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L. brevis PDH (WP_011668081)   MANGSKQIVDFAKIKATMADPYKHPVQV IDREGKVVDPTLAKYSDDQLVDFMKKMVWER
L. plantarum PDH (YP_004889896) -MDNEKP IVDFGAIRDVLGKDF-EPVQVLDGQAKVIKPEIVSKYSNEQLVEFFKMLWLER
L. spicheri PDH (WP_045807982) MANGSKQFVDFAKIKATMADPYKHPVQV IDREGKVVNPDILA EYSDDQLVDFMKKMVWER
L. buchneri PDH (WP_014939653)  MAAKSKHVDFAKIKSTMSDPYKHPVQV IDESGKIVNQLDFQFSDDELVTLMKMWVER
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L. brevis PDH (WP_011668081)   TLHEQTMNFSRQGRLGFYAPTAGEEASEMGSVTAFKEQDYLLPAYRDL PQMIQHGTTVAK
L. plantarum PDH (YP_004889896) TLHQRSNALTRQGRLGFYAPTEGQ EASEMGSNAAAMKKT DVLMPAYRDI PQLIQHGLPVYK
L. spicheri PDH (WP_045807982) TLHEQTMNFSRQGRLGFYAPTAGEEASEMGSVTAFKEQDFLLPAYRDL PQMIQH GASVAK
L. buchneri PDH (WP_014939653)  ALHEQTMNFSRQGRLGFYAPTYGEEASEMGIAHAMKKQDYLPAYRDL PQLIQH GATVKE
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L. brevis PDH (WP_011668081)   GFLWSKGHVEGNQH--ENPNMFPPQII IGAQYVETAGVALGIKKNGDED R VAFAYTGDGG
L. plantarum PDH (YP_004889896) AFLWSRGHVLGNEY P-EDFHAMP P QII IGAQYVQAAGVALGIKKNGTEDKVAYTYTGDGG
L. spicheri PDH (WP_045807982) GFLWSKGHI EGNQY--DNPNMI FPQII IGAQYVETAGVALGIQKNGDKDRVAFVYTGDGG
L. buchneri PDH (WP_014939653)  GYLWSKGHYQAYDYVRRG VRAFI PQII IGAQYVQSAGAA LGIKKNGEKDTVAYTFTGDGG
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L. brevis PDH (WP_011668081)   TSQGDWYEGVNFTSAYQAPAVFFVQNNGWAI SVPRKQTAAETLAQKAVAMGVPSVQVDG
L. plantarum PDH (YP_004889896) TSQGDFYEGMNFAGAFEAPAVFIVQNNGVAI SVPRRQTAAETLAQKAVAA GIPSVQVDG
L. spicheri PDH (WP_045807982) TSQGDWYEGINFTSAYQAPAVFFVQNNGWAI SVPRRQTAAETLAQKAVAMGVPSVQVDG
L. buchneri PDH (WP_014939653)  TSQGDFYEGINFASSFAQAPEVFFVQNNGWAI SVPRKTQTAETLAQKGVASGVPGVQVDG
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L. brevis PDH (WP_011668081)   MDIVAVHEVSKAAAREFAAAGNGPVV IETLT YRYGAHSSAGDDPSRYRTEKEEK PWF DADP
L. plantarum PDH (YP_004889896) MDFLAVYEVTKAAREYAAAGNGPVM IETLT YRFGPHTNAGDDPKRYR TKDEEQPWF DNDP
L. spicheri PDH (WP_045807982) MDIVAVHEVAKEAREFAAAGNGPVV IETLT YRYGAHSSAGDDPSRYRTEKEEK PWF DADP
L. buchneri PDH (WP_014939653)  MDILATYLVAKEARDFV VAGNGPALVETLT YRFGAHSAGDDPSRYRTEKEE KPWFDRDP
