTPLMFHLFTFTNSIADMNFMLQKEVVNRLVAGPGSKAFGRLSVMAQYYCHVVPVLEVPPTAFTPAPKVDSAIVRLIPHRENPYPVKDIKFLSRITTQAFNQRRKTIRNSLGDLFSVEELTELGIDLSTRAENISVEQYCKMANYLSNRSE

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000237\_TolC

MVRFRQQAQLNLLFNQGIKMKKLLPLLIAMSFVGLSTNSYADDLLQVYQKSKESNPELRKSLAERNQAFEKINEARSPLLPQLGLGAGASYGSGYRDANNTESTGLNASLKLTQTVFDMSKWRQLTIQEKTAGISDVTYQTSQQQLILDTATAYFNVLKAIDALSYIEANKEAVYRQLDQVTQRFNVGLVAITDVQNARANYDSVIAQEVAGRNDLENAIEKLRQVSGVYYNQLASLNIERFKTTELGDINAILKEAEERNLSLLSARLAQDVSRENIRLAETGHMPTVSLDASTAVTNTYNHGSGYNNSLTGKGASNSYNGQNSIGLNLSIPLYTGGATSSQVEQAQYGFQGASEQLESVYRNVVQLVRSSFNNVSSSISSINAYKQVVVSAQSSLDAMEAGYQVGTRTIVDVLTSTTALYQAKQNLSNARYDYMINQLNIEFARGTLNEDDIARLNANLGKEISTEPSSIIRNTNAPQIK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003776\_MurA\*

MDKFLVKGPTRLSGEVTISGAKNAALPILFAALLAEEPVEIQNVPHLRDIDTTIKLLNQLGTKVKRNGSVFVDASTVSTYCAPYDLVKTMRASIWALAPLVARFGHGEVSLPGGCAIGARPVDLHISGLEQLGANIVLEDGYVKATVDGRLKGACIVMDKVSVGATVSIMTAATLAEGTTVIENAAREPEIEDTANFLNTLGAKITGAGTDRIVIEGVERLGGGTYQVLPDRIETGTFLIAAAVSRGKVICRNARPDTLDAVLAKLREAGATIEIGDDWISLDMEGKRPKAVTIRTAPHPGFPTDMQAQFSLLNLVAEGAGLITETIFENRFMHIPELIRMGAHAEIESNTVLCHGVEKLTSAQVMATDLRASASLVIAGCIAEGTTTVDRIYHIDRGYEHIEDKLRGLGADIQRVHSDD

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004441\_Tet(59)

MNKSAITALTITSLDAIGIGLIMPVLPALLREYVSAENLAHHYGILLALYAIMQVFFAPILGKLSDKLGRRPVLLLSLAGAAVDYTLLALSSTLWMLYLGRLISGITGATGAVAASIIADSTEPHERTKWFGRLGAAFGVGLIAGPMIGGLAGEYSPHLPFIIAAILNTGAFIGVSLIFKDRKIKCKQEDTSKSPVVSISFMQVIKPITLLIFVFFMAQLIGQIPATTWVLFTENRFQWGSMEVGLSLAGLGVMHALFQAFVAGAIAKKFNEKTTILVGFVVDGSAFLILSFISQGWMIYPTLILLAGGSIALPALQGLMSTQVNQANQGKLQGVLVSLTNTTGVIGPLLFSFIFGQTLTVWDGSVWLIGAILYLLLIMVYPYCQFKINKRSNQTKTYSY

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000768\_AbeS

MSPKAKSWLWMLAVIISETSATSTLKMFDNSEGSTKSLLLALIVVLYVVCYYSLSRAVKYIPVGLAYATWSGTGILMVSTLGMLFYGQHPDTAAMIGMAVIASGIVIMNLFSKMGADEEDTEEPNKETKESLLSTNNKAIH

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004039\_EmrE2

MKGLSFLLMSILAEVIATTTLKASEGFSRFWPSLIVIIGYGVSFWGLSQVVKVMPLGIAYAIWSGLGIVLVSVAAIFIYHQKLDLPAIIGMLLIIIGVLVINLFSKSSTH

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000792\_MdtA

MNKQNRRKSFTRSAIFVAIIVAAGATWYFYNQEKTADTPNSSAIAKPNSQRSAMGRPPRVLAPVQFAVAEQKVVPRFLSGLGTVQAANVVTVTSRVEGQLMKLYFTEGQYVNAGDLLAQIDPRPFEVQLAQAEGQLAKDKATLANAQLDLARYQKLAGTKVISQQELDNQRALVLQAQGSIKVDQAAVDSAKLQLTYSKITAPISGRVGLKQVDVGNFVSSGTSTPIVVITQTQPADVLFALPEGDIPAIQQAQASSKNVLIEAWDRNNIALIARGELLSTDNQIDAATGTLKIKARFTNEEQKLFPNQFVNVKMQVETLQDAVVIPTAALQMGNEGHYVWILSEDNKVSKHTVTVGMQDSQQVVIESGLAANTKVITDGVDKLTDGTTVEVVTPESLAKKDKEPRKSKPSSAEKA

