

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/MBTP64.pst Tue Feb 14:00:11 2022

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                                : :: :* : . .: . * .*:::*:*:*:
Pavo_muticus      -MKPFSSMTMKFANIWFVLVILLCGKKHFS-TRIGNFSHEAHVCPGCSRLTLKVEFTST 58
Pavo_cristatus    -MKPFSSMTMKFANIWFVLVILLCGKKHFS-TRIGNFSHEAHVCPGCSRLTLKVEFTST 58
Gallus_gallus     -MKPVSSMTMKFANIWFVLVILLCGKKHFS-TRLGNSHEAHVCPGCSRLTLKVEFTSA 58
Chelonia_mydas    -MKSYSLMTMKFANIWLILIVILLCGKKHLG-TRLGNSHEAHLCPGCSRLTLKVEFSST 58
Mus_musculus      -----MKLVSTWLLVLVILLCGKRHLG-DRLGTRALEKAPCPSCSHLTLKVEFSST 50
Rattus_norvegicus -----MKLVNIWLLLLLVILLCGKKHLG-DRLGKKAFAKAPCPSCSHLTLKVEFSST 50
Homo_sapiens      -----MKLVNIWLLLLLVILLCGKKHLG-DRLEKKSFEKAPCPGCSHLTLKVEFSST 50
Pan_troglodytes   -----MKLVNIWLLLLLVILLCGKKHLG-DRLEKKSFEKAPCPGCSHLTLKVEFSST 50
Macaca_mulatta    -----MTMKLVNIWLLLLLVILLCGKKHLG-DRLEKKSFEKAPCPGCSHLTLKVEFSST 52
Callithrix_jacchus -----MKLINIWLLLLLVILLCGKKHLG-DRLEQKSFEKAPCPGCSHLTLKVEFSST 50
Canis_lupus_familiaris -----MKLVNIWLLLLLVILLCGKKHLG-DRLEKTSFEKAPCPGCSHLTLKVEFSST 50
Bos_taurus        -----MKLVNIWLLLLLVILLCGKKHLG-DRLEKKPFKAPCPGCSHLALKVEFSST 50
Equus_caballus     -----MTMKLVNIWLLLLLVILLCGKKHLG-DRLEKKSFEKAPCPGCSHLTLKVEFSST 52
Xenopus_tropicalis MALRPFYFTKMKFAHIWLKVLMLFLFKKHQG-TRLGNSSYETVSCGCSQLTLKVEFSST 59
Rhinatrema_bivittatum MELRLYFMTMRCANISLLIVILLCGKKHLG-SKLGNSSRRTNPNCGCTHFTLKVFSST 59
Latimeria_chalumnae -----MMGSRGPWWLSLLIFSLCGRSPSGRIEFGNSRGELPCSGCSRVALKADFSST 55
1.....10.....20.....30.....40.....50.....60

