

↓ alpha 1 domain starts

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*          20          *          40          *          60          *          80          *
Sasa-DAA  -----MKTSTVIVLILCQVYAEHKVLHIDLVIITGCS--SDSDGLDMYGLDGEEMWYADFNKQEG-----VVALPPFADP--FTFP-
Onmy-DAA  -----M.....C.....D.....T.IY.S.....V.....L.....K.....Q--IS.-
Sasa-DBA  -----MI...TGA.CTSAEIH.EIHF.F.FES.--PAVGLI..D.VF.G...NSNTCLIADV.FT..K.ISITPEDKER
Onmy-DBA  -----
Sasa-DCA  -----NL..AIVV.TAV.CTSAEIP.ETVYVL..LEKTKVKAEEALQ....VV...QSQQE-----WT..E.LG.FSSSTVR
Onmy-DCA  -----DTKVAAEAEALQV...VV...QSQQE-----WT..E.LG.FPSSTVR
Sasa-DDA  -----MMALVFM..LFMLSSSTQGGQEHVFNVINTR-SETEEFNMNTIVV.DN.YLHVYL.NK..-----T..EWGNY-----
Onmy-DDA  -----
Gaac-DAA  -----MKTKT.MKMMV..V.SGVFCVSADG--E.IA.....E.....L.....KHGK.....KPO.S.V.--IE.QE
Gaac-DBA  -----MKTKT.MKMMV..V.SGVFCVSADG--E.FA.....EF.....I.....KHGK.....KPO.S.V.--IDYQE
Gaac-EST  MVLVHRELMKTKT.MKMMV..V.SGVFCVSADGP.E.IA.D.....EM.....V.....KHGK.....RP..S.V.--ID-NP
Spau-DAA  -----MMKMMK.MKMMV..V.SCVLCVSAE...Q.IAVV....A...EMV.....V.....KNKK.....Y.PV.D.VG--IRYQE
Orla-EST1 -----MKELL.F.SCVLCVSADGQ.T.IN.V....F.EV.....K.....HI.....Y.PQ...VVNP-.HYQE
Orla-EST2 -----MYGVL.M.ALI.ST.TQ.VNR.VQFV....TEREFLI.F...L.H...IRK.....TV.D....IG.-
Fuhe-EST  -----MRL.L.F.GVLRVSAD...E.N.V....EF.A.....F...KQEK.....EPQ..I.H--ISYRE
Dila-DAA  -----MMMMMVLVL.FSCVSDA...E.IS.N....EP.....I.....INKK.....EPQ.N.I.H--MSLQE
Orni-DAA  -----MKELL.F.SCVLCVSADGQ.T.IN.V....F.EV.....K.....HI.....Y.PQ...VVNP-.HYQE
Cyca-DXA  -----MYGVL.M.ALI.ST.TQ.VNR.VQFV....TEREFLI.F...L.H...IRK.....TV.D....IG.-
Pipr-EST1 -----EMYGVL.M.AVI.RT.TQ.V.R.VGFV....TEKEYLM.F...IFH...IRKD.....MT..D....ISN.-
Dare-EST1 -----DLFGFL.TFTVILSNVAQAE.R.VDFP....TEKEYLQ.F...LYHS..IRKV.....TA.D....MSY.-
Pipr-EST2 -----MELAL.T.TVLLSTDAQFI.NYFY.....GTEEES.L.S...H...IRKM.....NT.D....MS.-
Dare-EST2 -----MRK.ELY.LISMFTVL.SSDN..V.E.FYLL....NTEREY..M...LF...GVA.....D..D....IK.-
Pipr-EST3 -----EL..FMFM.VAL.SS.N..V.E.F.LK....NT.KEF...V...RI...V.GVA.....DS..D.VEH--PSV.-
Dare-DAA  -----MFFLALRK.EVY.FI.T.SVF.SS.VN.V.E.I.MD....TEKEYISV...YHT..SGKR.....EMT..D....Y.-
Icpu-DAA  -----RLFLLCFT.VCVKDT.AQIK.H.IKVIA....T.KEYVL.I.K.VY...V.LI.....K.....T--LNP.E
Gici-DAA  -----MEARNYFS..V.VLQGGWAGKYLY.FTQYVYFQQRSPEKHFDVME..D.IF.M...LKKE.....ARI.E..HL--YMQ
HLA-DRA   -----MAISGVPVLGFF.IAV.MSAQESWAIKEHVIIQAEFYLNLP.QS.EF.FDF..D.IFHV.MA.K.T-----WR.EE.GRF---ASF
          + + +          + + +          + + +          +          +          + +

