

How to use this tool

Align two or more protein sequences with the [Clustal Omega](#) program (see also this [FAQ](#)) to view their characteristics alongside each other.

1. Enter either protein sequences in FASTA format or UniProt identifiers into the form field, for example:
TPA_HUMAN
TPA_PIG
2. Click the *Run Align* button.

[? Help](#) [▶ Align help video](#) [▶ Other tutorials and videos](#) [⬇ Downloads](#)

Alignment

 How to print an alignment in color

<u>P04517</u>	POLG-TEV	1	MALIFGTVNANILKE---VFQGARMACVTSAHMAGANG-----SIL----	38
<u>P09814</u>	POLG-TVMV	1	-----	0
<u>P17767</u>	POLG-PPVRA	1	-----	0
<u>P121231</u>	POLG-SBMVN	1	-----	0
<u>M9NYB7</u>	M9NYB7_9POTV	1	--MIWSRQNAANRGLIYDWEDDDVYQCPTCEHTFSTVEQYQEHSCEAAAYENKLTIEQY	58

<u>P04517</u>	POLG_TEV	39	---KKA---EETSRAIMHKPVIFGEDYITEADLPY-----	67
<u>P09814</u>	POLG_TMVM	1	-----MAATMIFGSFTHDLGKAM-----	19
<u>P17767</u>	POLG_PPVRA	1	-----MSTIVFGSFTCHLDAIHQDNADRLAKAWTRENQVSNV	40
<u>P21231</u>	POLG_SBMVN	1	-----MATIMIGSMAISVPN-----T	16
<u>M9NYB7</u>	M9NYB7_9POTV	59	DEMMEWAKNRKHETAAPPVPITSIQFSGNFAEAMAA-----	95
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<u>P04517</u>	POLG_TEV	68	-----TPHLLEV-----DAEMERMYLGRRALTHGK	93
<u>P09814</u>	POLG_TMVM	20	-----STHSAV-----TAEKD--IFSS-IKER----	39
<u>P17767</u>	POLG_PPVRA	41	HLLCRRRAAKSLINTY-----ESATASAWKGLEKL-----QPMFAKREFSKVTVK-----	85
<u>P21231</u>	POLG_SBMVN	17	HVSCASNSVMPVQAVQMAKQVPSARGVLYT-LKREGSTQVHKHEALRKQFEAFQDQDVGI	75
<u>M9NYB7</u>	M9NYB_7_9POTV	96	-----AKTIKAVEFAQ-VTESHEG	113

<u>P04517</u>	POLG_TEV	94	RKRVSVNN-----KRNRRR-KVAKYTVGRDSIVEKIVVPHTERKVDTTAAV---EDIC--	142
<u>P09814</u>	POLG_TMVM	40	-----LKRKHGKICRMKNQSIYI--KAASSTKVEKINAAA-KKLADKAAAF	83
<u>P17767</u>	POLG_PPVRA	86	-----RKGLRCFKESSEKFIEKKLRKQ-----YQEEREFQF	117
<u>P21231</u>	POLG_SBMVN	76	QRLLLVNKHSSIQS-TKKNGLTLR-----RLTLEQAARAKEAI--ARRKQEEEDF	122
<u>M9NYB7</u>	M9NYB7_9POTV	114	RTETGVANSSAVHKENQQDNSQRLSVG-----LKVPEHTKLAGSSFRFNKIEQCWSW	166
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<u>P04517</u>	POLG_TEV	143	-----NEATTQLV-HNS-----	MPKRKKQKNFLPATSL	169
<u>P09814</u>	POLG_TVMV	84	LKAQPTIV--DKIIVNEKIQVVE--	AEEVHKREDVQTVFFKTKTKRAPKLRATSSSGL	138
<u>P17767</u>	POLG_PPVRA	118	LNQGPDAIV--NQISVDKCEASVRVPPPHII	EKPSFATPS-----MKKKVVFTRKVRMSLEA	171
<u>P21231</u>	POLG_SBMVN	123	LNQKYEQQFYAGVSAT--	KSMKFEGGSVGFRTKYWRPTF-----KKTERRATSQCRKP	174
<u>M9NYB7</u>	M9NYB7_9POTV	167	MDEQPSLV--TTITTTIA--GGVR--	PSTLEETRMWPPLIYRKRAKRSPPNKLCLSTQSV	220

