```
T-COFFEE, Version_11.00 (Version_11.00)
Cedric Notredame
CPU TIME:0 sec.
SCORE=65
*
 BAD AVG GOOD
*
HsSir2          :  66
LdSir2rp1       :  69
LdSir2rp2       :  59
LdSir2rp3       :  71
LiSir2rp1       :  69
LiSir2rp2       :  59
LiSir2rp3       :  71
PfSir2A         :  69
PfSir2B         :  47
SmSir2          :  67
TbSir2rp1       :  66
TbSir2rp2       :  60
TbSir2rp3       :  69
TcSir2rp1       :  68
TcSir2rp3       :  69
cons            :   6

HsSir2          MAEP--DPSHPLETQAGKVQEAQDSDSDSEGGAAGGEADMDFLRNLFSQTLSLGSQKERLL--D-----
LdSir2rp1       MTAS--PR-----------A--------------------PHQ-------------EHVL--G-----
LdSir2rp2       MRPA-------------------------------------------------------------
LdSir2rp3       M--------------------------------------------------------------
LiSir2rp1       MTAS--PR-----------A--------------------PHQ-------------EHVL--G-----
LiSir2rp2       MRPA-------------------------------------------------------------
LiSir2rp3       M--------------------------------------------------------------
PfSir2A         MGNL---M-----------ISFLKK-----D--TQSI-------------------------------
PfSir2B         MSCM--NY-----------ASRLSKNEYKGP--LGEEE-------FFEDTE--------------E---
SmSir2          MSFDFLGI-------------------------------------------------KKALFGDNTPRP
TbSir2rp1       MTEP--KL-----------A--------------------TT----------------HVV--G-----
TbSir2rp2       MA---------------------------------------------------------------
TbSir2rp3       MR---------------------------------------------------------------
TcSir2rp1       MNQD--NA---------------------------------NFL---------------HVV--G-----
TcSir2rp3       M--------------------------------------------------------------

cons            *

HsSir2          EL---TLEGVARYMQS----ERC-RRVICLVGAGISTSAGIPDFRSPSTGLYDNL-EKYHLPYPE----
LdSir2rp1       EP---TLEGLARYIRE----KNV-RRILVLVGAGASVAAGIPDFRSPDTGIYANL-GKYNLEDTT----
LdSir2rp2       -------GTIASFMERCSARKPG-RGCVVLTGAGCSTESGIPDYRGPN-GQYHRA-D------FV----
LdSir2rp3       --------------------KAC-RCITILTGAGISAESGISTFRDSD-GLWCNH-N------VE----
LiSir2rp1       EP---TLEGLAHYIRE----KNV-RRILVLVGAGASVAAGIPDFRSPDTGIYANL-GKYNLEDPT----
LiSir2rp2       -------GTIASFMERCSARKPG-RGCVVLTGAGCSTESGIPDYRGPN-GQYHRA-D------FV----
LiSir2rp3       --------------------KAC-RCITILTGAGISAESGISTFRDSD-GLWCNH-N------VE----
PfSir2A         -----TLEELAKII------KKC-KHVVALTGSGTSAESNIPSFRGSSNSIWSKY-D------PR----
PfSir2B         -----EKKKVKELIEK---IRSS-EYIVVHSGAGISTSSGLQDFRGPT-GIWTNE-H------LNELKN
SmSir2          ELKSLNIEGVAQLIQD----GQV-NKIITMVGAGVSTAAGIPDFRSPSSGIYDNLEDFNLP-TPN----
TbSir2rp1       EP---TFEGLARFIER----NNI-TKIFVMVGAGISVAAGIPDFRSPHTGLYAKL-SRYNLNSPE----
TbSir2rp2       -------DRLAIFIKQCGL-----QRCVILTGAGCSTESGVPDYRGPN-GLYRRP-N------FV----
TbSir2rp3       --------------------RPN-GMIAILTGAGISAESGISTFRDQN-GLWENH-R------VE----
TcSir2rp1       EP---TFEALARYIER----NNV-TKILVMAGAGISVAAGIPDFRSPHTGIYARL-GKYNLNSPT----
TcSir2rp3       --------------------KLRRQVVTILTGAGISAESGLSTFRDNN-GLWENH-R------VE----

cons                                  *:* *. :.:  :*.   . : .