>*Providencia\_vermicola*\_DSM\_17385\_ ARO:3000793\_MdtB

MLKGGGPSRLFILRPVATTLFMVAILLAGIIGYRFLPVSALPEVDYPTIQVVTLYPGASPDVMTSAVTAPLETQFGQMSGLKQMSSQSSGGASVITLMFQLSLPLEVAEQEVQAAINSASSLLPSDLPYPPIYNKVNPADPPVLTLAVTSDAMPLTQVQDIIETRIAQKISQVNGVGLVTLAGGQRPAVRVNLNPQAMAAKGLDSETIRVAINNANVNSAKGSFDGPTRAVTLSANDQMKSLDDYRKLIVAFQNGAPVRLGDIATIKEGAENAYLGAWANNEQAIVINVQRQPGANVIETTDTIRTLLPELIESLPKSVNVDILTDRTSTIRASVNDVQFELMLAIALVVMVIYLFLRNGIATLIPGIAVPLSLVGTFAVMYFCGFSVNNLTLMALTIATGFVVDDAIVVIENISRYLEQGDKPLVAALKGAGEIGFTIISLTFSLVAVLIPLLFMGDIVGRLFREFAITLAVAILISAVVSLTLTPMMCARLLKPESQHKHNRFELACERFFDRMVAGYAIWLKRILNHQWLTLSVALGTMVLTVLLYMWIPKGFFPLQDSGIIQGSIESRQSISFSAMAQKQQEVADKLLADPAVDNVTTYVGVDGTNATLNNARLQITLKPLDEREDRVVAIIARLQQSADNIAGVNLYLQPMQDLTIDTQVARTQYQFTLQASTLDELSTWVPKLMSELEQQPELTDVSSDWQNKGLVAYVNVNRDTASRFGITMSSIDNALYNAFGQRMISTIYTQSNQYRVILEHDTQTRDGMDALNDIRLKGTDGAIVPLSTLVNIQEGYGPLAINHLDQFPAVTFSFNVADGASLESAVNAVKHAESQISMPKSITTQFQGATLAFEAALSSTIWLIAAAIVAMYIVLGILYESFIHPITILSTLPTAGVGALLALMMAGKDLDVIAVIGIILLIGIVKKNAIMMIDFALAAEREQGMSPYDAIYQACLLRFRPILMTTMAALLGALPLMLSTGVGAELRQPLGICMVGGLIMSQILTLFTTPVIYLLFDRLSHYLKARRQINKAQVS

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000794\_MdtC

MKRFFALFISRPVATTLISVAITLCGALSFLFLPVAPLPQVDYPVINVTASLPGASPETMASSVATPLERSLGSIAGISEMTSSSALGRTTITLEFNLDKDINNAAREVQAAINAAQTLLPSGMPSRPRYYKSNPSDAPIMILTMTSQTLGTGEIYDIASTRLAQRIAQIEGVSEVSVGGGSLPAVRVELNPTALFNQGVSLDAVRSAISSANVRQPQGYINDDEKRYQVQTNDELKKAADYRPIIVHYKAGNAVKLSDVANVKDSIENVRAAGMADGKPAILIVIRREAGANIIETVNRIRAEIPEFRDMIPAAIDLKVAQDRTPTIRASLAEVERALLIAVALVILVVLLFLRSGRATLIPAIAVPVSLIGTFTAMYLCGFSLNNLSLMALTVATGFVVDDAIVVLENISRHIENGMKPFMAAVKGVHEVGFTVVSMSISLVAVFIPLLLMDGLVGRLFREFAITLATAIGISLIVSLTLTPMMCAYLLKKRGKNSKAKHRGFGRILLWVQERYGIALNWVLNHRRSVLAILFATIGLNVYLYITVPKAFFPEQDTGRVLGFVRADQSISFQSMKEKMTRFMEQVKEDPAIDNVTGFTGGSRVNSGFMYISLKPLGERTENSATVINRLRVKLANEPGANLFMMPVQDIRVGGRQANASYQFTLLADELNALRDWEPAIRKALGELPQLTDVNSDKEDKGAEMAITYDRDLMAQLGIDVREANSLLNNAFGQRQVSTIYEAMNQYKVVMEVAPEYTQDVSALDNMFVINKTGQAIPLSYFARWQPANAPLSVNHQGLSAASTIGFNVADGYTLNDAMVEIEKTMTALGVPSTVRGTFAGTAQVFQETLKSQLFLILAAIVTVYLVLGILYESYIHPLTILSTLPSAGVGALLALELFDTPFSLIALIGIMLLIGIVKKNAIIMVDFAIQAQRTAGLTAREAIFRASLLRFRPILMTTLAAIFGALPLMLGSGDGAELRQPLGITIVGGLIMSQLLTLFTTPVVYLSFDSLRQRWASRKAASRLKMEKHHEA