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L. brevis PDH (WP_011668081)   LVRLRKVLTDKGVWSQDQDKLVDGYKDEFKQAMKEAEAAPAKVSDFLKWTYNVPTPAV
L. plantarum PDH (YP_004889896) LIRYRKVLTDQGVWSE DQEN EYVEQVKEDIKAAV KQADEAPKQKMTEFLGNVFEEQPQNI
L. spicheri PDH (WP_045807982) LIRMRKVLTDKKLWSQDQDKLVEEYKDEFKNAMKEAEAAPAKVSDFLKWTYNVPTPAV
L. buchneri PDH (WP_014939653)  LIRLRKVLTDKKLW DQDKEDKLVAQYKDEFKEAMKDAEAAPKQVSDFLKNTFVPTPAV
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L. brevis PDH (WP_011668081)   KKQIAEFEAKESK
L. plantarum PDH (YP_004889896) QQQIT E FQAKESK
L. spicheri PDH (WP_045807982) KKQIAEFEAKESK
L. buchneri PDH (WP_014939653)  AADIKKYEAKESK
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FIG S1 Sequence alignment of the PDH (WP\_011668081) from *L. brevis* ATCC367, PDH (YP\_004889896) from *L. plantarum* WCFS1, PDH (WP\_045807982) from *L. buchneri* CD034 and PDH (WP\_014939653) from *L. spicheri* DSM 15429. The PDH of *L. brevis* ATCC367 shared 93.26%, 72.12% and 63.98% identities to the PDHs of *L. spicheri* DSM 15429, *L. buchneri* CD034 and *L. plantarum* WCFS1

*L. brevis* POX (WP\_011667107) -----MTKMIAGQALVKVLEAWDIDHIYGI PPGSINHTVEGLYLEKEHINYIQRHEE  
*L. plantarum* POX1 (YP\_004888816) -----MAKISGSDAVLKVIVKQWGVKHIYGL PPGSFDSTMNAIYNQRKTLKYIQRHEE  
*L. plantarum* POX2 (YP\_004888818) -----MMTKMIAGQALVKVLEAWGDHIYGI PPGSINHTVEGLYLEKADIDYIQRHEE  
*L. plantarum* POX3 (YP\_004890281) -----MAKMIEASVAMLKVIEAWDVKQIYGYAGGSFNSTMHALDVEQERLQYVQRHEE  
*L. plantarum* POX4 (YP\_004891062) -----MEMTKIKAGQALAVLVDWNIDHIYGI TADSINNTVDGFYQEKDHLKYIQRHEE  
*L. plantarum* POX5 (YP\_004891064) MVMKQTKQTNILAGAAVVKVLEAWGDHLYGI PPGSINSIMDALSAERDRIHYIQRHEE  
*L. spicheri* POX (WP\_056963531) -----  
*L. buchneri* POX1 (WP\_014939235) -----MTKMIAGQALVKVLEDWGDHVGIP PPGSINHTVEGLYLEKDKMKYIQRHEE  
*L. buchneri* POX2 (WP\_014939725) -----MAETINSGIAALHTLESWGDHIYGI PPGTINNLMYALDAEKDKITYVHVRHEE  
*L. buchneri* POX3 (WP\_014940497) -----MVETISGSDAVLKVLEQWGVKNIYGL PPGSFDSTMNAIHNQKQINYYVQRHEE  
*L. buchneri* POX4 (WP\_014940827) -----MAKMTAGQALAKVLSWVIDHLYGI TADSINNTVDGLYQERDKIKYIQRHEE

*L. brevis* POX (WP\_011667107) VGALAAAADAKFTGKIGVAFGSAGPGATHL FNGLYDAKMDHVPMLAIVGQVPQSTMNTNY  
*L. plantarum* POX1 (YP\_004888816) AGAIAASADYKLTGKIGVCFGSAGPGAVHLL NGLYDAKEDGIPMLAIVAQVPTKRMNMDF  