<u>P04517</u>	POLG_TEV	170	SNVYAQTWSIVRKRHMQVEIISSKSVRAR---VKRFEGSVQLFASVRHMYGERKRVDLRI	226
<u>P09814</u>	POLG_TVMV	139	DLNLNVAANIATAKSLRVEVIHKRVCGCE---FKQTRFGRALFIDVAHAKGHRRIIDCRM	195
<u>P17767</u>	POLG_PPVRA	172	GLFMRRVAAANAKANGQKVEIIGKRRVGVNYTTKS---RLTYRTHRVHLDKSGPKPYDLVL	228
<u>P21231</u>	POLG_SBMVN	175	TYVLEEVLSTASKSGKLVEFITGKGRVKVCVYR-KHGAILLKPSLPHHEEGKYIHQEL--	231
<u>M9NYB7</u>	M9NYB7_9POTV	221	DHLVKALFKVTKHKEMEFQVIGKSKSHNRVFKFKRFEHRMHTFVHLKHHDKMKHRVDCKL	280
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<u>P04517</u>	POLG_TEV	227	DNWQQTETLLDLAK-RFKNERVDQSKLTFGSSGLVLRQGS-YGPAHWYRHGMFIVRGRSDG	284
<u>P09814</u>	POLG_TMVM	196	HRREQRTMHMFMRKTT-KTEVRSSKHLRKGDSGIVLLTKQIKGHLGSVGRDEFIVRGTKDD	254
<u>P17767</u>	POLG_PPVRA	229	DEATKKLLQLFANSGFHHVHKKEGT-PMGSGFVVNPNMLSDPMQVYDTDLFIVRGCKNS	288
<u>P21231</u>	POLG_SBMVN	232	QYASTYEFLLPYICMFAKYKSINADDITYGDSGLLFDERSSSL-TTNHTKLPYFVVVRGRNRG	290
<u>M9NYB7</u>	M9NYB7_9POTV	281	GAYATHILLQMACATSKTHSIKVDNLPQSSGLVLNHHKILRKGVSQRQDGMFIVRGCDG	340
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<u>P04517</u>	POLG_TEV	285	MLVDARAKVTFVACHSMTHYSDKSISEAFFIPYSKFFLELRPDGISHECTRGVSVVERCGE	344
<u>P09814</u>	POLG_TMVM	255	SLLEARAFSQSTILRATHFSTGDI--FWKGFNASFQEQKAIGLDTHCTSLDLPVEACGH	311
<u>P17767</u>	POLG_PPVRA	289	ILVDSRCKVSKSQSNEIHHYSDE--GKQFVDGFTNSFMQCKLETRDTHCTSLDLPVKECI	346
<u>P21231</u>	POLG_SBMVN	291	KLVNALEVVE--NMEDIQHYSQNP-EAQFFRGWKVKFDMPPHVENHECTDFTDNEQCCE	347
<u>M9NYB7</u>	M9NYB7_9POTV	341	ELLEARSKFHSVVRHMTYSDKDISQEFFLALSKTFQFQKKNIGHTCQRDVTVAECGA	400
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<u>P04517</u>	POLG_TEV	345	VAAILTQALSPCGKITCKRCMVETPDIVEGESG-ESVTNQGKLLAMLKEQYPDFP----	398
<u>P09814</u>	POLG_TMVM	312	VAALMCQSFLPCFGKITCKRCIANLSNYSDDTFSELQGDRAMRLVDVMRNPFSFT-----	366
<u>P17767</u>	POLG_PPVRA	347	VAAIVCQAIIPECCKITCLQCAQKYSYMSDQEIRDRFSTVEIQHEKTVMNDNRPQFS-----	401
<u>P21231</u>	POLG_SBMVN	348	LAAAISQSIFFVKKLSCQQRQHIKHLSWEEYKQFLL-----AHMGCHGPWEWFQEI	400
<u>M9NYB7</u>	M9NYB_7_9POTV	401	VAGVIQIALFPSSGITCEKCFFLLDKQLDEATDSRESKRIANALDHLRRDRFRFT-----	455
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<u>P04517</u>	POLG_TEV	399	MAEKLRLTRFLQQKSLVNTLTACVSVKQLIGDRKQAPFTHVLAVSEILFKGNKLTGADLE	458
<u>P09814</u>	POLG_TMVM	367	HTIRFLDLHDLTQRRVNTNPNTAAAFKDTLRLIGDRNEAPFAHVNRNLNEILLGSKANPDSL	426
<u>P17767</u>	POLG_PPVRA	402	HVLAFLGKRYRELRMVENQNVEAFKDTLRLIGDRNEAPFSLHNLINELIIKGGMMQAPDYI	461
<u>P21231</u>	POLG_SBMVN	401	DGMRYVKRVVIETSTAENASLQTSLEIVRLTQNYKSTHMLQIQIDINKALMKGPSVTQSELE	460
<u>M9NYB7</u>	M9NYB7_9POTV	456	HVIKRLSQFEESRQFPNPNINAFTEIQRILIGGRTQAPFTHVNRVNEILLRGTKLKSASDIF	515

<u>P04517</u>	POLG_TEV	459	EASTHMLEIARFLNNRTENMRIGHLGSFRNKISSKAHVNNALMCDNQLDQNGNFIWGLRG	518
<u>P09814</u>	POLG_TMVM	427	KASDSLLELARYLNRTENIRNGSLKHFNRNKISSKAHSNLALSCDNQLDQNGNFIWGLAG	486
<u>P17767</u>	POLG_PPVRA	462	EASDHLRELARYQKNRTENIRNGSLKAFNRNKISSKAHVNMGLDQNGNFIWVGQRE	521
<u>P21231</u>	POLG_SBMVN	461	QASKQLLAMTQWKNHMTLTDEDAKLVFRNKRSSKALLNPSSLCDNQLDKNGNFIWVGERR	520
<u>M9NYB7</u>	M9NYB7_9POTV	516	AAADNLVEVARFLKNRTENIKVGELQTFRNKISAKAFNLATLLCDNQLDKNGNFIWVGERR	575
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at 00:51 have updated our [Privacy Notice](#) to comply with the European Union's General Data Protection Regulation (GDPR) that applies

We'd like to inform you that we have updated our [Privacy Notice](#) to comply with Europe's new General Data Protection Regulation ("GDPR") that applies since 25 May 2018.

