

Additional file 3

Exon 1

tammar POU2	- -DT- TSEELLE FAKEL KKHKRIS LSLGFT QADVGMLGTLTY
opossum POU2	- -DT- TSEELLE FAKEL KKHKRIS LSLGFT QADVGMLGTLTY
chicken POUV	- DA- TPS EELLE FAKEL KKHKRIS LSLGFT QADVGMLGTLTY
turtle POU2	- DATT- TSEELLE FQAFAKDL KKHKRIS LSLGFT QADVGMLGTLTY
exolotl POU2	- DT- TNEELLE FQAFAKDL KKHKRIS LTLGFT QADVGMLGTLTY
coelacanth POU2	- DN- TSEELLE FQAFAKDL KKHKRIS LTLGFT QADVGMLGTLTY
zebrafish Pou	- ET- LTTE FQAFAKDL KKHKRIS LTLGFT QADVGMLGTLTY
spotted gar Pou2	- EV- ITQS QDLE FQAFAKDL KKHKRIS LTLGFT QADVGMLGTLTY
sturgeon Pou2	- EN- LSTEE FQAFAKDL KKHKRIS LTLGFT QADVGMLGTLTY
elephantfish AAVX01321389	- EY- RTTGME FEEFAKEL KKRKRITL LTLGFT QADVGMLGTLTY
little skate AESE010288213	- EY- RTTGME FEEFAKEL KKRKRITL LTLGFT QADVGMLGTLTY
coelacanth POU5F1	- DT- TDE QLLE FQAFAKEL KKHKRIS LSLGFT QADVGMLGALGY
exolotl POU5F1	- EG- GTSA DLE FQAFAKEL KKRKRITL LTLGFT QADVGMLGALGY
turtle POU5F1	- ET- TSEME FQAFAKEL KKHKRIS LTLGFT QADVGMLGALGY
lizard POU5F1	S QEDA- - SAMHE FQAFAKEL KKHKRITL LTLGFT QADVGMLGSLGY
platypus POU5F1	Q QEST- S REELE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGFAL
tammar POU5F1	Q QEST- S REELE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGFAL
armadillo POU5F1	A QBI- ALQ ELE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGFVL
elephant POU5F1	S QBI- TRQDLE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGVL
mouse POU5F1	S QBI- ALQ ELE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGVL
human POU5F1	S QBI- ALQ ELE FQAFAKEL KKRKRITL LTLGFT QADVGTVLGVL

Exon 2-3

MCSHEQVLAQARKRKKRRTSITTSVNGTLEGGFRRGKPFPTQIQIDLAEEELNLBKK
MCSEHQVLAQARKRKKRRTSITTSVNGTLEGGFRRGKPFPTQIQIDLAEEELNLBKK
MCHAEOVLAQARKRKKRRTSITTSVNGKTFEESFRACVPIVSPQEISQAEDLNLBKK
LCKAEQVLAQARKRKKRRTSITTSVNGKTFEESFRACVPIVSPQEISQAEDLNLBKK
LCNAQVLAQARKRKKRRTSITTSVNGKTFEESFRACVPIVSPQEISQAEDLNLBKK
LCNMEOVLAQARKRKKRRTSITTSVNGKTFEESFRACVPIVSPQEISQAEDLNLBKK
MCNIEOVLAQARKRKKRRTSITTSVNGKTFEESFRACVPIVSPQEISQAEDLNLBKK
MYIIEFVDTKRRRRTSLETVGTSLRSYFWVFCPKPRTQNTILETHISDGLLER
MYIIEFVADSKRRRRTSLETVGTSLRSYFWVFCPKPRTQNTILETHISDGLLER
LFVVEFVBLDRTRRRTSLETVGTSLRSYFWVFCPKPRTQNTILETHISDGLLER
ICNVQEVLQDSKRRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
LCSIEQVTLASSKRRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
LCLNEVOLQSKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
LCLNEVNLQSKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
MCSEHSAALQSKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
LCTHYSAHIOQKRRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
MCHAETVLOQKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
LCKAETVLOQKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
ICOTETLLOQKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
ICUTENNLQSKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
ICUSETLVOQKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK
ICAEVTLQYQKARRRRTSIEENGVKNLETYPMICPKPTSEISIQAEDLNLBKK

Exon 4

tammar Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
opossum Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
chicken PouV	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
alligator Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
turtle Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
axolotl Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
coelacanth Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
zebrafish Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
spotted gar Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
sturgeon Pou2	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
elephantfish AAVX01321389	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
little skate AESE010985795	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
little skate AESE01036936	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
coelacanth Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
axolotl Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
turtle Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
lizard Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
platypus Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
tammar Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
armadillo Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
elephant Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
mouse Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE
human Pou5F1	KMFSTTTCIRFEALQLSKNMCKLPLLQRNLQVAVENTNDMPE