*L. plantarum* POX2 (YP\_004888818) VGALAAADAKFTGKIGVSFGSAGPGATHL FNGLYDAKMDHVPVLLVGVQVPQATMNTNY  
*L. plantarum* POX3 (YP\_004890281) VGALAAAADAKLTGKIGVAFGSAGPGAVNLL NGLYDAKEDHVPVLLVGVQVHTNMNYDY  
*L. plantarum* POX4 (YP\_004891062) VGALAAAADAKLTGTIGVSFGSAGPGAVHLL NGLYDAKMDHVPVLLVGSATSIMNTNF  
*L. plantarum* POX5 (YP\_004891064) VGAMAAAADAKLTGKIGVCFGSAGPGGTHL MNGLYDAREDHVPVLLVIGQFGTGMNMDT  
*L. spicheri* POX (WP\_056963531) -----ADAKYTGKIGVSFGSAGPGATHL FNGLYDAKMDHVPVLAIVGQVPQSAMNTNY  
*L. buchneri* POX1 (WP\_014939235) VGATAASADAKFTGKIGVAFGSAGPGATHL FNGLYDAKMDHVPVLLVGVQVPQPTMNTNY  
*L. buchneri* POX2 (WP\_014939725) VGALAAVADSKLTGHIGVAFGSAGPGATHL YQAYDAMADKVPVLLVIGQNPQALMNQDF  
*L. buchneri* POX3 (WP\_014940497) AGAIAAAATAKLTGKVGVSFGSAGPGAVHLL NGLYDAKSDGVPVVALVAQVPTGSMNMDF  
*L. buchneri* POX4 (WP\_014940827) VGSLAATAADAKLTGKVGVSFGSAGPGATHL FNGLYDAKMDHAPVVAIVGQSATPIMNTYF

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*L. brevis* POX (WP\_011667107) FQEMDETPMFSADVAVNRTATTAEQLPYVINQA IREAYRQKGPVAVIIPEDLSATEIDYE  
*L. plantarum* POX1 (YP\_004888816) FQAMNEEPIFDDVAVWNRTAMTAESLPMMTDEA IRQAYAHNGVAVLTIKDFGWAEIED-  
*L. plantarum* POX2 (YP\_004888818) FQEMDETPMFSADVAVDRVTTAGQLPYVINQA IREAYRQKGPVAVIIPENLSAEEIDYQ  
*L. plantarum* POX3 (YP\_004890281) FQEFAEPIFSDVAVFNRTVMTPELSPYVVDKAI RTAYRENGVAVVTIPNDFGYVEIPDL  
*L. plantarum* POX4 (YP\_004891062) FQEMNQDPIFADVAEFHKQVTTAEQIPYVVD EAIRSAYATRSVSVVIIPDDLSGQDIKFD  
*L. plantarum* POX5 (YP\_004891064) FQEMNENPIYADVADYNVAVNAATLPHVIDEAI RRAYAHQGVAVVQIPVDLPWQQIPAE  
*L. spicheri* POX (WP\_056963531) FQEMDETPMFSADVAVNRTATTAEQLPYVINQA IREAYRQKGPVAVIIPEDLSTTEIDYE  
*L. buchneri* POX1 (WP\_014939235) FQEMDETPMFSADVAVNRTATTAEQIPYVINQA IREAYRQKGPVAVIIPEDLSTTEIDYE  
*L. buchneri* POX2 (WP\_014939725) FQEFDENPWFKDGAVYARTVMTAQSLPHILDEA IRRFAHQHPAVITIPNDLANKEIPAD  
*L. buchneri* POX3 (WP\_014940497) FQAMDEEPIFDDVAVWNRTAMTADALPRMTDEA IRQAYMKHGVAVLTIKDLGWAQIND-  
*L. buchneri* POX4 (WP\_014940827) FQEMDQDPLFVDLTDHFHKQVTNPEQIPYVMD EAIRYAYQTKGPVAVIIPDNLSGEEIDFE

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*L. brevis* POX (WP\_011667107) PVKTPNVVA-NTFTQVVDPAVKATLELLKAAKHPLIYAGRLLGARAELVKFSEQFNIP  