7/31/2019

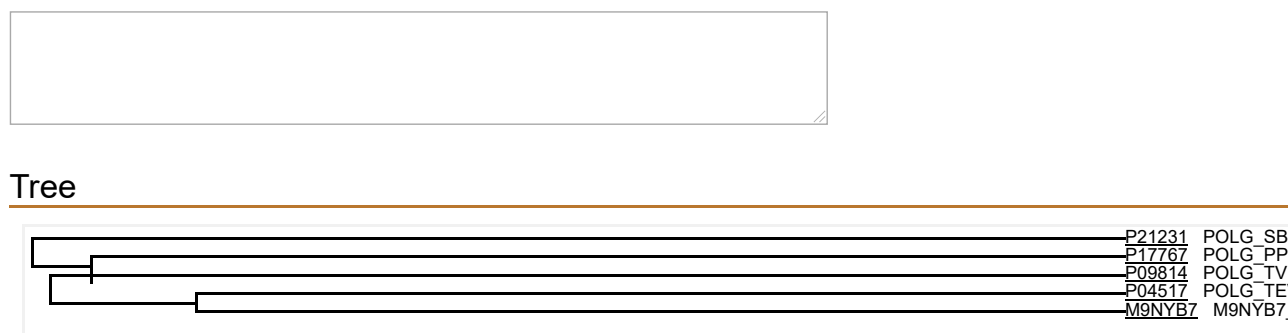
<u>P04517</u>	POLG TEV	579	WEIIECTCSKAGNYEYKPGSCVLEEDGEMSLKHPTKHHVLVIGNSGDSKYIDLPLENNS	696
<u>P17767</u>	POLG PPVRA	582	FEVSRECTSLKAGNYEYKPGSCVLEEDGEMSLKHPTKHHVLVIGNSGDSKYIDLPLENNS	699
<u>P21231</u>	POLG SBMVN	581	EPITMSCISRQDGNFVYPCCCVTHDDGKAFYSELRSPTKRHLVIGTSGDPKYIDLPAFDA	640
<u>M9NYB7</u>	M9NYB7_9POTV	636	EGISKMCISTRNDNYMPCCCVTLDDGKPLSLDLKLPTRKHLVVGNTGDSKFIDLPSDLG	695
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<u>P04517</u>	POLG TEV	639	EKMYIANEGYCYMNIFFALLVNVKEEDAKDFTKFIRDITVPKLGAWPTMQDVATACYLIS	698
<u>P09814</u>	POLG TMVM	607	NLMYIAKEGYCYINIIFLAMLVNVDEANAKDFTKRVRSDESQVQLKGWPSLIIDVATECALLS	666
<u>P17767</u>	POLG PPVRA	642	GAMFIAKAGYCYINIIFLAMLININEDEAKSFTKTVRDTLVPKLGTPWSPMDLATACHFILA	701
<u>P21231</u>	POLG SBMVN	641	DRMYIAKEGFCYINIIFLAMLVNVNEDEAKDFTKMRVDRVIVPRLKGWPTMLDVATAAYMLT	700
<u>M9NYB7</u>	M9NYB7_9POTV	696	EKMYIAKDGFCYINIIFLAMLVNVNEDEAKSFTKFVRDILVEKLGTPWSPMDVATACRMLI	755
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<u>P04517</u>	POLG TEV	699	ILYPDVLAELPRILVDHDKNTMHVLDVSGSRTTGYHMLKMNNTTSQLIEFVHSGLESEM	758
<u>P09814</u>	POLG TMVM	667	TYYPAAASAEPLRLVLDHAKTTHVVDVSGSLNTGYHILKANTVSQLKFASTNTLESFMA	726
<u>P17767</u>	POLG PPVRA	702	ILYPTERNAEPLRLVDHAKTTHVVDVSGSLTGMHVLKANTINQLISFASDTLDSNMK	761
<u>P21231</u>	POLG SBMVN	701	VFHPTERNAEPLRLVDHAKTTHVVDVSGSLTVGYHVLKAGTVNQLIQFASNDLQSEMK	760
<u>M9NYB7</u>	M9NYB7_9POTV	756	VLYPNVYNAEPLRLVDHDKTTHVVDVSGSLTGYHILKAGTAGTALAEFANGDLESEM	815
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<u>P04517</u>	POLG TEV	759	TYNVGGMNRDV-VTQGAIEMLIKSIYKPHLMKQLLEEEPIIVLAIVSPSILIAMYNST	817
<u>P09814</u>	POLG TMVM	727	QYKVGGLVYSENNDASAVKALTQAI FRPDLVSELIEKEPYLMVFAVSPGILMAMNSNGA	786
<u>P17767</u>	POLG PPVRA	762	TYLVGGLEVDKDEKFNKVLIRSIYKQIMEQVLKEEPYLLMLSPGVLMALFNNGS	821
<u>P21231</u>	POLG SBMVN	761	FYRVGGEVQQR---MKCETALITISIFKPKRMQIILENDPIYLLMGLVSPSILIMYRMKH	817
<u>M9NYB7</u>	M9NYB7_9POTV	816	HYAVGGEFSSQ-NENSMQLRLKISIFKPKRLMQAIEEPIYMLILSIVSPRVLALNNSGA	874
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<u>P04517</u>	POLG TEV	818	FEQALQMWLPNTMRLANLAAILSALAQLTLADLFVQQRNLINNEYAQVILNDLIDGVRVN	877
<u>P09814</u>	POLG TMVM	787	LEFGISKWISSDHSILVRMASILKTLASKVSVADTLALQKHIMRQANFLCGELINGFOKK	846
<u>P17767</u>	POLG PPVRA	822	LEKATQYWI TRSHSLAITSMLSSLAAKVSLASTLNAQMSVIDEHAALVCDSPVFGTKPY	881
<u>P21231</u>	POLG SBMVN	818	FEKGVELWISKEHSAKIFILILEQLTKRVAANDVLEQLLEMISSETSERFMSILEDCPQAP	877
<u>M9NYB7</u>	M9NYB7_9POTV	875	YERAIQTWITRDQSLTSMATLATLAKKVSALAESVQLMILISQYSEELLNTILDGVHVN	934
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<u>P04517</u>	POLG TEV	878	HSLSLAMEIVTIKLTQEMDMALREGGYAVTSEKVMHELEKNYVKALKDAWDELTLWEKF	937
<u>P09814</u>	POLG TMVM	847	KSYTHATRFLLMISEENEMDDPVLNAGYRVLEASSHEIMEKTYLALLTSSWSDLSYKGF	906