Exon 5

tammar POU2	VVRVWFCHRRQKGKRLLLPF	-GEGEALAYELA-GTA-	-LVL-TAAVYNAAAPPPF-EPAIYMS-TFPGKE--	-CIPG-N-	MHGGGI-
opossum POU2	VVRVWFCHRRQKGKRLLPY-	-GEDEJALYDLT-GTA-	-LVL-TAAVYNAAAPPPF-EPAIYMS-TFPGKE--	-CIPG-N-	MHGGGI-
chicken POUV	VVRVWFCHRRQKGKRLLPY-	-GNESEGVWYHMQNSLV-	-GLI-VTTSQSYSLASPL--	--VVM-THKAEMFPPLQPG-	-SMNNSH-
alligator POU2	VVRVWFCHRRQKGKRLLPF	-GNEAEAGYMDMN-	-QAM-AATVTSQYAVAPLA-SPPPIYMP-TFHGEKEISQALQPG-	-V-	-SMGNNGN-
turtle POU2	VVRVWFCHRRQKGKRLLPF	-GDENEAGHYNDMLALAH-	-ALA-PAASV-SAPALAPL-SPPPIYMP-TFHGEKEISQALQPG-	-V-	-SMGNSGN-
axolotl POU2	VVRVWFCHRRQKGKRLLPF	-VEHEGGGYETTNQAMAHGGA-	-TLM-TMISQQGYFVSSLN--SQTLYMT-AFHKTENFHQLPFG-V-	-	ALGNSIS-
coelacanth POU2	VVRVWFCHRRQKGKRLLPF	-GEAEAGSYDVNV-AEASSTMLH-	-ALPHFGVTF-APPVYVTF-ARHSEVEV-ALHFGV-	-	ARINHSS-
zebrafish Pou2	VVRVWFCHRRQKGKRLLPF	-DDECAVEAQYEQS	-PPPPPPHGG-TVLIQGQ-	-GYPGVALGAGA-ALVYI-SLHADPDVKNLHPG-	-VGHL-
spotted gar Pou2	VVRVWFCHRRQKGKRLLPF	-FEEDGLEGGPEQES-	-IMPLMGHSLGG--	-GYPGVTLAAGSHYMA-TPPGDALKQGLHPG-	-ALRVGNLSS
sturgeon Pou2	VVRVWFCHRRQKGKRLLPF	-EEAEQGGYFED-	-NMRELCNG-HLQTO-	-GTYGTASE-ALHKEEVFKQLPFG-	-VGVLGHL-
elephantfish AAVX01195994	VIRVWFNSNRQKGKHTPCTE	-LICDTHVTQGNYGTVAT-	-STPLYMS-PFQQ--	-LHPA-V-	SMGNHS-
little skate AESE012470268	VIRVWFNSNRQKGKHTLPC-	-MELENEQINSESILS-	-G-LSLMDICCVBQGYVMPH-	-TMS-PFQQ--	-THG-
little skate AESE01616287	VIRVWFNSNRQKGKQAFAQY-	-GDEFVELAGYHGPLOPLPGG--	-FGAQ-NAIAAIS-	-AAALVYV-QADSBHS-SEAQA-	ARTHSS-
coelacanth POU5F1	VVRVWFCHRRQKGKRSLYQS-	-EEEYETPQYGVPH-	-DPRVPTT-MHLNSVSNQYANGTF-	-TTLYVY-OFEYEAEFQDTRAGA-CTRNIEFWDTPESTSE-	
axolotl POU5F1	VVRVWFCHRRQKGKRSIC-	-EYEDG--	-FQOY-GNQGPGLASLH-TSYIAQYNGAAA-	-FAAVYMO-TDSEHNSQI-	SRHLSN-
turtle POU5F1	VVRVWFCHRRQKGKRSGG-C	-DDCEGGALP-	-APPAQLBQPH-M-GHRIPL--	-TLYVIFTHGEEFD-TPPGPPLM-	GHPHMST-
lizard POU5F1	VVRVWFCHRRQKGKRNIAFS-	-PQEENGFFGPHSLQAPS-GLGAHHNQHGLA-QGQGPAPAF-	-AFYLS-PTHDGDAFAVANSGSAVM-	-GHPHMST-	
platypus POU5F1	VVRVWFCHRRQKGKRGSG-C	-CSDFREPETAG-	-PSFGSVNLFLPPG-SLSPG-	-TYLSAPFHGDFAAVVIA-	GPTTHSS-
tammar POU5F1	VVRVWFCHRRQKGKRSNSNS-	-REDFFEAAGS-FGGH-	-HPELAQGPPPSH--	-SYYGHNET-	
armadillo POU5F1	VVRVWFCHRRQKGKRSNSDC-	-FEEAAGS-FGGH-	-VPLAHPVHFAGA-	-DSRSPTEFGDADSSLRVTF-	GSAMHSS-
elephant POU5F1	VVRVWFCHRRQKGKRSNSDC-	-FEEAAGS-FGGH-	-VPLAHPVHFAGA-	-ALYSSVPL-EGEAF-SVQVGS-	GSPPHNS-
mouse POU5F1	VVRVWFCHRRQKGKRSSEYS-	-QREEVEATGTF-	-FGGGVSPFLAIG-FHMGFT-	-GYYGPHHAT-	-GSPPHNS-
human POU5F1	VVRVWFCHRRQKGKRSSDYQAREDF-	-AAAGSPSSGGVSPFLAIG-	-FHMGFT-	-TLYSSVPESEGEAPSVQVTS-	-GSPPHNS-