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***:*****.**:*:*. ***:*. . . * *:***:***:*****:*. *
Pavo_muticus      VVEHEYIVAFNGYFTAKARSKFISSALKSSDIENWRIVPRNNPASDYPSPDFEVIIEINEKQ 118
Pavo_cristatus    VVEHEYIVAFNGYFTAKARSKFISSALKSSDIENWRIVPRNNPASDYPSPDFEVIIEINEKQ 118
Gallus_gallus     VVEHEYIVAFNGYFTAKARSKFISSALKSSDIENWRIVPRNNPASDYPSPDFEVIIEINEKQ 118
Chelonia_mydas    VVEHEYIVAFNGYFTAKARSKFISSALKNSDIENWRIVPRNNPASDYPSPDFEVIIEINEKQ 118
Mus_musculus      VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVENWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Rattus_norvegicus VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Homo_sapiens      VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Pan_troglodytes   VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Macaca_mulatta    VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 112
Callithrix_jacchus VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEVDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Canis_lupus_familiaris VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEIDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Bos_taurus        VVEYHEYIVAFNGYFTAKARNSFISSALKSSAIDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 110
Equus_caballus     VVEYHEYIVAFNGYFTAKARNSFISSALKSSSEIDNWRIIPRNNPSSDYPSPDFEVIIEINEKQ 112
Xenopus_tropicalis VVEHEYIVAFNGYFTAKARNSFISSALKSSINAWRIIPRNNPASDYPSPDFEVIIEINEKQ 119
Rhinatrema_bivittatum VVEHEYIVAFNGYFTAKARNSFISSALKSSINAWRIIPRNNPASDYPSPDFEVIIEINEKQ 119
Latimeria_chalumnae VVEHEYIVAFNGYYSARARSAFISSAMKNSGLEQWSIVPRDNPASEYPSDFEVLRIIEKQ 115
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      KDGVLMLLEDHPNIKRVTTPQRKVFRSLKYSDSDPMLHCNETRWTQKWQSSRPLRRASLSLG 178
Pavo_cristatus    KDGVLTLLEDHPNIKRVTTPQRKVFRSLKYSDSDPMLHCNETRWTQKWQSSRPLRRASLSLG 178
Gallus_gallus     KDGVLTLLEDHPNIKRVTTPQRKVFRSLKYSDSDPMLHCNETRWTQKWQSSRPLRRASLSLG 178
Chelonia_mydas    KDGVLTLLEDHPNIKRVTTPQRKVFRSLKYSEDPDTPCNETRWTQKWQSSRPLRRASLSLG 178
Mus_musculus      KAGLLTLLEDHPNIKRVTTPQRKVFRSLKFAESNPVPCNETRWSQKWQSSRPLKRASLSLG 170
Rattus_norvegicus KAGLLTLLEDHPNIKRVTTPQRKVFRSLKFAESDPVPCNETRWSQKWQSSRPLKRASLSLG 170
Homo_sapiens      KAGLLTLLEDHPNIKRVTTPQRKVFRSLKYAESDPTVPCNETRWSQKWQSSRPLRRASLSLG 170
Pan_troglodytes   KAGLLTLLEDHPNIKRVTTPQRKVFRSLKYAESDPTVPCNETRWSQKWQSSRPLRRASLSLG 170
Macaca_mulatta    KAGLLTLLEDHPNIKRVTTPQRKVFRSLKYAESDPTVPCNETRWSQKWQSSRPLRRASLSLG 172
Callithrix_jacchus KAGLLTLLEGHPNIKRVTTPQRKVFRSLKYAESDPVPCNETRWSQKWQSSRPLRRASLSLG 170
Canis_lupus_familiaris KAGLLTLLEDHPNIKRVTTPQRKVFRSLKYAESDPVPCNETRWSQKWQSSRPLRRASLSLG 170
Bos_taurus        KAGLLTLLEDHPNIKRVTTPQRKVFRSLKYTEAEPGSPCNETRWSQKWQSSRPLRRASLSLG 170
Equus_caballus     KAGLLTLLEGHPNIKRVTTPQRKVFRSLKYAESDPVPCNETRWSQKWQSSRPLRRASLSLG 172
Xenopus_tropicalis RDTVLTLLEDHPNIKRVTTPQRKVFRSLKFVESEMPAPCNETKWSQKWQSSRPLRRASLSLG 179
Rhinatrema_bivittatum RDGVLTLLEDHPNIKRVTTPQRKVFRSLKYDEHDPPLCNDTKWTQKWQSSRPLRRASLSLG 179
Latimeria_chalumnae RHGVLTLLEDHPNIKRVTTPQRKVFRSLKYTE-DAVPCNSTRWSQKWQSSRPLRRASLSLG 174
.....130.....140.....150.....160.....170.....180