HsSir2          -------------------------AIFEISYFKKHP--------------------------------
LdSir2rp1       -------------------------DAFSLTLLREKP--------------------------------
LdSir2rp2       -------------------------L-LTFQNFMRDD--------------------------------
LdSir2rp3       -------------------------DVASPDAFIRNP--------------------------------
LiSir2rp1       -------------------------DAFSLTLLREKP--------------------------------
LiSir2rp2       -------------------------L-LTFQNFMRDD--------------------------------
LiSir2rp3       -------------------------DVASPDAFIRNP--------------------------------
PfSir2A         -------------------------IYGTIWGFWKYP--------------------------------
PfSir2B         KKKRNHDFKDNKRKLKSNDINCKNTSDMCSPSFFHKEKKENTLNIVKRERYYNEDNVDMNACNERVVHP
SmSir2          -------------------------AIFTIDYFRRDP--------------------------------
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TbSir2rp1   ------------------------DAFSLPLLRQQP------------------------------
TbSir2rp2   ------------------------P-LTRQVFLSGS------------------------------
TbSir2rp3   ------------------------DVCTPAAFLKQP------------------------------
TcSir2rp1   ------------------------DAFSITLLRERP------------------------------
TcSir2rp3   ------------------------EVACQYAFLRNP------------------------------

cons                                     :


HsSir2      ------------------------------------------------------------------
LdSir2rp1   ------------------------------------------------------------------
LdSir2rp2   ------------------------------------------------------------------
LdSir2rp3   ------------------------------------------------------------------
LiSir2rp1   ------------------------------------------------------------------
LiSir2rp2   ------------------------------------------------------------------
LiSir2rp3   ------------------------------------------------------------------
PfSir2A     ------------------------------------------------------------------
PfSir2B     NHVYVNHEDDNNNNNNNNNNDNNLYNNVYNSVGSNDHTNKESILIKKENNSENVRKDIHDKVNTKNVKK
SmSir2      ------------------------------------------------------------------
TbSir2rp1   ------------------------------------------------------------------
TbSir2rp2   ------------------------------------------------------------------
TbSir2rp3   ------------------------------------------------------------------
TcSir2rp1   ------------------------------------------------------------------
TcSir2rp3   ------------------------------------------------------------------

cons


HsSir2      -----------EPFFAL--AKE---LY-PGQFKPTICHYFMRLLKDKG---LLLRCYTQNIDTLERIAG
LdSir2rp1   -----------EIFYSIARELN---LW-PGHFQPTAVHHFIRLLQDEG---RLLRCCTQNIDGLEKAAG
LdSir2rp2   -----------NEKRRYWARSMLGYST-ISGASCNAAHMALQAFTKSG---AVAHILTQNVDGLHHLAT
LdSir2rp3   -----------ALVQLFYNERRR-NLL-LSSVKPNKAHIALAKLEEELSGKGKVVIVTQNVDNLHERAG
LiSir2rp1   -----------EIFYSIARELN---LW-PGHFQPTAVHHFIRLLQDEG---RLLRCCTQNIDGLEKAAG
LiSir2rp2   -----------NEKRRYWARSMLGYST-ISGASCNAAHMALQAFTKSG---AVAHILTQNVDGLHHLAT
LiSir2rp3   -----------ALVQLFYNERRR-NLL-LSSVKPNKAHIALAKLEEELSGKGKVVIVTQNVDNLHERAG
PfSir2A     -----------EKIWEVIRDI----SS-DYEIEINNGHVALSTLESLG---YLKSVVTQNVDGLHEASG
PfSir2B     IDVKETNNLDPENYVIFGKRKKK-VIE-LHLALPSKTHIMINELINKN---IIKFMITQNIDSLHHRCG
SmSir2      -----------RPFFEIARR-----LYRP-EAKPTLAHCFIRLLHDKG---LLLRHYTQNVDSLERLSG
TbSir2rp1   -----------SVFYNILMDMD---LW-PGKYCPTTVHHFISLLAKKG---MLLCCCTQNIDGLERACG
TbSir2rp2   -----------EHRKRYWARSMFGYNT-VSGASCNDTHMGLYELYRAG---VVNRLLTQNVDGLHHLAA
TbSir2rp3   -----------TVVQRFYNERRR-ALL-SPEVKPNASHQALARLQREY-KDGQVVIITQNIDDLHERAG
TcSir2rp1   -----------DVFYSIVREMD---LW-PGHFWPTLVHHFIKLLADEG---RLLRCCTQNIDGLERASG
TcSir2rp3   -----------LLVQRFYNERRR-ALF-SDCVAPNPAHLALAKLQREY-RGGRVVLVTQNVDNLHERAG

cons                      .  *  :  :        ***:* *.. .