*L. plantarum* POX1 (YP\_004888816) NFETNASVH-TVNYPAPTAESVADAVKL IKAASPMIYFGVGAKDAEELKAASEKFKMP  
*L. plantarum* POX2 (YP\_004888818) PVSTPNTVS-DTFEQRVDPQAITATLKM LKAAKHPLVYAGRLLGAKADLVKFSEQFNIP  
*L. plantarum* POX3 (YP\_004890281) NYDSASVPAKLTGIPITIDDEQVKT VLTMIKNAKYPVFHVGGTRGATEDMMALAERLQVP  
*L. plantarum* POX4 (YP\_004891062) GFKTASLSG-SQQVLMPLKDDVQQTIAALKAAQHPVLWIGKAYNARQEVI AVSEKFSLP  
*L. plantarum* POX5 (YP\_004891064) DWYASANSYQTPLLPEPDVQAVTRLTQTLLA AERPLIYIGARKAGKELEQLSKTLKIP  
*L. spicheri* POX (WP\_056963531) PVKTPNLVS-NSYQVVIDPAAIQATLALLKAAKHPLIYAGRLLGARAELVKFSEQFNLP  
*L. buchneri* POX1 (WP\_014939235) PTRTRPLTVA-DDFKQSDVPKAVDDTLKMIKEAKHPLIYAGRLLGARDTLTKFSEQFNIP  
*L. buchneri* POX2 (WP\_014939725) GYYSSAANFAKPELGTGSDEQVQALDLIDQAKKPVLYVGGTYGADEVMEFAKFKQIP  
*L. buchneri* POX3 (WP\_014940497) TYQPNVKSHQTPVYPSRPEDVEEAVKLI KEAKSPMIYFGIGAKDADELKEASEKFKMP  
*L. buchneri* POX4 (WP\_014940827) PYKTAKVLK-PATTMNVQKAVDQVYDLLKQAKHPVLWAGLGLKDARDEVVAFSERFSVP

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*L. brevis* POX (WP\_011667107) VINTVPATGVIPNHPNALGTFGRGSGSGFEALQHTDLILFLGSEFPFAQF—WPKDI  
*L. plantarum* POX1 (YP\_004888816) LVSSVLAKGIIEDDYPAYLGGSTGRVAPKPGAEIGFSTDLILWVGNVPPFSIF—LFNKKA  
*L. plantarum* POX2 (YP\_004888818) VMNTVPATGVIPNHPNAIGTFGRGSGSGFEALQHADLILFLGSEFPFAF—WPKGI  
*L. plantarum* POX3 (YP\_004890281) IITGLAKGVIPDSFDGNMGSAYRAASKAADELMTDLVSVGADYSFAQIMY—TTHDF  
*L. plantarum* POX4 (YP\_004891062) VLSTAPATGIMPTDHPNFMGSRGRLGTPAFEVSAADLVFLVGTNPPFARY—LPQGI  
*L. plantarum* POX5 (YP\_004891064) LMSTYPAKGIADRYPAYLGSANRVAQKPANEALAQADVFLVGNVPPFAEVSKAFKNTR  
*L. spicheri* POX (WP\_056963531) VMNTVPATGVIPNHPNAIGTFGRGSGSGFEALQHTDLILFLGSEFPFAF—WPKNV  
*L. buchneri* POX1 (WP\_014939235) VMNSVPATGVISTDHPNFVGTGRLGSKSGFEALQADLILFLASEYPPFANY—WPQDT  
*L. buchneri* POX2 (WP\_014939725) VITLALGKEIIPYDFESLLGSAARVASKPANEALQDTLMLFVGSNPPFAEA—MFKPDV  
*L. buchneri* POX3 (WP\_014940497) LVSSFLAKGILPDDYPAYLGGSTGRVAPKPGSEAGFSTDLILWVGNVPPFSIF—LFNKHA  
*L. buchneri* POX4 (WP\_014940827) VLTTAPATGVMPDHPNFMGSRGRLGTPGFVETQAADLILAGTNYPPFSRF—LPKGI  
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*L. brevis* POX (WP\_011667107) KIIQVNNASFDIGKVVPIIDYAVISDAKSYLQAMIATGETLPETTLTANRQNKQNWQAWL  