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*****:****:*****:*.:**

Pavo_muticus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGAGVRVAVFDTGLSEKHPHFKN	238
Pavo_cristatus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGAGVRVAVFDTGLSEKHPHFKN	238
Gallus_gallus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGAGVRVAVFDTGLSEKHPHFKN	238
Chelonia_mydas	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGAGVRVAVFDTGLSEKHPHFKN	238
Mus_musculus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	230
Rattus_norvegicus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	230
Homo_sapiens	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	230
Pan_troglodytes	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	230
Macaca_mulatta	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	232
Callithrix_jacchus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGFTGANVRVAVFDTGLSEKHPHFKN	230
Canis_lupus_familiaris	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	230
Bos_taurus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGTNVRVAVFDTGLSEKHPHFKN	230
Equus_caballus	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGYTGANVRVAVFDTGLSEKHPHFKN	232
Xenopus_tropicalis	SGFWHATGRHSSRRLLKAIPROVAQTLOADVLMQGLGYTGSNVKVAVFDTGLSEKHPHFKN	239
Rhinatrema_bivittatum	SGFWHATGRHSSRRLLRAIPROVAQTLOADVLMQMGFTGLDVRVAVFDTGLSEKHPHFKN	239
Latimeria_chalumnae	SGFWHATGRHSSRRLLRAIPRHVAQTLOADVLMQMGYT-----	213
190.....200.....210.....220.....230.....240	

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Pavo_muticus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPNAELHIFRVFTNNQVSYTSWFL	298
Pavo_cristatus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPNAELHIFRVFTNNQVSYTSWFL	298
Gallus_gallus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPNAELHIFRVFTNNQVSYTSWFL	298
Chelonia_mydas	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPNAELHIFRVFTNNQVSYTSWFL	298
Mus_musculus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Rattus_norvegicus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Homo_sapiens	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Pan_troglodytes	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Macaca_mulatta	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	292
Callithrix_jacchus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Canis_lupus_familiaris	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Bos_taurus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	290
Equus_caballus	VKERTNWTNERTLDDGLGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	292
Xenopus_tropicalis	VKERTNWTNEKTLDDGLGHGTFVAGVIASMRECQGFAPDSELHIFRVFTNNQVSYTSWFL	299
Rhinatrema_bivittatum	VKERTNWTNEKTLDDGLGHGTFVAGVIASMRECQGFAPDSELHIFRVFTNNQVSYTSWFL	299
Latimeria_chalumnae	-----MWS-----LGHGTFVAGVIASMRECQGFAPDAELHIFRVFTNNQVSYTSWFL	260
250.....260.....270.....280.....290.....300	

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Pavo_muticus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	358
Pavo_cristatus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	358
Gallus_gallus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	358
Chelonia_mydas	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	358
Mus_musculus	DAFNAILKKMDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Rattus_norvegicus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Homo_sapiens	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Pan_troglodytes	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Macaca_mulatta	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	352
Callithrix_jacchus	DAFNAILKRIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Canis_lupus_familiaris	DAFNAILKKMDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Bos_taurus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	350
Equus_caballus	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	352
Xenopus_tropicalis	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	359
Rhinatrema_bivittatum	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	359
Latimeria_chalumnae	DAFNAILKKIDVLNLSIGGPDFMDHPFVDKVWELTANNVIMVSAIGNDGPLYGTLNPA	320
310.....320.....330.....340.....350.....360	

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*****:*****:*****:*****:*
Pavo_muticus      DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGSGVRGSGMKGGCRSL 418
Pavo_cristatus    DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGSGVRGSGMKGGCRSL 418
Gallus_gallus     DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGSGVRGSGMKGGCRSL 418
Chelonia_mydas    DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGSGVRGSGMKGGCRSL 418
Mus_musculus      DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 410
Rattus_norvegicus DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 410
Homo_sapiens      DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRMKPDIVTYGAGVRGSGVKGGCRAL 410
Pan_troglodytes   DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRMKPDIVTYGAGVRGSGVKGGCRAL 410
Macaca_mulatta    DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 412
Callithrix_jacchus DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 410
Canis_lupus_familiaris DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 410
Bos_taurus        DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 410
Equus_caballus    DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGAGVRGSGVKGGCRAL 412
Xenopus_tropicalis DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRMKPDIVTYGSGVRGSGLKGGCRSL 419
Rhinatrema_bivittatum DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRMKPDIVTYGSGVRGSGMKGGCRSL 419
Latimeria_chalumnae DQMDVIGVGGIDFEDNIARFSSRGMTTWELPGGYGRVKPDIVTYGSGVRGSGMKGGCRSL 380
.....370.....380.....390.....400.....410.....420