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↓ alpha 2 domain starts

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100          *          120          *          140          *          160          *          180          *
Sasa-DAA  GFYEQAVGNQGVCKGNLAKCIKAYKNPEEKIDPPHS--SIYPRDDVDLGVENTLICHVSGFFPAPVRVRWTRNQNQLTEGVRSLSTPYPNADFTLNQF
Onmy-DAA  -----DLEIL.....P.T.....E.E.K.....P.....V...G.I.....T.V.F...
Sasa-DBA  -AC.Y.TISRVM..DCI.WGKQSEPKIPKIK.A.EN-T.....E.E.....F.ND..P..K.Y..K.EMEV...LS..RY...K.G.FH..
Onmy-DBA  -----E-HH...E.E.....F.ND..P..K.N..K.GMEV...LS..HF...K.G.FH..
Sasa-DCA  N..KN..KGRRL.RDA..LW.FEE.S.P.VK.A.E.-T...AEEE.....FANH.Y.P..K.N..K.GLEV...TS..RY...E.G.FH..
Onmy-DCA  N..KN..KGRRL.QDA..LW.LEE.C.P.VK.A.E.-T...AEEV.....FANH.Y.P..K.N..K.GLEV...AS..RY...K.G.FH..
Sasa-DDA  VDCPC.RVAESRRAD.NND..LFNLETPEAKV.PEIKL.AK.E.K..IN.S.V.F.NN...P..Q.K..K.DE.VPK..KVGQYAT.S.Y.FYR.
Onmy-DDA  -----RAD.SNY..LFSLETPEAKV.PEIKL.AKEE.K..IN.S.V.FINN...P..Q.K..K.DE.VPK..KVGQYAT.S.Y.FYR.
Gaac-DAA  .T..L....QI.RI..KNRL.GL.DVPLEK...S.HM...K.G.E..EK.S...T..Y...TFS..K.QE.VN..SSRNV.F..N.G.F...
Gaac-DBA  .A..S..A..QI.RN..KTHV.VF.PTPLEK...S.HM...K.G.E..EK.S...T..Y...TFS..K.QE.V...SSRNV..L.N.G.F...
Gaac-EST  .G..S..A..QI.RN..KNAV.GL.DVPLEK...S.HM...K.G.E..EK.S...T..Y...TFS..K.QE.V...SSRNV...N.G.F...
Spau-DAA  .A.Q..EA.LQI..T..DIVRQ...D.VPPER.A.S.PV...E.E.E.K.I...T..Y...KFS..K.GK.V...TSVNV..M.K.G.Y...
Orla-EST1 .G..N..A..QI.RQ..KVTRE.T.GLPL.R...SNVVV.N.NK.E.E.EQ.....Y...N.S..K.GERVSG--SINI.F.SS.G.FT.I
Orla-EST2 .G...A..QI.RS..KISRI.M.DLPLER...SNVVV.S..E.E.EQ.....Y...N.S..K.GERVSG--SINI.F.SS.G.FT.I
Fuhe-EST  .T..G..A.LQI.R...NV.RQTM.GIP.QK.G.SGLV..T..E.E..EK.I.V...Y...N.S..K.G.KV...TSINV.F.SK.S.FT.I
Dila-DAA  .A..G..A..QI.RQ..EIRR.SI.D-PL.F...S.PV..T..N.E..EK...T..Y...K.Y..K.GK.V...TSINV...K.GSFT.T
Orni-DAA  .T..G..T.VQ...QNA.KIVRE.M.DFPP.HIA.SAVM..T..E.EF..Q.I...T..Y...N.S..K.G.KV...SSINV..I.K.GSFK.T
Cyca-DXA  ...TG.ALME...Q...LN..V..PTPQLA.DA.-V.SEG..V...Q.....T.L..P.N.S..K..IV..D.S..QYRRKN.G.F.I.
Pipr-EST1 .G..NG.A.IE...Q..DVD..V..PSV.QL.I.DT...KAI.VQD...K...T...P.N.S..K..IV...MS..QYRRKD.G.F.I.
Dare-EST1 ...NS.AQME...QD..TD...NS...QL...VT...SE.E.V.DET...T...P.N.S..K..DIV..EISF.QYRR.S.G.F.M.
Pipr-EST2 ...AS.AQ.E...Q..DV...N.P.EL...ET...SN..QP...A...T...P.N.S..K..VMV...S..QSR.RT.GLFHV.
Dare-EST2 .M.D.GL.DVQ...S..DVA...S.Q...K.QT...FAENE.Q.ND..I...T...P...S..M..KA.P..HS..QYR..D.G.Y.I.
Pipr-EST3 ...DS.SA.IQI.LA..DVA...Q..M.K.QT...TKN..Q.N..V...T...P...S..K..EVPK--DS..QYR..D.G.Y.I.
Dare-DAA  .T...SLADYET..H..DVAA...S.L..L...QT...S...QPDI..K...T...P...S..K..EIV...MSV.QYR..N.G.Y.I.
Icpu-DAA  TA.QS.GAEIDI..T..GVYRTEF.DTPTPQ.V.QN...V..N..SK...STR..PTI.IT..K.GVDV.DESS..QY...E.N.Y...
Gici-DAA  .GEAAISA.IAIV.N..KVDMMNLSAGTP.PKVR.EV.-V.SE.L.EW.QL...FAD..Y.PHITMK.R...EPM.D.DNITEF.IKE...FRR.
HLA-DRA   EAQGAL-A.IA.D.A..EIMT.RSNYPTITNV..EV-TVLTNSP.E.REP.V...FIDK.T.PV.N.T.L..GKPV.T..SETVFL.RE.HLFRK.
          + + +          + + +          + + +          +          +          + +