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003801\_Bcr2/3

VQQQRSSYLGLILILGLLSMLMPLAIDMYLPSFPTMMQYFNVDEGRIQMTLNSYIFGFAIGQLFYGPMADSIGRKPVILGGVIVFAIASAACAVTESIDSLIWLRFLHGFAAAAASVVINALMRDMFTRDEFSRSMSFVVLVMTIAPLLAPILGGELMRWFSWHAIFWSIAIAAVIAVILVSFFVRETLPVTKRQKFHIGTTLRQFATLFRAKQVLFYILASSFSFAGMFSFLNAGAFVYIDLNGVSPQHFGYYFGINIIFLFIMTTINSRYVRRFGAEKMLYFGIIIQFIMGIWLLGTTAFSLDFWTLVIGVAIYVSGIAMITSNAMAVILDNYPHIAGTVSSLAGTIRFSIGALVGTLLSLIPAKNAWPMVGSMVACVALSMLFVLLAKKAK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003995\_\_GyrA\*

MRDSGSMSEIAREITPVNIEEELKSSYLDYAMSVIVGRALPDVRDGLKPVHRRVLFAMNVLGNDWNKPYKKSARIVGDVIGKYHPHGDSAVYETIVRLAQPFSMRYMLVDGQGNFGSVDGDSAAAMRYTEIRMAKIAHELLADLEKETVDFVPNYDGTEQIPEVMPTRIPNLLVNGSSGIAVGMATNIPPHNLGEVINGCLAYIEDEDISIEGLMEHIPGPDFPTAAIINGRRGIIDAYKTGRGKVYIRASAEVEVDEKSGRETIIVSEIPYQVNKARLIEKIAELVKEKRVEGISALRDESDKDGMRIVIEIKRDAVGEVVLNNLYSLTQLQVSFGINMVALHQGQPKILNLKDIIAAFVRHRREVVTRRTIFELRKARDRAHILEALAIALANIDPIIELIRKAPTPAEAKAGLIARSWDLGNVAAMLERAGDDAARPEWLEEQFGVHDGQYFLTEQQAQAILDLRLQKLTGLEHEKLLEEYRELLVQIEALLFILRSPERLMEVIREELEIIRDTYNDPRRTEITENTADINIEDLINQEDVVVTLSHQGYVKYQPLSDYEAQRRGGKGKSAARTKDEDFIERLLVANTHDTILCFSSRGRLYWMKVYQLPEASRGARGRPIVNLLPLEQDERITAILPVREYEEGYTVFMATASGTVKKTPLQDFSRPRSAGIIAVNLNEGDELIGVDLTNGSNEVMLFSAQGKVVRFSEDAVRAMGRTATGVRGIKLMDDDKVVSLIIPRGEGHILTVTENGYGKRTEEAEYPTKSRATQGVISIKVSERNGNVVGAIQVDDTDQIMMITDAGTLVRTRVSEVSIVGRNTQGVTLIRTAENEKVVGLQRVAETEDDDNADESTDENGADDANINDQE

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004580\_KpnE

MIYWIFLVLAIVTEVIGTLSMKHASVSGDFTGMVVMYVMIATSYILLAIAVKKVALGVAYALWEGIGILFITTFSVMWFGETLSPMKIGGLVLLITGIGLIKSGTKKATVRGSAQKVKQATQHAVNAAKSSALVGREAKSEA

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004583\_KpnF

MASHFEWWHAAFLILAVVLEIIANILLKMSNGFKRYWLGILSLLAVLGAFSSLAQAVKGIELSIAYALWGAFGIIATVAAGWILFNQRLNYKGWGGIVLLLLGMVLIKMS

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000216\_AcrB

MLAGLLAIIQLPVSQYPTIAPPAVSISANYPGADAETVQNTVTQVIEQNMNGIDNLVYMSSSSDSSGSASITLTFEAGTDGDIAQVQVQNKLQLAMPLLPQEVQQQGISVDKSTSSFLMVAGFVSNDGSMGQYDIADYVGSNIKDPLSRVNGVGETQLFGTQYAMRIWLKPEQLVKYNMTTTDVINAIKVQNNQVAAGQLGGSPSIANQRLNVSIIAQTRLNNAEEFSNILLRVNQDGSQVRIKDVADVQLGAENYSTVARFNGKPAAGIGIKLATGANALDTSNNVRAALEEMKPFFPQGLEIVYPYDTTPFVKISINEVVKTLVEAIMLVVVVMYLFLQNIRATLIPTIAVPVVLLGTFAILSAFGYSINTLTMFAMVLAIGLLVDDAIVVVENVERVMQEEGLSPKEATKKSMGQIQGALVGIAMVLSAVFIPMAFFGGSTGAIYRQFSITIVSSMILSVLVAMILTPALCATMLKPIEKGSHGSQKGFFGWFNRTFEKQAHHYTDSVSRMLNGTGRYLVIYLILVAGMAFMFVRLPSSFLPAEDQGVFLSMVQLPPGSTQEQTQAVLDEVNNYYHTDEKDNVESVFTVGGFSFAGQGQNMGLAFVVLKNWSERKGDENHVDAIVQRANIAMSKKQEALIYAFNLPAIVELGTADGFDFELVDKGNLGHDKLMQARNQLLGLAAQHPEMLQGVRPNGQDDTSQYRIYIDQQKAQAQGVAISDINATLSSVFGGSYVNDFIDRGRVKKVYVQGDAESRMLPSDISNLYVRNNQGKMVPFSAFLDESKDPWKFGSPRLERYNGVPAMNIQGQAAPGQSTGDAMLLMEKLTTENLPEGIGYEWTGMSYQERLAGNQAPALYAISLIVVFLCLAALYESWSVPFSVMLVVPLGIIGALLFTSVRGLDNDVYFKVGLLTTIGLSAKNAILIVEFAKDLMEKEGKGLVEATLNAVKMRLRPILMTSLAFMLGVIPLVFSNGAGSASQNSVGTGVLGGMFAATSLAIFFVPVFFVVIRRRFSKKSEDIEHSHPPAAH