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*****:***:***:*****:*****:*****:*****:*****:*****:*****:
Pavo_muticus      SGTSVASPVVAGAVTLLVSTVQKREMVNPASMKQALIASARRLPVGNMFEQGHGKLDLLR 478
Pavo_cristatus    SGTSVASPVVAGAVTLLVSTVQKREMVNPASMKQALIASARRLPVGNMFEQGHGKLDLLR 478
Gallus_gallus     SGTSVASPVVAGAVTLLVSTVQKREMVNPASMKQALIASARRLPVGNMFEQGHGKLDLLR 478
Chelonia_mydas    SGTSVASPVVAGAVTLLVSTVQKREMVNPASMKQALIASARRLPVGNMFEQGHGKLDLLR 478
Mus_musculus      SGTSVASPVVAGAVTLLVSTVQKRELVPASVKQALIASARRLPVGNMFEQGHGKLDLLR 470
Rattus_norvegicus SGTSVASPVVAGAVTLLVSTVQKRELVPASVKQALIASARRLPVGNMFEQGHGKLDLLR 470
Homo_sapiens      SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 470
Pan_troglodytes   SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 470
Macaca_mulatta    SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 472
Callithrix_jacchus SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 470
Canis_lupus_familiaris SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 470
Bos_taurus        SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 470
Equus_caballus    SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 472
Xenopus_tropicalis SGTSVASPVVAGAVTLLVSTVQKRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 479
Rhinatrema_bivittatum SGTSVASPVVAGAVTLLVSTVSKREMVNPASVKQALIASARRLPVGNMFEQGHGKLDLLR 479
Latimeria_chalumnae SGTSVASPVVAGAVTLLASTVHRRELVPASMKQALIASARRLPVGNMFEQGHGKLDLLR 440
.....430.....440.....450.....460.....470.....480

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*:*:*.*****:*****:*****:*****:*****:*****:*****:
Pavo_muticus      AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 538
Pavo_cristatus    AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 538
Gallus_gallus     AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 538
Chelonia_mydas    AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 538
Mus_musculus      AYQILSSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Rattus_norvegicus AYQILSSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Homo_sapiens      AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Pan_troglodytes   AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Macaca_mulatta    AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 532
Callithrix_jacchus AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Canis_lupus_familiaris AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Bos_taurus        AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 530
Equus_caballus    AYQILNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 532
Xenopus_tropicalis AFQILNSYKPKQASLSPSYVDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVTGRIID 539
Rhinatrema_bivittatum AYQILNSYKPKQASLSPSYVDLTECPYMWPYCSQPIYYGGMPTIVNVTILNGMGVSGRIID 539
Latimeria_chalumnae AYQVLNSYKPKQASLSPSYIDLTECPYMWPYCSQPIYYGGMPTIINVTILNGMGVTGRIID 500
.....490.....500.....510.....520.....530.....540

