

10 20 30 40 50 60 70 80 90 100 110
TgNTPDase2 ... LEETCRHDSLQALVVDAGSSSTRNINFLAKTRSCPNKGDIPDQLI...
TgNTPDase1 ... LEETCRHDSLQALVVDAGSSSTRNINFLAKTRSCPNKGDIPDQLI...
NcNTPDase ... AERRCHDAWQAVIYDGGSSATRVFLAKTRSCPRGGIDPDRLLG...
TcNTPDase ... SDVQRQRQ---TADVFAAALKFEDMEDAQAQNTLELTNNMRRYS...
TbNTPDase ... AAVALSRQ---AAALDLSLTHQCTSEWMLKKAADTPSLAASPR...
LmNTPDase1 ... VRRMTQQSKRRRLVASTLVLSALVIFGFLVYHQSPFLSPSAYAV...
LmNTPDase2 ... GAVLQRSSSEIRALQAALFHEMRSKKAARNVANGAASPKVSVV...
PnNTPDase ... IEGEKEKKIKERLFLCLICLLVLIWLIYFCVKNHIFLLQNEBE...
hNTPDase1 ... KESNVKTRCSKNILAILGFSSIIAVALLAGLTONKALPENKYG...
hNTPDase2 ... --MAGVRSLLPPLLLAAGA---LAGLLELVCVTRDVRVKKV...
hNTPDase3 ... EQAGLKALYRTPITILGRLVLLSIVLVSIITVIQHKQLPPQKY...
hNTPDase4 ... AVSLLYFSVVIIRNKYGLRTRDKKFORLARVITDEATNNPNY...
hNTPDase5 ... CVCSAVSHRNQOT---WFEQIFLPSMCPINVSAST----LYG...
hNTPDase6 ... VYAVIKWNRATATQAFPTSITRAPGARQQHASPCTDGHSEY...
hNTPDase7 ... SCLLLMLLIIDFRHWSASLPDRQYERYLARVGELEATEDPN...
hNTPDase8 ... MGLSRKEQVFLALLAGSUVS---GLTALLLLEVVATSVLLP...
DrNTPDase1 ... MEHVKNPQHWRRPVHFYLMAMAVVAGIVIMVHSISVYVQHKP...
DrNTPDase2 ... --MVSITNRQQOQIIITATGALFLAVGGIILLVLPSEDIKSP...
DrNTPDase3 ... SRRQVVR---MAKVAVVLAALFMASIVAVIISAVVQTNKSR...
DrNTPDase4 ... VGMGLLVLLVYGKQYSWLRDRHRHITRLGRVDMANNNPNY...
DrNTPDase5 ... YLYTVKRRHYDDSK---LSVPPEQLPQVRDTRKHPTSGQS-...
DrNTPDase6 ... --MHVMKAILLGAAMAIAVAV---TIALILALANRQTLDPY...
XcNTPDase5 ... LDNFSLCHMBEPTN---TLKSVLPLATSTQSHSHTD---I...
XcNTPDase7 ... VFILVFAAVADLQWSSRAFRDQFRFRYLDQEDLEATKDKM...
LpNTPDase ... --MYHKSITSLALQMFRLVFLVLSCLVILTPNITADPCEKS...
LmNTPDase1 ... VRRMTQQSKRRRLVAGTFLVLSALVIFGFLVYHQSPFLSPS...
LmNTPDase2 ... GAVLQRSSSEIRALQAALFHEMRSKKAARNVANGAASPKV...
LcNTPDase1 ... VRRMTQQSKRRRLVAGTFLVLSALVIFGFLVYHQSPFLSPS...
LcNTPDase2 ... GAVLQRSSSEIRALQAALFHEMRSKKAARNVANGAASPKV...
120 130 140 150 160 170 180 190 200 210 220
TgNTPDase2 ... PVMLCSTAGVRDHFHNYRDALFVLLHLLNNPSYKFFNTWR...
TgNTPDase1 ... PVMLCSTAGVRDHFHNYRDALFVLLHLLNNPSYKFFNTWR...
NcNTPDase ... PVLLCSTAGVRDHFHDWRLEALFVLRLINHPYKFFNTWR...
TcNTPDase ... PTEMKATAGLRRLGRHEAVALDVVRRFLRAGPFWMQSESV...
TbNTPDase ... GIEKLKATAGLRRLGRHEAVALDVVRRFLRAGPFWMQSESV...
LmNTPDase1 ... SVTLKATAGLRRLGRHEAVALDVVRRFLRAGPFWMQSESV...
LmNTPDase2 ... AAEFKATAGLRRLGRHEAVALDVVRRFLRAGPFWMQSESV...
PnNTPDase ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase1 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase2 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase3 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase4 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase5 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase6 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase7 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
hNTPDase8 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase1 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase2 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase3 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase4 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase5 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase6 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase7 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
DrNTPDase8 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
XcNTPDase5 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
LpNTPDase ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
LmNTPDase1 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
LmNTPDase2 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
LcNTPDase1 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
LcNTPDase2 ... PFFYQATGGMRLNKLQDNRNRMYKLNLSNDNNPFFYLARIL...
230 240 250 260 270 280 290 300 310 320 330
TgNTPDase2 ... VSFMLQGMASAGLFLKELCSNDVDPDGSASVNEVDVKNPL...
TgNTPDase1 ... VSFMLQGMASAGLFLKELCSNDVDPDGSASVNEVDVKNPL...
NcNTPDase ... VSFMLQGMASAGLFLKELCSNDVDPDGSASVNEVDVKNPL...
TcNTPDase ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
TbNTPDase ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LmNTPDase1 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LmNTPDase2 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
PnNTPDase ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase1 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase2 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase3 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase4 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase5 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase6 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase7 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
hNTPDase8 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase1 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase2 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase3 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase4 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase5 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase6 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase7 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
DrNTPDase8 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
XcNTPDase5 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LpNTPDase ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LmNTPDase1 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LmNTPDase2 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LcNTPDase1 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
LcNTPDase2 ... HSYEGNGLHAARKQLQAANNAVADAPFCPPKGVVHTRE-GIS...
340 350 360 370 380 390 400
TgNTPDase2 ... APMPITGRMLAASIDFLDKDELEAAARFCSSSVIIRTDGP...
TgNTPDase1 ... APMPITGRMLAASIDFLDKDELEAAARFCSSSVIIRTDGP...
NcNTPDase ... APMPITGRMLAASIDFLDKDELEAAARFCSSSVIIRTDGP...
TcNTPDase ... DIASQVCRSMSKSVRELLQPMEBCFELHLYSFLTLRLYGF...
TbNTPDase ... DIASQVCRSMSKSVRELLQPMEBCFELHLYSFLTLRLYGF...