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000207\_AcrA

VLPLALLVLSGGLALSGCNDEQQGGGERPAPEVGIVTLKAEPLTLKTELPGRTSAFRVAEVRPQVSGIILKRNYKEGSDVEAGTSLYQIDPAPFQATYDSAKAELAKAQANANIAALTVKRYKPLLGTNYISQQEYDQATSTYAQALAAVKAAEAAVETARINLNYTKVTAPISGRTGKSNVTEGALVSTGQATELMRVQQLDPIYVDVTQSSDDFLRLKNEIAQGAVQKESGQAPVSLINNNGQEYAQKGVLEFSDVTVDETTGSITMRAVFPNPNKELLPGMFVRAILEDGVVENAILVPQQGLSRTAQGTSQVMVVGAENKIEVRTVKAGQAVGNKWLIKDGLKAGDRVVVIGLQKIKPGIVVNPKEANLETQSIDNQAKPEEKSK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003373\_AcrR

MARKTKQQAEETRQEILDAAIKTFSERGVSATSLADIAKAAGVTRGAIYWHFKNKVDLFYQACEFGDNQIIQAEEYYRSKYTNDPLSILRELLVFILTDFIDNPKNRALMEIFFLKCELVGEMAELVDFKRANYVASQCRIVDNLQDCIDAGQLPADLDIECAAIMIRSLMSGLLENWLLQPENFNINQHTITLVETLLETLKCNPAIRLKSTQIK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003049\_RosB MEHSTPLITTIVGGLALAYLLGMIAQRLKISPLVGYLAAGVLAGPFTPGFVADAALAPELAEIGVILLMFGVGLHFSLKDLLAVKAIAIPGAIAQIAVATLLGLGLSMLFGWGIFTGIVFGLCLSTASTVVLLRALEERQLIESQRGQIAIGWLIVEDLAMVLTLVLLPAAAAIMNTDDASFSELALGLAWTIGKVVLFIFIMIVVGRKVIPWILSRTASTGSRELFTLAVLALALGIAYAAVAIFDASFALGAFFAGMVLNESELSHRAAQDTLPLRDAFAVLFFVSVGMLFDPMVLIQQPLGILAVLAIIIIGKSAAALVLVRMFGHSRRTALTISVSLAQIGEFAFILAGMGLTLGVMDKDAQNLVLAGAIVSIMLNPVLFSLLDKYLERTETIEEQLLEETLEEETQVPVDICGHAIIVGYGRVGGMLADKLRRREIPVVVVEDTRARFEELAENGFSAILGNGANKETISLARIECAKTLLLTIPNGYEAGEIVATAKEMNPDVTVIVRAHYDDEVSFIKERGADHIIIGEHEIAKSMATLMCNDVEEFGCSIDDFIDNDNKKVEGKNLDEYLKPSH

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003048\_RosA

MSEQTTTPNNANPSKPVNKTGKTVFSILTAISVSHLLNDMIQSLILAIYPLLQSDFSLSFAQIGMITLTYQITASLLQPVIGYYTDKHPQPYSLPIGMSFTLTGLILLAMAETFPMILFAAALVGTGSSVFHPESSRVARMASGGRHGLAQSFFQVGGNLGASLGPLLAALIIEPYGKGNLGWFSLAALLAIVILLQVSNWYKQQHRAASKKPIITGDIKVLPRKAVIGSLAVLLVLIFSKYFYLASISSYYTFYLIDKFGVSVQNAQIHLFVFLFAVAAGTMIGGPIGDKIGRKYVIWFSILGVAPFTLILPYASLYWTGVLTVIIGMILASAFSAILVYAQELIPGKTGMVSGLFFGLAFGMGGVGAAVLGHIADQTSIEQVYHYCAFLPLLGIFTVLLPNIGHK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3002523\_AAC(2')-Ia

MLFVGFEGDFTRDDFEHALGGMHVLAYDQHRIVGHVAIIQRHMAINDKPISVGYVEAMAVLEKHRRQGIGRELMSMTNTIIGNCYQLGLLSASDEGFHLYQSLGWKVWKGTLFELCQGAYVRSEGEEGGVMGWSRDNSVEFTESLYCDFRGGDQW