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**  *:****:*****:*****:****:***:****:  *:  *:
Pavo_muticus      KPDPWPYLPQNGDNIEVAFSYSPVLWPWSGYLAISISVAKKAASWEGIAQGHVMITVSSP  598
Pavo_cristatus    KPDPWPYLPQNGDNIEVAFSYSPVLWPWSGYLAISISVAKKAASWEGIAQGHVMITVSSP  598
Gallus_gallus     KPDPWPYLPQNGDNIEVAFSYSPVLWPWSGYLAISISVAKKAASWEGIAQGHVMITVSSP  598
Chelonia_mydas    KPDPWPYLPQNGDNIEVAFSYSPVLWPWSGYLAISISVAKKAASWEGIAQGHVMITVSSP  598
Mus_musculus      KPEWRPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHIMITVASP  590
Rattus_norvegicus KPEWRPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHIMITVASP  590
Homo_sapiens      KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMITVASP  590
Pan_troglodytes   KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMITVASP  590
Macaca_mulatta    KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMITVASP  592
Callithrix_jacchus KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMITVASP  590
Canis_lupus_familiaris KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVTVTVASP  590
Bos_taurus        KPEWQPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMTVASP  590
Equus_caballus     KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVTKKAASWEGIAQGHVMTVASP  592
Xenopus_tropicalis KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVAKKAASWEGIAQGHVMTVASP  599
Rhinatrema_bivittatum KPDPWPYLPQNGDNIEVAFSYSSVLWPWSGYLAISISVAKKAASWEGIAQGHVMTVASP  599
Latimeria_chalumnae KPTWQPYLPQNGDNIEVAFSYSPVLWPWSGYLAISISVAKKAASWEGIAQGHVMTIATP  560
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      AENKSKNGVEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  658
Pavo_cristatus    AENKSKNGVEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  658
Gallus_gallus     AENKSKNGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  658
Chelonia_mydas    AENESKSGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  658
Mus_musculus      AETELHSGAEHTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Rattus_norvegicus AETELKNGAEHTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Homo_sapiens      AETESKNGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Pan_troglodytes   AETESKNGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Macaca_mulatta    AETESKNGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  652
Callithrix_jacchus AETESKNGAEQTSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Canis_lupus_familiaris AE--SKNGAEQTSTVKLPIKVKIIPAPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  648
Bos_taurus        AEVDSNSGAEQTSTVKLPIKVKIIPAPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  650
Equus_caballus     AEVESKNGAEQTSTVKLPIKVKIIPAPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  652
Xenopus_tropicalis EENESKNGAEQFSTVKLPIKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  659
Rhinatrema_bivittatum KENESKNGAEQISTMKFPVKVKIIPTPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  659
Latimeria_chalumnae AENESEAGSEQSTVKLPIKVKIIPSPPRS KRVLWDQYHNLRYPPGYFPRDNLRMKNDPL  620
.....610.....620.....630.....640.....650.....660

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**          ****:*****:*****:****:*.*****:*****:***:***
Pavo_muticus      DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDASQYGTLLMVDSEE  708
Pavo_cristatus    DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDASQYGTLLMVDSEE  708
Gallus_gallus     DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDASQYGTLLMVDSEE  708
Chelonia_mydas    DWCVSSVLSKLNNGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDASQYGTLLMVDSEE  718
Mus_musculus      DW-----NGDHVHTNFRDMYQHLRSMGYFVEVLGAPFTCFDATQYGTLLLVDSSEE  700
Rattus_norvegicus DW-----NGDHVHTNFRDMYQHLRSMGYFVEVLGAPFTCFDATQYGTLLMVDSEE  700
Homo_sapiens      DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLMVDSEE  700
Pan_troglodytes   DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLMVDSEE  700
Macaca_mulatta    DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLMVDSEE  702
Callithrix_jacchus DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLMVDSEE  700
Canis_lupus_familiaris DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDASQYGTLLMVDSEE  698
Bos_taurus        DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDANQYGTLLMVDSEE  700
Equus_caballus     DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGSPFTCFDANQYGTLLMVDSEE  702
Xenopus_tropicalis DW-----NGDHVHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLLVDSSEE  709
Rhinatrema_bivittatum DW-----NGDHIHTNFRDMYQHLRSMGYFIEVLGSPFTCFDASQYGTLLMVDSEE  709
Latimeria_chalumnae DW-----NGDHIHTNFRDMYQHLRSMGYFVEVLGAPFTCFDASQYGTLLMVDTEE  670
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***** ****: :*****:*****:*****:
Pavo_muticus      EYFPEEITKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 768
Pavo_cristatus    EYFPEEITKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 768
Gallus_gallus     EYFPEEITKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 768
Chelonia_mydas    EYFPEEITKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 778
Mus_musculus      EYFPEEIAKLRRDVDNGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALNE 760
Rattus_norvegicus EYFPEEIAKLRRDVDNGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANVPALNE 760
Homo_sapiens      EYFPEEIAKLRRDVDNGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALNE 760
Pan_troglodytes   EYFPEEIAKLRRDVDNGLSLAIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALNE 760
Macaca_mulatta    EYFPEEIAKLRRDVDNGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALNE 762
Callithrix_jacchus EYFPEEITKLRRDVDNGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALNE 760
Canis_lupus_familiaris EYFPEEIAKLRRDVHNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANVPALNE 758
Bos_taurus        EYFPEEIAKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANVPALNE 760
Equus_caballus    EYFPEEIAKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANVPALNE 762
Xenopus_tropicalis EFFPEEISKLRDVA NGLSLVIFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 769
Rhinatrema_bivittatum EFFPEEITKLRRDVDNGLSLIVFSDWYNTSVMRKVKFYDENTROWWMPDTGGANIPALND 769
Latimeria_chalumnae EYFPEEITKLRRDVDNGLSVMVFSWYNTSVMRKVKFYDENTROWWMPDTGGANVPALND 730
.....730.....740.....750.....760.....770.....780