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LmNTPDase1 EVGQEVCHRESARRTTAP-EETACMELAYMYSFLTYGLGLSDATVLTVPNRIEGMAVSWSLGSSLSFLLKME
LmNTPDase2 KIAEGHCAAFSLTRIAEATPEYECMYSYVYVALLRYGYEVPEDRVLVHVKKIRGYETAWSLGAASLLSLT--
PENTPDase ITFPTNLVTSQFVILKKNNNYQNDGNYRQNVGNYYRHNDVYELNSSESYDISNFVLKLIINNMSL
hNTPDase1 EMMKKYCAQPNBEIKTSYALSEYCFSGTYLSSLQGYHFTWBEHIFIGKIQGSADGWTLGMYLNLTMIP
hNTPDase2 AAANVVCQQTWAQLQARVPLADYCAAMFVQQLSRGYGFDEFGGVIFQKKAADTAVGWALGYMLNLTLNIP
hNTPDase3 SSTWNCQSNWSQLPILLPARYCFPSANYIYHLFVNGYKFTWEPQIHFEKEVEGNSIIAWSLGYMLSLTNQIP
hNTPDase4 KAAKDYCATKWSILRERFDLKYQCFKSAWMPFVFFHGFSPFVYKSLKLTALQVYDKVQWTLGAILYRTRFLP
hNTPDase5 RKAKEVCNLENF-TSGSP--FLCMDLSYITALLKDGFGFADSTVLQLTKVNNIETGWALGATFHLQSLG
hNTPDase6 IAAKYVCRLETO-PQSSP--FSCMDLTYVSLLLQE-FGFPFRSKVLKLRKIDNVEVSWALGAIHYIDSLN
hNTPDase7 KAAQDYCGMANSVLTQRFKLYQCFKSAWMYQVLEHGFHFPYYPNLRTAQLVYDREVQWTLGAILYKTRFLP
hNTPDase8 ATIWFQCRPWLKVEASYPLRDYCASGLYILTLLEHGYGFSEWPSLEFRKQAGGVDIQWTLGYMLNLTMIP
DrNTPDase1 QRLAMYCSTPWQKIVQDHPLESEYCFSATYILTLLEHGYNFTSWNDIKFIKKIGSDAGWTLGYMLNLTMIP
DrNTPDase2 DAARVICNSMLQEMGKKSQKDYCAVSFVFRALLVNGYFNDFPQISFQKKAQDTSVGSWLGMYLNLTMIP
DrNTPDase3 TNMKLFCSDNWKLNQNYELKSFYCSANYVHTLADGYKFNWENLEFSEKVNNTSIAWSLGYMLNLTMIP
DrNTPDase4 NAAKSYCATQWKLKERFDLKYQCFKSAWMPFVFFHGFSPFVYKSLKLTALQVYDKVQWTLGAILYRTRFLP
DrNTPDase6 EGAKKVCNNMSAGGIKESP--FLCLDLTYISVLLQE-LDPPDKBELKLARQINNAETSWALGAAFCIESFR
DrNTPDase8 STIDTLCSKNWALTAEENPLKDYCASGHYITITLLKGYKFNNDQISFVKQVADTDIGWTLGYMLNLTMIP
XtNTPDase5 KSAKEVCERTQS-PTHSH--FLCMDLTFITALLKEGFEDNTSLQLTKKMYDVEMSWLGAIFHVLQSLH
XtNTPDase7 KAAKEYCSMPWTTLQDRFNLYQCFKSAWMPFVFFHGFSPFVYKSLKLTALQVYDKVQWTLGAILYKTRFLP
LpNTPDase QGDNQICHQQWIDILNGQYPLYQCLLSSYYVYALMVDGYGNPNQTIHYIPPEQNL--DWTIGVVLHRA---
LmNTPDase1 EVGQEVCHRESARRTTAP-EETACMELAYMYSFLTYGLGLSDATVLTVPNRIEGMAVSWSLGSSLSFLLKME
LiNTPDase2 TIAEGHCAAFSLTRIAEATPEYECMYSYVYVALLRYGYEVPEDRVLVHVKKIRGYETAWSLGAASLLSLT--
LdNTPDase1 EVGQEVCHRESARRTTAP-EETACMELAYMYSFLTYGLGLSDATVLTVPNRIEGMAVSWSLGSSLSFLLKME
LdNTPDase2 TIAEGHCAAFSLTRIAEATPEYECMYSYVYVALLRYGYEVPEDRVLVHVKKIRGYETAWSLGAASLLSLT--

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Figure S1. Sequence alignment of NTPDases used to build the evolutionary tree of Figure 2. TrimAl software was used to delete sites exhibiting a high proportion of gaps(GAPPYOUT function). NTPDases and their accession numbers are listed in Figure 2.