${\tt G.gallus}$ DNAJA2 dnaJ homolog subfamily A member 2 X.laevis dnaja2.S DnaJ subfamily A member 2 X.laevis dnaja2.L DnaJ heat shock protein family Hsp40 member A2 C.carcharias LOC121288591 dnaJ homolog subfamily A member 3 mitoc G.gallus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial i G.aculeatus LOC120824608 dnaJ homolog subfamily A member 3 mitoch C.mydas DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial is X.laevis dnaja3.S dnaJ homolog subfamily A member 3 mitochondrial X.laevis dnaja3.L dnaJ heat shock protein family Hsp40 member A3 F.catus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial is E.caballus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial H.sapiens DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial H.sapiens DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial dupelabel1 S.townsendi DNAJA3 dnaJ homolog subfamily A member 3 mitochondria D.rerio dnaja3b DnaJ heat shock protein family Hsp40 member A3b D.rerio dnaja3b DnaJ heat shock protein family Hsp40 member A3b dupelabel1 S.salar LOC106590570 dnaJ homolog subfamily A member 3 mitochondr S.salar LOC106564522 dnaJ homolog subfamily A member 3 mitochondr G.aculeatus dnaja3a dnaJ heat shock protein family Hsp40 member A D.rerio dnaja3a DnaJ heat shock protein family Hsp40 member A3a D.rerio dnaja3a DnaJ heat shock protein family Hsp40 member A3a dupelabel1 S.salar dnaja3a dnaJ heat shock protein family Hsp40 member A3a i S.salar LOC106592966 dnaJ homolog subfamily A member 3 mitochondr

G.gallus DNAJA2 dnaJ homolog subfamily A member 2 X.laevis dnaja2.S DnaJ subfamily A member 2 X.laevis dnaja2.L DnaJ heat shock protein family Hsp40 member A2 C.carcharias LOC121288591 dnaJ homolog subfamily A member 3 mitoc G.gallus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial i G.aculeatus LOC120824608 dnaJ homolog subfamily A member 3 mitoch C.mydas DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial is X.laevis dnaja3.S dnaJ homolog subfamily A member 3 mitochondrial X.laevis dnaja3.L dnaJ heat shock protein family Hsp40 member A3 F.catus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial is E.caballus DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial H.sapiens DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial H.sapiens DNAJA3 dnaJ homolog subfamily A member 3 mitochondrial dupelabel1 S.townsendi DNAJA3 dnaJ homolog subfamily A member 3 mitochondria D.rerio dnaja3b DnaJ heat shock protein family Hsp40 member A3b D.rerio dnaja3b DnaJ heat shock protein family Hsp40 member A3b dupelabel1 S.salar LOC106590570 dnaJ homolog subfamily A member 3 mitochondr S.salar LOC106564522 dnaJ homolog subfamily A member 3 mitochondr G.aculeatus dnaja3a dnaJ heat shock protein family Hsp40 member A D.rerio dnaja3a DnaJ heat shock protein family Hsp40 member A3a D.rerio dnaja3a DnaJ heat shock protein family Hsp40 member A3a dupelabel1 S.salar dnaja3a dnaJ heat shock protein family Hsp40 member A3a i S.salar LOC106592966 dnaJ homolog subfamily A member 3 mitochondr

.HGPGVQCA.HQ 411 .SDDESSH. . HGPGVQCA . HQ SDDESSQ HGPGVQCA.HQ

AVRSRGP....RNGRLPL....VW...IVRGL..GAAPGPAA.RRL ...GCFPNVV.ARHAAVCSAATPQARGGG...AAVRR..G.PRTPGS.AVT RGF......GGDTRLLVVWLGRRLS...TAPAAFPP.RAGPGSRLLT

SPRLP<mark>ATAGRGARPPRG</mark>DVVGAS.L.GHKLNVTAFSPSL..R.ARGSGA.LL STPRLP<mark>A</mark>AAGRGARPPRAGVVGAS.L.GRKLSVTTFLPSL..G.AR<mark>GPG</mark>A.LL

GTPRLPAISGRGARPPREGVVGAW.L.SRKLSVPAFASSL..T.SCGPRA.LLTGTPRLPAISGRGARPPREGVVGAW.L.SRKLSVPAFASSL..T.SCGPRA.LLT

GHRRACCALAP.SSNGGSRSLSTFGTQKIW...PESNA..M.RGGTGN.ALT GHRRASCALAP.SSNGGSRSLSTFGAQKIW...PESNA..M.RGGTGN.ALT

..IGGDF..G.CLRPGN.AVT

.TTRGG..

F.PGLHS.NCALLKS.SRN<mark>G</mark>DVTALRICWSRSYV...TEKSL..S.CWRHRG.GV<mark>T</mark>

SGRCQ<mark>A</mark>AAAVVS.AGH<mark>G</mark>GIRSLSTVRAÈTLR...WGGTR..

SGHRR<mark>A</mark>CCALAP.SSN<mark>G</mark>GSRSLSTFGTQKIW...PESNA.

ACSPFIP.RADGAYRGFKSLSGRQMW.

SGARGHILPGVHR.GPR

AAVALGARRWPLAL.R.LTR<mark>G</mark>LSAGLGTLPTCS..

VSVGL.SSGHRRAWSLLAS.ARHGEACATAILRTQRCS..

F.PGLHS.NCALLKS.SRNGDVTALRICWSRSYV..

.SSGHRR<mark>A</mark>CSLLAS.ARH<mark>G</mark>EACVTAILGTQRCR.

SSSHSR<mark>A</mark>CSPFIP.RAD<mark>G</mark>AYRGFKSLSGRQMW.

.RAARGPAAAGLCERLSQF

.RAARGPAAV.LCERLSOF

TGTKH.NPF.IC.

TGTKH.NPF.IC

.RI..PALRP.HSV.FS..

.RI..PALRP.HSV.FS.

SGFGP.PPF.MH..

.TGLRS.PHV.VS.SSH<mark>S</mark>

X non-conserved $\frac{\overline{X}}{X} \geq 50\%$ conserved

.

.

.

.

.

.

.

.

.

.

.

.

MCSAPACPO