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000535\_MacB

MATLIELQGITRRYGEGENEVTVLKNVSLQINAGEMVAIIGASGSGKSTLMNIIGCLDKPSSGEYHIDGQNMALLDNDQLAELRREHFGFIFQRYHLLNHLSAEQNVEIPAVYAGSGKAERRERATQLLQRLGLGERVNYRPSQLSGGQQQRVSIARALMNGGQVILADEPTGALDSHSGEEVMKILKDLCAQGHTVIIVTHDPSVAQQAERIVEIKDGEIIRDSGSKNSKLAKLLSKAPTRKLSLGQVYGRFSEALLMAWRAMVVNKMRTLLTMLGIIIGIASVVSIMVIGDAAQGMVLNDIKSIGTNTISIYPGTDFGSDDAQNRQSLKATDIDALAKQPYVHAISGQLNGSARLRKGNLDASAQLTGIGRDYFNVYASKFSEGMNFTQDMADRRAQVVIIDENTKRRFFPKQANVVGETLLIGNMPATVIGVLEDQKSVFGSSKSLSVWLPDTTMNSKILNRPYYDSITVRVKDGYDAKNVEQQLTRLLTLRHGKKDVFTYNLDTFVKTAEKTTQTMQLFLTLVAVISLVVGGIGVMNIMLVSVTERTREIGIRMAVGARTSDVMQQFLIEAVLVCLMGGLMGIALSYGISLLAQMALPGWTFAFDPVALISAFVCSTAIGVIFGFLPARSAARLNPIDALARE

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000533\_MacA

MKVKPKKKWPIYLVILIVAVGAAVFLFKGEKEEVFQTVDVTRGDLDKQVLATGKLDAVRKVDVGAQVSGQLQTLYVKEGDYVKKGDLLAVIDPKKAQNDVTESEATTRELEANLSLAQAELKLAQLTYKRHLSLAKLQAVAQQELDKARTDVDIKKAQVATYQAQIKRNQATLDTAKTNLKYTQITAPMDGIVTFIKTLQGQTVIAAQEAPTILTLADLDTMLVKAEVSEADVIYLEPGQEASFTVLGAPDKKFSGQLKDILPTPEKINDAIFYYARFEVPNPQHLLKLQMTAQVKIELDSRKDVLILPLSALGDEVSPQVYDVEVLEGQKAEKKQIEIGSRNDVSVEVIKGLNEGDKVIIGHSGSES

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004588\_KpnG

MSSPEEMQQTQAPQRNKKRQRKNALMFLTFIFIAIGVGWGVYWYLVLRHYESTDNAYVAGNQVQIQSQVSGSVMTVNVDNTDFVQSGTVLVELDPRDAELALDKAKTELANSVRQTRQHIINSRQLQANIDVKRSELGRLQNDLKRREVLGSSNLIGKEELQHARESVVSAKAALDMAVEQYNANQAIVLNSPIEKQPAVEQAATQVRNAWLALQRTKIVSPVDGYVSRRSVQIGSQITPSTPLMAIVPSSGMWIDANFKETQLADMRIGQPAKVTADFYGKDVVFNGTVVGLDMGTGSAFSLLPAQNASGNWIKVVQRLPVRIALDPAQLEERPLRIGLSTEVTIDTLNKDGKVLSKGMRDAPAYHTSALAVDMSPADKIVTEIINNNAGNK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3004597\_KpnH

MTAPLTGSKLAWMTIALSLATFMQVLDSTIANVAIPTIAGNLGASNSQGTWVITSFGVANAISIPVTGWLARRIGEVRLFLWSTGLFALTSWLCGISGSLEMLILFRVLQGLVAGPLIPLSQSLLLNNYPPAKRSMALALWSMTIVVAPICGPILGGYISDNYHWGWIFFINVPFSVAIIFAIMRTLKGRETKISIQRIDTIGLVLLVVGIGALQIMLDQGKELDWFNSTEIIVLTVIAVVAIAFLIVWELTDDHPVIDLSLFKERNFTIGCLSLSLAYMLYFGTIVLLPQLLQEVYGYTATWAGLASAPVGLLPLLITPIIGKFGNRIDMRYLVTFSFIIYAVCYYWRAYTFEPGMGFAAAAWPQFVQGLAIACFFMPLTTITLSGLPPEKMASASSLSNFTRTLAGAIGTSITTTMWTQRESMHHENLAEFVNPYNPNAQHMYSELAQIGMNEQQSAAYLAKTITDQGLILSANEIFWLSAGIFILLMVIVWFAKPPFGAGSKDGGGAH

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000027\_EmrA

MSQSTHSETNNQKTKNEKRRTIWMTIATIIIILLFVAYGVYWFLVLRFQEYTDDAYVSGLQIPIIAQTTGNVTQVNFENTDLVKAGDVLVVLDKTNAQLAFEQAKHDLATTVRKTKELYINGDEYQAQIQKNRISLAQAQKDYQRRAALGRSGTISKEDLQHSQEAVQLAQAALDISIQQYNANRALLRNTALRKQPAIQQAADSVRSAWINLQRTEIKSPMTGYVSRRNVQVGSQVSPQSSLMAIVPVQPVWVDANFKETQLEKVRIGQPVTLNSDFYGDDIVYNGTVVGLDMGTGSAFSLLPAQNATGNWIKVVQRLPVRVELDPEQVAKHPLRIGLSMNVTIDIKDQNGPVLAEVQRTTPAFESDVLVLKLADVDHIIDGIISDNAD