<u>P17767</u>	POLG PPVRA	882	ASYMMAVKTLERMKARTESDHTLNDLGSFVIRQATPHLVEKSYLQLEQAWKELSWSEKF	941
<u>P21231</u>	POLG SBMVN	878	HSYKTAKDLLTMYIERKASNNQVLVNGFVDMNDKLYMAYEKIYSDRLKQEWRALESWEKF	937
<u>M9NYB7</u>	M9NYB7_9POTV	935	QSYIVAIHYLTVKAQYQMDSESHASGFRITTSATYSLLEKNWESHLEASWRELTLWEKF	994
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<u>P04517</u>	POLG TEV	938	SAIRHSRKLKFGKRP---LIMKN---TVDCGGHIDLKSVKSLFKFHLLELKGITISRAVNG	991
<u>P09814</u>	POLG TMVM	907	KSIWFTTRKH--FGR-YKAEFLPKPE---QTDLQGRYSNSLRFRHYQSTLKRRLNKGSLCRER	960
<u>P17767</u>	POLG PPVRA	942	SAILESQRW---RKHIPKPFIPKD---GADLGGRYDISVRSLLGNQYKRLRDVVRKRDD	995
<u>P21231</u>	POLG SBMVN	938	SITWQLKRF---APHTKCLTKKVVEESSASSGNFASVCFMNAQSHLRNVNTLFQKCD-	993
<u>M9NYB7</u>	M9NYB7_9POTV	995	VFTKS---LLRFSRNSNTDLKPKI---EVESNATYSTSIRGLLTRKQRVVGVMSSIHAG	1048
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<u>P04517</u>	POLG TEV	992	GARKVRVAKNAMTKGVFLKIYSMLPDVYKFITVSSVLSLLTLFLQIDCMIRAHREAKVA	1051
<u>P09814</u>	POLG TMVM	961	FLESISSARRRTTCVAFSLHLKAFPDLVKFINTLVIVLSLSMGIYMLVAIIEHRAAKIK	1020
<u>P17767</u>	POLG PPVRA	996	VVCYTHQSMGKLFCKAIGISTSLPGLTKMFDMLIVFSLLSIGATCSNMINEHKLKQL	1055
<u>P21231</u>	POLG SBMVN	994	--QVWTASVRAFKVLIISTLHRCYSDIVLVNICIIFSLVQMTSVLQGVINTVRDKAL	1051
<u>M9NYB7</u>	M9NYB7_9POTV	1049	FKRRCEIQEIKGRMATTMINGIRHMPDPLHLINIMCVFSILVSIYVSIQTVIQRREDKMK	1108
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<u>P04517</u>	POLG TEV	1052	AQLQKESEWDNIINRTFOY-SKLENPIGYRSTAEERLQSEHPAEFYYKFCIG-KEDLVE	1109
<u>P09814</u>	POLG TMVM	1021	SAQLEERVLEDKTMMLYDD-FKAKLPEGSFEEFLEYTRQRDRKEVVEYLMMET--TEIVEF	1077
<u>P17767</u>	POLG PPVRA	1056	AADREDKRRFRKRLQVHLRLSEKVGCTPTADEFLEYVGGENPDLLKHAEDLIGDQGVVH	1115
<u>P21231</u>	POLG SBMVN	1052	LSGWKRKEDEEAVIHLIYEMCEKMEGGHPSIEKFLDHVKGVRPDLLPVAVSMTGQSESVSA	1111
<u>M9NYB7</u>	M9NYB7_9POTV	1109	LIEYHKKLINERIERRMDLYVTEGEGKTHKDFVEYLKKVDPELHEYIHMERK-AEEVKL	1167
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<u>P04517</u>	POLG TEV	1110	QAKQPEIAYFEKIIAFITVLMAFDAERSDGVFKILNKFKGILSSSTEREIIYTQSLDDYV	1169
<u>P09814</u>	POLG TMVM	1078	QAKNTQGAASLERIIAFVSLTLMFLDNERSDCVYKILTKFKGILGSEVENN-VRFQSLDITV	1136
<u>P17767</u>	POLG PPVRA	1116	QSKRDSQANLERVVAFVFLVMMFLDSERSDGVYKILNKLKGMGSDVQA-VQHQSLLDIE	1174
<u>P21231</u>	POLG SBMVN	1112	QAKTATQLQLEKIVAFMALLTMCIDNERSDAVEFKVLSKLKAFSTMGED-VKVQSLDIBQ	1170
<u>M9NYB7</u>	M9NYB7_9POTV	1168	QSKTDMVRLEKIIAYATLIMAFDTERSDGLYKILNKFKGIISSNKESIHQLSLDDTI	1227
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<u>P04517</u>	POLG TEV	1170	TTFD-DNMTINLELNMDELHKTSLPGVTFKQWNNQISRGNVKPHYRTEGHFMEFTRDTA	1228
<u>P09814</u>	POLG TMVM	1137	PTQEEKNMVIDFELSDSTAHTPQMGEQTFSQDWSNQIANNRVVPHYRTEGYFMQFTRNTA	1196
<u>P17767</u>	POLG PPVRA	1175	DILDEKLTVDVFLQNSVEAPTVPFDSFTEKWWNTQLETGNVPHYRTEGHFLEFTRENA	1234
<u>P21231</u>	POLG SBMVN	1171	SIDEDKLTIDFLETKESSSSVFDVKFEAWNWRQLEQNRVPHYRSTGEFLEFTRSTA	1230