*L. plantarum* POX1 (YP\_004888816) KVIQIDIDSEKFGKRHHHTNVAIQADAKKALAAINAAGEARDDSAFYDAAVADKKNWQKQ  
*L. plantarum* POX2 (YP\_004888818) KIIQVNNNSFDIGKMVPIDYAVISDAQAYLQAMIATGETLPETAWLTTNRQNKRNWQKWL  
*L. plantarum* POX3 (YP\_004890281) KYVQIELDPGKFGRRHHLDLDFGVNGDAKVFIKRALALSEPASPYPYQAAKADMADWKQYL  
*L. plantarum* POX4 (YP\_004891062) KFIQVNNLADLKGQHDADITVLADAKEFFQALLQSEVTIKPTKFLKAAQRDKQNWNRWL  
*L. plantarum* POX5 (YP\_004891064) YFLQIDIDPAKLGKRHKTDIAVLADAKTLAAILAQVSERESTPWWQANLANVKNWRAYL  
*L. spicheri* POX (WP\_056963531) KIIQVNDNAFDIGKMPVDYAVLGDAAKAYLQAMIATGETLPETDWRANRENKANWDRAWL  
*L. buchneri* POX1 (WP\_014939235) KMIQVNNPYDIDGRIDVDYAVIADAKSYLQAMIDTGESRPKDAWLEANQENKQNWQKWL  
*L. buchneri* POX2 (WP\_014939725) KFIQIDNNPQVLGKRHKTDVAIADAKKTLQKFLDMGQTKEPSDWYAANVDNVTNWHYEYN  
*L. buchneri* POX3 (WP\_014940497) KVIQIDIQSEKLGERRHNDVSMMLADSKVALDAILEAGETRQPSAFYQACLANKENWNSWL  
*L. buchneri* POX4 (WP\_014940827) KVVQINNVEDLKGQHDIDLTLADAKPFLAKL—NEKEPIAPTFLKAAQKDKQNWDAWL  
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*L. brevis* POX (WP\_011667107) AQLAADDSSQGLAPEAVTKKIAELAGPKDITYGVDGTGNVSEWAVRGLPMDQDQRFALISGLFA  
*L. plantarum* POX1 (YP\_004888816) ASFNDSTESPVRPEPIFDVLNQEASDKAVWAIDVGNVNFERLIRMHDDQKWATSGIYA  
*L. plantarum* POX2 (YP\_004888818) QQLAADDHDLAPEAVMHKVASMVGPRDITYGVDGTGNVSEWAVRGLPMDQEQRFALISGLFA  
*L. plantarum* POX3 (YP\_004890281) KKLSERTDPLEYEQVYQENRVAADDAVFSMDVGDNTINSFRFLKMNPKQLLTSALFA  
*L. plantarum* POX4 (YP\_004891062) KTIATDDQGLTAEVLEAIKDNATDDAVFGLDVGNNTEWAIRQLPLNKQQTFTMSAWYG  
*L. plantarum* POX5 (YP\_004891064) ASLEDKQEGPLQAYQLRAVNKIAEPDAIYSIDVGDINLNANRHLKLTSPNRHITSNLFA  
*L. spicheri* POX (WP\_056963531) GGVAQDDRDGLAPETVMRKVASMVGPDIDYGVDGTGNVSEWAVRGLPMNQDQRFALISGLFA  
*L. buchneri* POX1 (WP\_014939235) EQLADDDSDGLNAESVTKKIAELAGPNDITYAVDTGNVSEWAVRGLPMNKNRQFAISGLFA  
*L. buchneri* POX2 (WP\_014939725) DHMMNRTEGKLRPEFAPKEINRIAEKDAIFSIDVGDVTQNAVRLKTNHGHQPWITSGLFA  
*L. buchneri* POX3 (WP\_014940497) DSFKDSDQMPVRPEPIFDVLRNRTASNKAVFVAVDVGNDINFDRLINMHDDQKWATSGIYA  
*L. buchneri* POX4 (WP\_014940827) NKVADDDHDLAPEAVIRAIKENSDDNAVFGLDVGNLMLWSIRQLPFNHDQKLSMSAWFG  
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*L. brevis* POX (WP\_011667107) TMGYGLPAGMAGALSVP—DAQAWSLSGDDGFAMVAPDIIITEARYGLPVINVFSNQRFGF  