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000074\_EmrB

VIVADIQPLKGAKLVWATIALSLATFMQVLDSTIANVAIPTIAGNLGVSVSQGTWVITSFGVSNAISIAISGYLAKRFGEIRVFLWATALFTLFSLLCGFSDSLGMLILYRVLQGAVAGPVIPLSQSLIMRCYPPKMQNMALAFWSMTIILAPVFGPIFGGYISDNFHWGWIFFMNVPLGIFVIIVGSIILKGMESTVVKVPFNVIGLALLSVGVGCLQVLLDKGKELGWLASNEIVILAVVSAIALVFLVIWELTDKNPIVELSLFKSRNFTIGTISVSLAYMAYFGAIVLLPQLLQEVYGYTATWAGLALAPIGLLPVLFSAPVAKLSDFLDIRWIVTFSFVFYAICFFWRAYTFEPSMGFSAVVWPQLVQGMAVACFFMPLTTLTLSGLPPEKLASASSLANFFRTLAGSIGTSITTTMWSDRESVHHSQLTEFITDYNPESLAMYQGMAAHGLSTEQTSGFIAQQITSQGLIIAANEIFWLCGWVFIALIITVWFAKPPFGNNAK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3002494\_SRT-2

MRNLFRQGRIFIALSLAFTAISANALNQQDVDSIIKPLMKQQGIPGMSVAISMEGKRYIYHYGVQSKQTQEPVNNNTLFEIGSLSKTFTATLAAYAQVQGKLDFSQTVSHYLPELKGSAFDHISVMNLATHTSGLSLFVPETITNSMELTRYYQNWIPEKAIGQFRSYSNLGVGLLGIVAAKQLKMPFEQAMEKLMLPSLGLKHTYIHVPKNQQKNYAQGYNKKDQPVRVTPQILDAEAYGLKSNAKDLIRFLEINMQTVKVAKSWQEAVEDTHTGLYLTDSFVQDMMWESYPWPVSLSQLQQGNRDEMALQPQKVEAIKPAMPPETRAFYNKTGSTNGFATYAVFIPEEQVAVVILANKWYPIPDRINAAYQLIEKIDNQN

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003665\_NmcR

MSGNYRHRLPLNALRAFEASARHLSFTRAGLELNVTQAAVSQQVRLLEEQLGLELFIRLSRGLALTDEGLALLPVLSRSFDQIESLLLQFEDGHYHEVLSISVVGTFAVGWLLPRLSKFSDLYPYIDLRIMTHNNVVNLAAEGVDFAIRFGEGLWPLVENMPLFTTSHTVLCSEKVATGLKSPVDLKEQKLLRSYRKDEWEKWFLAAQIDPWRVKGPVFDSSRLMVEAAILTEGVALVPSCMFEHEISAGTLVQPFDIGVTLGGYWLSRLKSKPMTSAMMIFQQWILEEAQFS

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000518\_CRP

VAVLIKDEEGKEMILSYLNQGDFIGELGLFEEGQERTAWVRAKIACEVAEISYKKFRQLIQVNPDILMRLSAQMASRLQTTSEKVGNLAFLDVTGRIAQTLLNLAKQPDAMTHPDGMQIKITRQEIGQIVGCSRETVGRILKMLEDQNLISAHGKTIVVYGTR

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003577\_Ugd\_(PmrE)

MLLSQHHEVVAVDIIPEKVAMLNNHQSPIVDTEIEQFLTEKTLNFRATEDKVDAYTGAQYVIVATPTDYDPKTNYFNTKSVESVIHDVNEINPTATIIVKSTIPVGFTARLREEFGYTNVIFSPEFLREGRALWDNLHPSRIVVGERSERAQIFADLLLEGAIKKDVPVLFTDGTEAEAIKLFANTYLAMRVAYFNELDTYAESRGLNARQIIEGVSLDPRIGSHYNNPSFGYGGYCLPKDTKQLLANYDDVPNNLINAIVESNRTRKDFISDAIIAKAPRKVGVYRLVMKAGSDNFRASAVQGIMKRIKAKGIEVVVYEPVMKETEFFRSKVVNDLAEFKAQCDIILANRMVPEIEDVADKVYTRDLFGND