<u>M9NYB7</u>	M9NYB7_9POTV	1228	PGLEDKNLTIDIEDTDEALNTPLNTTFTRTWQNLARNNTKPHYRTEGVNKEFTRSTA	1287
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<u>P04517</u>	POLG TEV	1229	ASVASEISHSPARDFLVRGAVSGSKSTGLPYHLSKRGVRMLLEPTRPLTDNMHKLQRLSEP	1288
<u>P09814</u>	POLG TMVM	1197	SAVSHQIAHNEHKDILMGAVSGSKSTGLPTNLCKFGVGLLEPTRPLAENVTKQMRGSP	1256
<u>P17767</u>	POLG PPVRA	1235	AHIANEVMHGSHQDILIRGAVSGSKSTGLPHLSKKGHVLLIEPTRPLAENVCKQLRGQP	1294
<u>P21231</u>	POLG SBMVN	1231	AKIANLVATSSHTFLIRGAVSGSKSTGLPHLSKKGHVLLIEPTRPLAENVSKQLSFEP	1290
<u>M9NYB7</u>	M9NYB7_9POTV	1288	AQVANEVHMSTDCDFLIRGAVSGSKSTGLPYHLSKKAADVLEPTRPLANNVHKQLQSDP	1347
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<u>P04517</u>	POLG TEV	1289	FNCFTPLRMRGKSTFGSSPITVMTSGFALHFFARNIAEVKTYDFVUIDECHVNDASATAF	1348
<u>P09814</u>	POLG TMVM	1257	FFASPTPLRMRLNSTFGSSPITVMTSGFALHFFANNVKEFDRYQFIIIFDEHVLDSNATAF	1316
<u>P17767</u>	POLG PPVRA	1295	FNVNPTPLRMRGKSTFGSTPITVMTSGYALHFLANNPTYLDNYKCIIFDECHVNDASAMAF	1354
<u>P21231</u>	POLG SBMVN	1291	FYHNVTPLRMRGKSTFGSSPITVMTSGFALHYFAHNIQDLHNVGVVMEFDECHVDSATAF	1350
<u>M9NYB7</u>	M9NYB7_9POTV	1348	FLFKPTPLRMRGKSTFGSTPITIMTGFALHYFAHNIQDLHNVGVVMEFDECHVDSATAF	1407
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<u>P04517</u>	POLG TEV	1349	RNLLFEHEFEGKVLKVSATPPGREVEFTTQFPVKLIEEALSFOEFVSLQGTGANADVIS	1408
<u>P09814</u>	POLG TMVM	1317	RNLCHEYSYNGKIIKVSATPPGRECDLTQYQVPELIEQLSLRDFVDAQGTDAHADVVK	1376
<u>P17767</u>	POLG PPVRA	1355	RCLLSEYSYPGKILKVSATPPGREVEFTTQKEVKVIVEESLSFQFVSNLGTGCSNDILK	1414
<u>P21231</u>	POLG SBMVN	1351	NCAKLEFEFGKILKVSATPPGRECEFTTQHPVKLVKVEDHLSFQNFVQAGTGSNADMIQ	1410
<u>M9NYB7</u>	M9NYB7_9POTV	1408	RNLLHEYSFDGKVLKVSATPPGREVEFTTQFPVKLVKVEDNLSFAEFVRAQGTGSNSDVIQ	1467
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<u>P04517</u>	POLG TEV	1409	CGDNILVYVASYNDVDSLGLKLLVQKGYKSKIDGRMTKSGGTEIITEGTSVKKHFIVATN	1468
<u>P09814</u>	POLG TMVM	1377	KGDNILVYVASYNEVDQLSKMLNERGFLTVKVDGRMTKLGGEVITTKGSSIKKHFIVATN	1436
<u>P17767</u>	POLG PPVRA	1415	HGVNVLYVASYNEVDQLSKMLNDRSFKVSKVDGRMTKIGNVEIPTSGTQAKPHFIVATN	1474
<u>P21231</u>	POLG SBMVN	1411	HGNNLLVYVASYNEVDQLSKMLTEKHVKYKVDGRMTQMGNVEIATTTGEGKPHFIVATN	1470
<u>M9NYB7</u>	M9NYB7_9POTV	1468	HGDNILVYVASYNEVDQLSKMLTDNKHVKYKIDGRMTKDNNTIQTGNSKVKHFIVATN	1527
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<u>P04517</u>	POLG TEV	1468	TIENGVTLDVDDVDFGLKVVNPLSDNRLVSYCKIPISLGERIQRLGRVGRNKGPGVALR	1528
<u>P09814</u>	POLG TMVM	1437	TIENGVTLDVDDVDFGLKVVNPLSDNRLVSYCKIPISLGERIQRLGRVGRNKGPGVALR	1496
<u>P17767</u>	POLG PPVRA	1475	TIENGVTLDVDDVDFGLKVVNPLSDNRLVRYTKKISYGERIQRLGRVGRNKGPGVALR	1534
<u>P21231</u>	POLG SBMVN	1471	TIENGVTLDVDDVDFGLKVVNPLSDNRLVRYTKKISYGERIQRLGRVGRNKGPGVALR	1530
<u>M9NYB7</u>	M9NYB7_9POTV	1528	TIENGVTLDVDDVDFGLKVVNPLSDNRLVRYTKKISYGERIQRLGRVGRNKGPGVALR	1587
			: * * * * * : * * * * * : * * * * * : * * * * * : * * * * *	