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*****.*.*****:***:*.:.*.*:***** **:* *: :*:*****
Pavo_muticus      LLSVWNMAFS DGLYEGDFTMASHEMNYASGCSIAKFPEDGIVIAQTFKDOGLEVLKQETA 828
Pavo_cristatus    LLSVWNMAFS DGLYEGDFTMASHEMNYASGCSIAKFPEDGIVIAQTFKDOGLEVLKQETA 828
Gallus_gallus     LLSVWNMAFS DGLYEGDFTMASHEMNYASGCSIAKFPEDGIVIAQTFKDOGLEVLKQETA 828
Chelonia_mydas    LLSVWNMAFS DGLYEGDFTMANHEMNYASGCSIAKFPDDGIVISHTFKDOGLEVLKQETA 838
Mus_musculus      LLSVWNMGFS DGLYEGEFVLNHDMMYASGCSIAKFPEDGVVITQTFKDOGLEVLKQETA 820
Rattus_norvegicus LLSVWNMGFS DGLYEGEFALNHDMMYASGCSIAKFPEDGVVITQTFKDOGLEVLKQETA 820
Homo_sapiens      LLSVWNMGFS DGLYEGEFLLNHDMMYASGCSIAKFPEDGVVITQTFKDOGLEVLKQETA 820
Pan_troglodytes   LLSVWNMGFS DGLYEGEFLLNHDMMYASGCSIAKFPEDGVVITQTFKDOGLEVLKQETA 820
Macaca_mulatta    LLSVWNMGFS DGLYEGEFLLNHDMMYASGCSIAKFPEDGVVITQTFKDOGLEVLKQETA 822
Callithrix_jacchus LLSVWNMGFS DGLYEGEFLLNHDMMYASGCSIAKFPEDGIVITQTFKDOGLEVLKQETA 820
Canis_lupus_familiaris LLSVWNMGFS DGLYEGDFTLANHDMYASGCSIAKFPEDGIVITQTFKDOGLEVLKQETA 818
Bos_taurus        LLSVWNMAFS DGLYEGDFTLANHDMYASGCSIAKFPEDGIVITQTFKDOGLEVLKQETV 820
Equus_caballus    LLSVWNMGFS DGLYEGDFTLANHDMYASGCSIAKFPEDGIVITQTFKDOGLEVLKQETA 822
Xenopus_tropicalis LLSVWSMSFS DGIYEGDFTMANHDMYASGCSIAMFPEEGAVISQSLKDOGLEVLKQETS 829
Rhinatrema_bivittatum LLSVWGMAFS DGLYEGDFTMANHDMYASGCSIAKFPEDGTVIVHTLKDQGLEVLKQETS 829
Latimeria_chalumnae LLSVWGMAFS DGLYEGDFTMANHDMYASGCSIAKFPENGIVLAHTLKDQGLEVLKQETT 790
.....790.....800.....810.....820.....830.....840