*L. plantarum* POX1 (YP\_004888816) TMGFGVPAALAAKVNYP—DRDVYSLSGDGAFAMLSEEILAQVKYNLHINIIVFSNETLGF  
*L. plantarum* POX2 (YP\_004888818) TMGFGPLPAGMAGALSVP—DSQAWSFSGDDGFAMVAPDIIITEARYGLPVINVFSNQRFGF  
*L. plantarum* POX3 (YP\_004890281) TMGAGVPGAIAAKMSYP—DRQAFNIAGDGAFSMVMQDLLTEVKYHLPINFIVTNSQTLNF  
*L. plantarum* POX4 (YP\_004891062) TMGFGPLPAGLAAQLNYP—KKQVWSISGDDGYAMVMPDLLTEVKYHLPVINVLENKVLGF  
*L. plantarum* POX5 (YP\_004891064) TMGVGIPGAIAAKLNYP—ERQVFNLAGDGGASMTQDLATQVQYHLPVINVFTNCQYGF  
*L. spicheri* POX (WP\_056963531) TMGYGLPAGLAGALDAAQGAQAWSFSGDDGFAMVAPDLITEARYQLPVINVFTNRRFGF  
*L. buchneri* POX1 (WP\_014939235) TMGFGPLPGLLAGALSVP—DAQAWSLSGDDGFAMVAPDILTEVRYKLPVINVFSNDRFGF  
*L. buchneri* POX2 (WP\_014939725) TMGVGLPGSIAAKLSYP—DRQVFNLTGDAAAMVMQDLSTQVGYKLPVINVFSNEALGF  
*L. buchneri* POX3 (WP\_014940497) TMGFALPASIAAKLEY—DRDVYSLSGDDGFAMLEEVMTQVKYGLHIVNIIFTNETLGF  
*L. buchneri* POX4 (WP\_014940827) TMGYALPASIAAGKLSYP—DRQVFSISGDDGFMSVTQDLTQVQYQLPVIINVLENGAFGY  
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<i>L. brevis</i> POX (WP_011667107)	IYREQVDTK-QHLYGVDLTDADWAKVAEGLGGIGFTVTNNQEVAQVFDQIKALQAQGNRK
<i>L. plantarum</i> POX1 (YP_004888816)	IEAEQTDDSHQPLSGVDLPDWDWAKVGEYGVYTVRTKAEPKQALEDAK-----KTDK
<i>L. plantarum</i> POX2 (YP_004888818)	IYREQVDTK-QHLYGVDLTDADWAKVADGLGGIGFTVQNNQEVEVTFVDQIKALQAKGNKR
<i>L. plantarum</i> POX3 (YP_004890281)	IKSEQEDVP-QPYYGIDLIDADFAKIAEGMGVKGIRVEHFDQLHAAFETAMTE--LKAGR
<i>L. plantarum</i> POX4 (YP_004891062)	IQHEKLLAN-QAPYGYDLIGADWAKMADNMGAIGFKVTNLKELKATFQKVTQLQQNGNQL
<i>L. plantarum</i> POX5 (YP_004891064)	IKDEQEDTNQNDFIGVEFNDIDFSKIADGVHMQAFRVNKIEQLPDVFEQAK-A--IAQHE
<i>L. spicheri</i> POX (WP_056963531)	IYNEQVTSQ-QHLYGVDLTEANWAKVAEGLGGIGFTVVRNKVDVENAFNHIQDLQAKGNTK
<i>L. buchneri</i> POX1 (WP_014939235)	IWYEQMQTK-QHFYGVDLNDADWAKVAEGLGAIIGFTVKS IKDLDEVFAKIKDLQASGNQK
<i>L. buchneri</i> POX2 (WP_014939725)	IEDEQEDDS-HEWFGISLPQTFDAKVAEAQGMGLGITVTSVDQMKPAFDKAVEE--TKAGK
<i>L. buchneri</i> POX3 (WP_014940497)	IEAEQTDTHQPLSGVDLPDNTWAQVETKMGAVSYTVHTKEDMQKALKDAE-----NTDK
<i>L. buchneri</i> POX4 (WP_014940827)	IQHEKITAS-QEPYGIHFIFGANWAGFADDMGAIGIQVTDQRSLKGAPEKIKELQVNGNTK