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<u>P04814</u>	POLG_TEV	2480	KVCVDDFNNQFYSLNLHCPFWVGIMKFRFGWDLKLRLALPEGWVYCDAGSQDFSSLSPL	2509
<u>P17767</u>	POLG_PPVRA	2493	KVCVDDFNNQFYSLNLHCPFWVGIMKFRFGWDLKLRLALPEGWVYCDAGSQDFSSLSPL	2552
<u>P121231</u>	POLG_SBMVN	2485	KVCVDDFNNQFYSLNLHCPFWVGIMKFRFGWDLKLRLALPEGWVYCDAGSQDFSSLSPL	2544
<u>M9NYB7</u>	M9NYB7_9POTV	2538	KVCVDDFNNQFYSLNLHCPFWVGIMKFRFGWDLKLRLALPEGWVYCDAGSQDFSSLSPL	2597
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2540	INAVLKVRLAFMEEDWIGEQMLRNLYTEIVYTPILTPDGTI IKKHKGNNSSGPSTVVDNT	2599
<u>P09814</u>	POLG_TVMV	2503	INAVLRLRLSSMEEDWIGEQMLRNLYTEIVYTPISTPDGTIVKKFGKNNSSGPSTVVDNT	2562
<u>P17767</u>	POLG_PPVRA	2553	INAVLNIRLAFMEEDWIGEQMLRNLYTEIVYTPATPDGTIVKKFGKNNSSGPSTVVDNT	2612
<u>P121231</u>	POLG_SBMVN	2545	LNAVLDVRSFFMEDWWVGREMLNLYAEIVYTPILAPDGTIFKKFRGNNSSGPSTVVDNT	2604
<u>M9NYB7</u>	M9NYB7_9POTV	2598	INAILKLRLAEFMQDVGQMLANLYTEIVYTPISTPDGTIVKKKHGNNSSGPSTVVDNT	2657
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2600	LMVVIAMLYTCEKCGINK----EEIVYVNGDLDLIAIHPDKAERLSRFKESFGELGLKY	2655
<u>P09814</u>	POLG_TVMV	2563	LMVVLAMYYALSKLGVDSNQEDVCKFFANGDLDLIAISPELHEVLDDGQFQHFSDGLNLY	2622
<u>P17767</u>	POLG_PPVRA	2613	LMVILAMTYSLLKLGYHPDTHDCICRYFVNGDLDLVAVHPAYESIVDELQEHESQGLNLY	2672
<u>P121231</u>	POLG_SBMVN	2605	LMVVIAMYYSCCKQGWSEEDIQERLVFFANGDLDLIAVSDKDTWLYVDTLSTSAELGLNY	2664
<u>M9NYB7</u>	M9NYB7_9POTV	2658	LMVILAMYYTMEKALVPL----DKCVFFVNGDLDLIAIHPDYEAKLDEFQAEFVALGLKY	2713
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2656	EFDCTTRDKTQLWFMSHRLERDGMYPKLEERIVSILEWDRSKEPSHRLAECASMIE	2715
<u>P09814</u>	POLG_TVMV	2623	DFSSRTRDKKELWFMMSHRLAKDGLIPKLEPERIVSILEWDRSAEPHRLAECASMIE	2682
<u>P17767</u>	POLG_PPVRA	2673	TFATKTENKEELWFMMSHKGVLVDMMYIPKLEPERIVSILEWDRSNPEIHRLEAICAMVE	2724
<u>P121231</u>	POLG_SBMVN	2665	NFEERTKKREELWFMMSHKAIVLDGIYIPKLEPERIVSILEWDRSKELMHRTAECASMIE	2724
<u>M9NYB7</u>	M9NYB7_9POTV	2714	EFDSTKQKEDLWFMMSHKAIVDGIYIPKLEERIVSILEWDRSAEPHRLAECASMIE	2773
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2716	AWGYDKLVEEIRNFYAWVLEQAPYSQLAEKGAPYLAETALKFLYTSQHGTNSEIEEYIK	2775
<u>P09814</u>	POLG_TVMV	2683	AWGYTDLLQNIIRRFYKWTIEQEPYRSLAEQGLAPYLSVALRRLYTSQIATDNELDYYK	2742
<u>P17767</u>	POLG_PPVRA	2733	AWGYKELLREIRKFFYSWVLEQAPYVNALSKDGKAPYIAETALKKLYDTDEASETEIERYLE	2792
<u>P121231</u>	POLG_SBMVN	2725	AWGYTELLQEIIRKFFYLWLLNKDEFKELASSGKAPYIAETALRKLRYTDVNAQTSSELQRYLE	2784
<u>M9NYB7</u>	M9NYB7_9POTV	2774	AWGYPQLVDEIRREFYAWTLEQAPYKQLAENGKAPYIAETALRRLYTCVEATNDELLEYLR	2833
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2776	VLYDYDIP--TTENLYFQSGT-----VDAGADAGKKDKQKDD-----	2810
<u>P09814</u>	POLG_TVMV	2743	EILANNEF--LRETVRFQSDT-----VDAGKDKARDQKQKAD-----	2777