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000220\_GyrB\*

MYIGDTDDGTGLHHMVFEVVDNAIDEALAGFCDDIVITIHADNSISVQDDGRGIPTGIHEEEGVSAAEVIMTVLHAGGKFDDNSYKVSGGLHGVGVSVVNALSEKLELVIKRDGKVHEQIYKHGEPQGPLSVVGETDQTGTRVRFWPSMDTFKGVTEFEYDVLAKRLRELSFLNSGVSIKLIDKRDGKEDHFHYEGGIKAFVEYLSRNKTPIHPSVFYFSTEKDGIGVEVSMQWNDGFQENVYCFTNNIPQRDGGTHLAGFRAAMTRTLNNYMEKEGYQKKSKVNATGDDAREGLIAVISVKVPDPKFSSQTKEKLVSSEVKTAVETMMNEKLVEYLLENPNDAKIVVGKIIDAARAREAARKAREMTRRKGALDLAGLPGKLADCQERDPALSELYLVEGDSAGGSAKQGRNRKNQAILPLKGKILNVEKARFDKMLSSQEVATLITALGCGIGRDEYNPDKLRYHSIIIMTDADVDGSHIRTLLLTFFYRQMPEIVERGHIFIAQPPLYKVKRGKQEQYIKDDDAMDDYLISIALDGAELHLSADAPAMKGEELEKLVVEYNAAHRIIRRLERLYPQALLNSLVYQSTLTEDDLKTKEKVEEWAKTLVQRLTDNEQFGSTYSYTIHENRERQLFEPTIRIRTHGVDTDYNLDFDFVHGSEYRRITHLGDIIGGLIEEGAYIQRGERRQDINNFEEALAWLTRESRRGLYVQRYKGLGEMNPEQLWETTMNPETRRMMRVTVKDAIATDLLFTTLMGDAVEPRRAFIEENALKAANIDI

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000808\_MexI

MKFTDIFVRRPVLALVVSALIVLIGLFALSKLPIRQYPQLESATVTITTQYPGASAKLMQGFVTQPIAQAVSSVEGVDYLSSSSVQGSSLVTVRMELNRDSTQALAQVMAKVNQVRYKLPKEAYDPVIELSSGESTAVAYIGFSSTELSIPALTDYISRVVEPMYSSIEGVAKVQVFGGQQLAMRLWLDADKLAGRGLSAADVAQAVRQNNYQAAPGKVKGEYVISNVYVNTDLTNVDEFRDLVIRNDGNGLVRLKDVGTIELGAASTETSGLMNGEPAIYLGLFATPTGNPLVIVDGMNKLMPDIDKTLPPGVKVEMAFETSRFIKASIDQVINTLVEALLIVIAVIYLCLGSIRSVIIPILAIPLSMLGAAALMMAFGFSINLLTLLAMVLAIGLVVDDAIVVVENVHRHIEEGKSPVLAALIGAREVAGPVIAMTITLAAVYAPIGLMSGLTGALFKEFALTLAGAVIVSGIVALTLSPVMSSFMLNSKQNEGRMARMAETFFSTLAHYYTILLNFSLKNRWITGVIAVAVFISLPILYQSAPRELAPVEDQSSVLTAIKSPQHANLEYVERFSRKLHDVFMELPETESTWIINGTDGPSASFGGTNLSSWEQRDRPASAIQADLQGRVGDVEGNSIFVFQLPALPGSTGGLPIQMVLRSPQDYSVLYKTMEEIKQQARESGLFMVVDSDLDYNNPVVEVRINRSKANSLGIRMQDIGESLTLLVGENYINRFGMDGRSYDVIPQSMRNQRLTPEALSRHYVKAETGSMIPLSTVVDIHTQVEPNKLTQFNQQNAAIFQAIPAPGVTLGQAVAYLDEIANELPAGFSHDWQSDSRQYKQEGNTLAFAFMAALIIIYLVLAAQYESLVDPLIILITVPLSICGALIPLALGYATLNIYTQIGLVTLIGLISKHGILMVEFANELQANEGLDRRHAILKAAQIRLRPILMTTAAMVIGLVPLLFATGAGANSRFGLGLVIVTGMLVGTLFTLFVLPTIYSVLARNHSATALTPRRYELAEANRLIKETQETSQ

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000807\_MexH

MSKKTIITLCTILIAAGGGSAIYSTYAQNEDGEKAAYQYPPTKVALAAVTLDTAPRTFYGVGELEAGSQVQVAAETNGRITKITFESGQQVKKGQVLVQLNDAVEQADLSRYQAQLRNAARLYQRTSSLSAQHLVAEAQVDSTRAERDIAQGLIRQTQALIAQKTIRVPFDGTIGIRQVHEGQYLTPGETIASLVDTKTLKLNFSLDEQASPELHQGQVVDVTVDAYPNKTFPARITAIDPLIGKSRTIALQATLENSDGTLKAGMYANVNVVRQANNQVLTIPETAVTYTAYGDTVFITEGEGDAMTVKRVSVKTGQRWDGKIEIEHGLSANDKVVTSGQLRLNNGSAVTPVAQDTLSEPTAHTQQGS

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3000806\_MexG

MPLVITKMLESNSLWFIARLLVLVLFISSGLAKVLNYESSLAEMRAAGLHPDWFFNIASAAVMLIGSVFVLLNRLLWLATGALATFLFLTIVIVHTFWSYTGEQAQIAMFWAIEHIAVIGGLIAIAIAGHFRGLYFSLKMQK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003801\_Bcr1