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<i>L. brevis</i> POX (WP_011667107)	PIVVNAVINKNDPIGTAFMPLDPQLYGEETVAAYAKENHIDRQQPALGELLRAQGDTL-
<i>L. plantarum</i> POX1 (YP_004888816)	PVV IDVKLTHAMPFTTEHMYLDDAWQDKDKIAEFVKKYDA--QALKPFSYFLKQAQTN--
<i>L. plantarum</i> POX2 (YP_004888818)	PIVVNAVINKNDPIGTAYMPLDPQLYGEQAEVDAYAKANHIDIKEQPSLGALLRAQGDQL-
<i>L. plantarum</i> POX3 (YP_004890281)	PVLIDAKITDKRGLPVEILDVDPTKTSASVSFAFKEYDA--NELKPLTSYFKEFNVE--
<i>L. plantarum</i> POX4 (YP_004891062)	PIVIDAKIKNVDPIDTSFVPVDPENFDADTI AKYRERYGIAEADQPALSQLLNEL-----
<i>L. plantarum</i> POX5 (YP_004891064)	PVLIDAVITGDRPLPAEKRLDSATSSAADIEAFKQRYEA--QDLQPLSTYLKQFGLDDL
<i>L. spicheri</i> POX (WP_056963531)	PIVVNAVIKDDPIETAFMPLDPQLYGGQDAVDAYAKKNHLDTRQQPSLGELLRAKGDNL-
<i>L. buchneri</i> POX1 (WP_014939235)	PIVIDAKIKQDDPVATAFMPLDAQKYGEETAEGFAKQYHIDRQQPSLEELLRSKEK---
<i>L. buchneri</i> POX2 (WP_014939725)	PVLIDVKITNERIPVEKLTLDPKFDQKTIDDFKKRYA--EDLVPLSAFLKQHGK--
<i>L. buchneri</i> POX3 (WP_014940497)	PVV IDVKLTHEMPLTTQHMFLDTSWQDKDKVAEYVKKYQA--QDLKPLSYFLKEAENHQL
<i>L. buchneri</i> POX4 (WP_014940827)	PILIDAKVKNQDPVDTSFMPIDPDQFQAAIDSYTKQSNL--FDQPALSTLLKEESNS--
	*::: . : . . : :* . : : : : :
<i>L. brevis</i> POX (WP_011667107)	-----
<i>L. plantarum</i> POX1 (YP_004888816)	-----
<i>L. plantarum</i> POX2 (YP_004888818)	-----
<i>L. plantarum</i> POX3 (YP_004890281)	-----
<i>L. plantarum</i> POX4 (YP_004891062)	-----
<i>L. plantarum</i> POX5 (YP_004891064)	QHQIGGGGF
<i>L. spicheri</i> POX (WP_056963531)	-----
<i>L. buchneri</i> POX1 (WP_014939235)	-----
<i>L. buchneri</i> POX2 (WP_014939725)	-----
<i>L. buchneri</i> POX3 (WP_014940497)	QTN-----
<i>L. buchneri</i> POX4 (WP_014940827)	-----

FIG S2 Sequence alignment of the POX (WP\_011667107) from *L. brevis* ATCC367, POX1 (YP\_004888816), POX2 (YP\_004888818), POX3 (YP\_004890281), POX4 (YP\_004891062), POX5 (YP\_004891064) from *L. plantarum* WCFS1, POX (WP\_056963531) from *L. spicheri* DSM 15429, POX1 (WP\_014939235), POX2 (WP\_014939725), POX3 (WP\_014940497), POX4 (WP\_014940827) from *L. buchneri* CD034. Among these sequences, the POX of *L. brevis* ATCC367 was closed

to the POX2 of *L. plantarum* WCFS1, POX1 of *L. buchneri* CD034 and POX from *L. spicheri* DSM 15429, with 86.2%, 75.43% and 73.08% identities.