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:::***:***:* *****:*****:*****:*****:*****:
Pavo_muticus      IIVENVPILGLYQVPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 888
Pavo_cristatus    IIVENVPILGLYQVPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 888
Gallus_gallus     VIENVPIGLGLYQVPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 888
Chelonia_mydas    VVENVPILGLYQIPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 898
Mus_musculus      VVENVPILGLYQIPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Rattus_norvegicus VVDNVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Homo_sapiens      VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Pan_troglodytes   VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Macaca_mulatta    VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 882
Callithrix_jacchus VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Canis_lupus_familiaris VVENVPILGLYQIPVEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 878
Bos_taurus        VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 880
Equus_caballus    VVENVPILGLYQIPAEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVTTPPSLs 882
Xenopus_tropicalis LVQNVPIGLGMYQTPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 889
Rhinatrema_bivittatum IVKNVPILGFYQVPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVMPPSLs 889
Latimeria_chalumnae VVEKVPVILGLYQTPSEGGGRIVLYGDSNCLDDSHRQKDCFWLLDALLQYTSYGVLPPSLG 850
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:*  *  :**  .  *:*:**:*:*****:***  *  .  **  **:*:*****  *:**
HSENRRRPPSGEGCSLPERMEGNHLHRYSKVLEAHLGDPKPRSLPACPHLSWAKPOPLNE
HSENRRRPPSGEGCSLPERMEGNHLHRYSKVLEAHLGDPKPRSLPACPHLSWAKPOPLNE
HSENRRRPPSGEGCPLPERMEGNHLHRYSKVLEAHLGDPKPRSLPACPHLSWAKPOPLNE
HSENRRRPTTGAGYSLPERMEGNHLHRYSKVLEAHLGDPKPRSLPACPHLSWAKPOPLNE
HSGNRORPPSGAGLAPPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGLAPPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGSVTPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGSVTPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGSVTPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGSVTPERMEGNHLHRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPLNE
HSGNRORPPSGAGSATPERMEGNHLHRYSKVLEARLGGPEPRALPACPHLSWAKPOPLNE
HSGARORPPSGAGSAAPERMEGNHLHRYSKVLEARLGGPEARALPACPHLSWAKPOPLNE
HSGNRORPPSGAGSLTPERMESHHLHRYSKVLEARLGGPAPRALPACPHLSWAKPOPLNE
HSENROKPPSGEGITPPERLEGNHLHRYSKVLETHLGDPKPRPLPNCPHLSWAKPVPLNE
HSEKROQPPWDAFSLPERMEGNHLHRYSKVLEAHLGQPKSRALPACPHLSWAKPOPLNE
QSENRVQPPAATDHLPORMEGNHLRYSKVLEAHLGDPKPRPLPACPHLSWAKPOPVNE
.....910.....920.....930.....940.....950.....960

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[illegible]

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*****.******.*.:*:****:.* **** * :.:***
TIPVFAFLGAMVVLAFFVVQINKVKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1060
TIPVFAFLGAMVVLAFFVVQINKVKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1060
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1060
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1070
TIPVFAFLGAMVALAFFVVQISKAKSRPKRRRPRAKRPLAQQAHPARTPSV 1052
TIPVFAFLGAMVALAFFVVQISKAKSRPKRRRPRAKRPLAQQAHPARTPSV 1052
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1052
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1052
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKPPSV 1054
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1052
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQIHPPKTPSV 1050
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLVQQVHPPKAPSV 1052
TIPVFAFLGAMVVLAFFVVQINKAKSRPKRRKPRVKRPOLMQQVHPPKTPSV 1054
TIPVFAFLGAMVVLAFFVVQINKAKSKPKRRKPRVKRPLIQQLHQPKTPSV 1061
TIPVFAFLGAMVVLAFFVVQINKVKSKPKRRRKARIKRPOLVQQFYPPKTPSV 1061
TIPVFAFLGAMVVLAFFVVQINKAKSKPKRRKPRVKRPOPLOPPHAAKTPSV 1022
.....1030.....1040.....1050.....1060.....1070..
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