<u>P17767</u>	POLG_PPVRA	2793	AFYDDFNDDGESSNVVHHQADDEREEVDAGKPSVVT----APAASTPLQ--PPVVIQPA	2847
<u>P121231</u>	POLG_SBMVN	2785	VLDNFHAD--DCCESVSLQSGK--EKEGDMADKDKPKK-----	2818
<u>M9NYB7</u>	M9NYB7_9POTV	2834	EMIDQTDG--MKYEEIHQGD----KEVNAGNQS--ENNQKDKKQANAVLQTSPTTPQPK	2885
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2811	-----KVAEQASKDRDV	2822
<u>P09814</u>	POLG_TVMV	2778	-----PTLAIDRTKDKDV	2790
<u>P17767</u>	POLG_PPVRA	2848	PRTTASMLNPIETPATTQPAKPKVPSQVSPQLQTFGTGYGNEDASPSNSNALVNTNRDRDV	2907
<u>P121231</u>	POLG_SBMVN	2819	-----STSSSKGAGTSSKDV	2833
<u>M9NYB7</u>	M9NYB7_9POTV	2886	-----GNASSIVDTSGNNEIERDV	2905
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2823	NAGTSGTFSVPRINAMATKLQYPRMRGEVVVNLNHLGLYKPKQIDLSNARATHEQFAAWH	2882
<u>P09814</u>	POLG_TVMV	2791	NTGTSCTFSIPLRLKKAAMNMLKPKVGGSSVNLNHLHLLTYKPAQEFVVNTRATHSQFKAWH	2850
<u>P17767</u>	POLG_PPVRA	2908	DAGSVGTFTVPLRLKAMTSLKLPLKVGKAIIMNLNLAHYSQAQVLDLSNTRAPQSCFTWY	2967
<u>P121231</u>	POLG_SBMVN	2834	NVGSKGK--VVPRLQKIRTKMMLPMVEGKIILSLDHLLYKPNQVDFNTRATRTQFEAWY	2892
<u>M9NYB7</u>	M9NYB7_9POTV	2906	NAGTNGTFNIPLRLKRLTKMKQIPKSKGRIVVNLEHLLDYKPEQVLDLSNTRATHTQQQDRWY	2965
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2883	QAVMTAYGVNEEQMKILLNGFMVWCIENTGSPNLNGTWVMDGEDQVSYPLKPMVENAQF	2942
<u>P09814</u>	POLG_TVMV	2851	TNVMAEELNEEQMKIVLNGFMVWCIENTGSPNISGVWTTMMDGEDQVEYFIEPMVKHANP	2910
<u>P17767</u>	POLG_PPVRA	2968	EGVKRDYDVTDDDEMSIILNGLMWCIENTGSPNINGMVMWMDGETQVEYFIEPLLDHAKP	3027
<u>P121231</u>	POLG_SBMVN	2893	NAVKDEYELDDQGMVVMNGFMVWCIDNGTSPDANGVVMWMDGEDQVEYFIEPLKPIVENAKP	2952
<u>M9NYB7</u>	M9NYB7_9POTV	2966	AAVKSEYEATDEQMSIILNGLMWCIENTGSPNINGVVMWMDGEDQVEYFIEPLKPIVENAQF	3025
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	2943	TLRQIMTHFSDLAAEAYIEMRNRRPYPMPRYGLQRNITDMSLSRYAFDFYELTSKTPVRAR	3002
<u>P09814</u>	POLG_TVMV	2911	SLRQIMKHFSNLAAYIEMRNSEQVYIPRYGLQRGLVDRNLAPAFDFFEVNGATPVRAR	2970
<u>P17767</u>	POLG_PPVRA	3028	TFRQIMAHFSNVAAYIEKRNSEKAYMPRYGIQRNLTDVYSLARYAFDFYEMTSTTPVRAR	3087
<u>P121231</u>	POLG_SBMVN	2953	TLRQIMHHSFLAAEAYIEMRNSESPYMPRYGLLRNLRDRELARYAFDFYEVTSKTPNRRAR	3012
<u>M9NYB7</u>	M9NYB7_9POTV	3026	TFRQIMAHFSNLAAYIELRNQSSPYMPRYGLQRNLTDMSLRATDFYELTSKTPVKAR	3085
			*****:*. :. :. ***** *: *: :. :. *****:*****	
<u>P04517</u>	POLG_TEV	3003	EAHMQMKAARVNSGTRLFGLDGNVGTAEEDTERHTAHDVNRNMHTLLGVQRQ--	3054
<u>P09814</u>	POLG_TVMV	2971	EAAHQMKAALRNSQRRMFCLDGVSNGQEENTERHTVDDVNAQMHHLLGVKGVQ--	3023
<u>P17767</u>	POLG_PPVRA	3088	EAIHQMKAALRNVQNRFLFGLDGNVGTQEEDTERHTAGDVNRNMHNLGVRGVQ--	3140
<u>P121231</u>	POLG_SBMVN	3013	EATAQMKAALSGVNNKFLFGLDGNISTNSENTERHTARDVNRNMHLLGMGPQ--	3066
<u>M9NYB7</u>	M9NYB7_9POTV	3086	EAHMQMKAARVNRNSTKFLFGLDGNVGTAEEDTERHTVHDVNRNMHLLGMQRQ--	3137