MVKSFDKHIPHWLIPLLGSLVAFGPLSIDMYLPALPQMGTALQATQGQMQYTLGAFFAGFCVGMLFYGPLSDLLGRRKMLLSGLAIFTVASLLCAQATNANTLIIFRALQAFGSGAAIVMARAIARDVYPANELPKVLSLMTLVTMIAPLLAPLLGGFLLIHFQWQAIFYLLALVGLVSVSTIFLLLPETLVHQRTSENLLCVAFKNYMQVLTDREALSIIGTMAFSFAGMFAFISGSPFVYINYFGVSEQHYGLLFGCNILGMIVMLLLNVKLLKIYSLTRILTMQSGFQLAFGLLLLLFYQQNLLIIVILVVLFLSMVNAIGTNSLSLLLQHRGKIAGSASALAISIQFALAALASVAVSVLQDESPFAMALVMAICAGLSFASQRLSAKNIRPQIQSVSSEKNEK

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3005069\_CsrA\_(RsmA)

MLILTRRVGETLMIGDEVTVTVLGVKGNQVRIGVNAPKEVSVHREEIYQRIQAEKTQPDNQ

>*Providencia\_vermicola*\_DSM\_17385\_ARO:3003369\_EF-Tu\*

MITGAAQMDGAILVVAATDGPMPQTREHILLGRQVGVPYIIVFLNKCDMVDDEELLELVEMEVRELLSQYDFPGDDTPVVRGSALKALEGNPEWEAKIVELAGYLDSYIPEPERAIDRPFLLPIEDVFSISGRGTVVTGRVERGIIKVGEEVEIVGIKDTVKTTCTGVEMFRKLLDEGRAGENVGVLLRGTKREEIERGQVLAKPGSIKPHTKFESEVYILSKDEGGRHTPFFKGYRPQFYFRTTDVTGTIELPEGVEMVMPGDNINMIVTLIHPIAMDDGLRFAIREGGRTVGAGVVAKIIA

>*Providencia\_vermicola*\_DSM\_17385\_ARO:300328\_RpoB\*

MVYSYTEKKRIRKDFGKRPQVLDIPYLLSIQLDSFQKFIEQDPDGQNGLEAAFRSVFPIQSYSGNAELQYVSYRLGEPVFDVKECQIRGVTYSAPLRVKLRLIVYEREAPEGTVKDIKEQEVYMGEIPLMTENGTFVINGTERVIVSQLHRSPGVFFDSDKGKTHSSGKVLYNARIIPYRGSWLDFEFDPKDNLFVRIDRRRKLPATIILRAMDYNTEEILNLFFEKTVFQIRDNKLMMTLVPERLRGETASFDIEANGKVYVEKGRRITARHIRQLEKEEVSNIEVPVEYIAGKVVAKDYIDESTGELICAANMELSLDMLARLSQSGHKTIETLFTNDLDHGAYISETVRVDPTNDRLSALVEIYRMMRPGEPPTREAAENLFENLFFSEDRYDLSAVGRMKFNRSLNRDEIEGSGILSEEDIIEVMRKLIDIRNGKGEVDDIDHLGNRRIRSVGEMAENQFRVGLVRVERAVKERLSLGDLDALMPQDMINAKPISAAVKEFFGSSQLSQFMDQNNPLSEITHKRRISALGPGGLTRERAGFEVRDVHPTHYGRVCPIETPEGPNIGLINSLSVYAQTNEYGFLETPYRLVRDGLVTDEIHYLSAIEEGNFIIAQANTVLGEDGSFIEELVTCRNKGESSLFSREQVEYMDVSTQQVVSVGASLIPFLEHDDANRALMGANMQRQAVPTLRADKPLVGTGMERAVAVDSGVTAVARRGGSVQYVDASRIVIKVNEDEMYPGEAGIDIYNLTKYTRSNQNTCISQMPCVSLGEPVERGDVLADGPSTDLGELALGQNMRVAFMPWNGYNFEDSILVSERVVQEDRFTTIHIQELSCVSRDTKLGPEEITADIPNVGEAALSKLDESGIVYIGAEVKGGDILVGKVTPKGETQLTPEEKLLRAIFGEKASDVKDSSLRVPNGVSGTVIDVQVFTRDGVEKDKRALEIEETQLRDAKKDLTEELRIFEAGLFARIRSVLVNGGIEAEKLDKLPRDRWLELSLADEEKQNQLEQLAEQYDELKSEFEKKLDAKRRKITQGDDLAPGVLKIVKVYLAVKRQIQPGDKMAGRHGNKGVISKINPVEDMPYDENGNPVDIVLNPLGVPSRMNIGQILETHLGMAAKGIGEKINAMLKQHEEVAKLREFIQKAYDLGDDPRQKVDLNTFSDEEVMRLAENLKKGMPIATPVFDGAKEKEIKELLKLGGLPTSGQITLFDGRTGERFERQVTVGYMYMLKLNHLVDDKMHARSTGSYSLVTQQPLGGKAQFGGQRFGEMEVWALEAYGAAYTLQEMLTVKSDDVNGRTKMYKNIVDGSHQMEPGMPESFNVLLKEIRSLGINIELEDE