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↓ CP/ TM/ CYT

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200          *          220          *          240          *          260          *          280
Sasa-DAA  SSLPFTPEEGDIYGCCTVEHKGLAE--PLTRIW----EPEVI---QPSVGPDPVFCVGLTLGLLVAAGTFFLIKGNQCN-----
Onmy-DAA  .....S.....T.....S.....A.A.....T.....T.....
Sasa-DBA  ...S...QKE.V.I.A.A.TA.K.-K...--YK.SGSS-AGP..A.....T..I.LIY..KRATESQE-----
Onmy-DBA  ...S...QKE.V.I..A.TA.KY.-K...--YK.SGSS-VGP..AI.....T..I..IY..KRATESQE-----
Sasa-DCA  ...S...Q...V...K.TA.ED.-K..F...--Y..REVSGS.A.A.....T...LYV..Q.F.
Onmy-DCA  ...S...Q...V.A...TA.ED.-K..F...--YKIHEVSGS.A.A.....T...LYV..Q.F.
Sasa-DDA  .T.T.E.Q...T.I.D.TA.D.-...T...--F..PP--RA...A...L...VP...V..T..Q.
Onmy-DDA  .T.T.E.Q...T.I.D.MA.D.-...T...--F..PP--H...A...L...T.I...V..T.RQ.
Gaac-DAA  .T.E...KL...S.M...LA.DH--VS.....A.....V.....E.S.
Gaac-DBA  .T.E...KL...S.M...LA.DH--VSFLSP--DVQ.S...A.....V.....E.S.
Gaac-EST  .T.E...KL...S.M...LA.DH--VKFY---DVQ.S...A.....V.....E.S.
Spau-DAA  .K.D...QQ...F.S.S.S.PA.KD...--DV.KT--L.G..A...L..V...E.R.
Orla-EST1 .R.Q.V.QL...S.S...PA.T.-VQ.K...--DV.KT--G..A...AV...E.S.
Orla-EST2 .R..V.QL...S.S...PA.T.-VQ.K...--DV.KT--G..A...AV...E.S.
Fuhe-EST  .R.D.I.QL...S.S.D.PA.QK...--DV.LDS-P...A...L...I...V...Q..E.S.
Dila-DAA  .R.E.I.QL...M.S.S.K.LS.KD...F...--DV.KP--E..I..A...L..V...E.S.
Orni-DAA  .R.D...QL...M.S...VS.T...K.Y...--DVDSSGQSD...AA...V...E.S.
Cyca-DXA  ...K...A...S...Y..A.ESRFI.KT.EV--DVA.P...G..A...S...L.N.
Pipr-EST1 .T.K...K...S...N..SIPGQ.I.KT.DV--DVALP...N.
Dare-EST1 .A.K...A...S...N.RSIQGP.N.KT.EV--DV.LP...A...V...HSPHKETH.
Pipr-EST2 ...K.II..HR...S...N.RA.QG-Q.K..GVGKASAVAP---A.VL..L.M.A..M.T.IC.C..ATATDHSDLAKKEKKAMQWIYQ
Dare-EST2 ...K...Q...S.S.N.TS.EQ-LQ.KT.EV--AAAMP...A...A...
Pipr-EST3 ...K...V...S...N.TS.E.-K.KT.DV--VA.P...A...S...N.
Dare-DAA  .T.R...V...S.S.N.T.EQ-Q.KA.EV--VAMP...A...F...N.
Icpu-DAA  .H...K...V.T...Q.EA.QT.-D.T.EV--DVDLP---A...A...AV...T...V.
Gici-DAA  .Y.SIV.SP..M.S.H...SS.QD.-V.VF...--DQG.P-EEK-.GHGTII.AL...IISAVV.IIL...ERQRLQAQQHGI-----
HLA-DRA   HY...L.STE.V.D.R...W..D.-.LKH.----FDAP-SPL.ETTEN.V.AL...V.V.III..I.I...LRKSNAEERRGPL-----

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