You may add additional sequences to this alignment (in FASTA format)

☐ Highlight Taxonomy

Result information

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Date of job execution	2019-07-31
Job identifier	A201907316746803381A1F0E0DB47453E0216320D03D8D6I (jobs are stored for 7 days)
Running time	24.9 seconds
Identical positions	883
Identity	26.806%
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Program	clustalo
Default parameters	Default parameters: The default transition matrix is Gonnet, gap opening penalty is 6 bits, gap extension is 1 bit. Clustal-Omega uses the HAlign algorithm and its default settings as its core alignment engine. The algorithm is described in Södin J. (2005) 'Protein homology detection by HMM-HMM comparison'. Bioinformatics 21, 951-960.

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	Entry	Entry name	Protein names	Organism	Gene name
P04517	POLG_TEV	Genome polyprotein	Tobacco etch virus (TEV)		
P09814	POLG_TVMV	Genome polyprotein	Tobacco vein mottling virus (TVMV)		
P17767	POLG_PPVRA	Genome polyprotein	Plum pox potyvirus (strain Rankovic) (PPV)		
P21231	POLG_SBMVN	Genome polyprotein	Soybean mosaic virus (strain N) (SMV)		
M9NYB7	M9NYB7_9POTV	Genome polyprotein	Sunflower mild mosaic virus		



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