HsSir2      L----------------EQEDLVEAHGTFYTSHCVSASCRHEYPLSWMKE-------------------
LdSir2rp1   V----------------SPELLVEAHGSFAAAACIECHTPFSIE--QNYL-------------------
LdSir2rp2   YGGVGDAEEEHYYKYTTSNAPLKELHGNIHNVICTSCGFLMPRA--RLQR---ELRERNPALYEQYGAD
LdSir2rp3   S------------------KNVLHMHGELLKVRCAATGNVFEWQ-------------------------
LiSir2rp1   V----------------SPELLVEAHGSFAAAACIECHTPFSIE--QNYL-------------------
LiSir2rp2   YGGVGDAEEEHYYKYTTSDAPLKELHGNIHNVICTSCGFLMPRA--RLQR---ELRERNPALYEQYGAD
LiSir2rp3   S------------------KNVLHMHGELLKVRCAATGNVFEWQ-------------------------
PfSir2A     N------------------TKVISLHGNVFEAVCCTCNKIVKLN--KIMLQKTSHFMH--Q--------
PfSir2B     K----------------HFSKTAEIHGNIFTERCDFCGRRYLRD--YLIS--TISFKP--T--------
SmSir2      L----------------PEEKLVEAHGTFHTGHCIKCNKQHDFE--FML--------------------
TbSir2rp1   I----------------PESLLVEAHGSFSSASCVDCHAKYDI----NIA--------------------
TbSir2rp2   HGGTGSKTVEAYAKYTSSNSGVLELHGNIHQVCCMQCGDVSPRR--RLQQ---RLCEANYQLCRDYEAE
TbSir2rp3   S------------------RQVLHMHGELLKVRCTATGRVFESR-------------------------
TcSir2rp1   L----------------PMSFLVEAHGSFSTASCIECRSPYDIE--LASR--------------------
TcSir2rp3   S------------------VSVLHMHGELLKVRCTATEEVFDWT-------------------------

cons        ** .    *


HsSir2      --------------KIFS-EV-TPKC--EDC--Q---SLVKPDIVFFGESLPARFFSC--MQS-DFLKV
LdSir2rp1   --------------EAMS-GT-VSRC--STC--G---GIVKPNVVFFGENLPDAFFDA--LHH-DAPIA
LdSir2rp2   MSRVRPDGDYSAPTEALNAMH-LVMC--PRC--N---GFFKPHVVLFGENVPKPIVET--TMNVVRDKA
LdSir2rp3   -------------KDI---VGDVDRCPDCGL--L---GTLRPHIVWFGEMPL--CMDE--IES-ILSKT
LiSir2rp1   --------------EAMS-GT-VSRC--STC--G---GIVKPNVVFFGENLPDAFFDA--LHH-DAPIA
```

```
LiSir2rp2    MSRVRPDGDYSAPTEALNAMH-LVMC--PRC--N---GFFKPHVVLFGENVPKPIVET--TMNVVRDKA
LiSir2rp3    -------------KDI---VGDVDRCPDCGL--L---GTLRPHIVWFGEMPL--CMDE--IES-ILSKT
PfSir2A      -----------LP-------------PECPC--G---GIFKPNIILFGEVVSSDLLKE--AEE-EIAKC
PfSir2B      -----------GS-------------LCFLC--SFPPIGVCTDVLLDWNNSYEEFFHLNSIKH--SQIA
SmSir2       ---------------NEI-LA-KRVP--QCLKCR---NVVKPDVVLFGESMPKKFFKN--LSS-DLNNC
TbSir2rp1    --RA----------ETRA-GK-VPHC--NQC--G---GIVKPDVVFFGENLPEAFFNV--A-G-LIEET
TbSir2rp2    FSEVRPDGDYEVPDRVVQAMQ-LVCC--EHC--G---GLLKPHVVLFGENVPKECVRE--AYTA-VRAA
TbSir2rp3    -------------EDVIHGES-KCEC--CGV--V---ETLRPHIVWFNEMPL--YMDV--IDE-VVQNA
TcSir2rp1    -------------ESRE-GK-VPHC--DRC--G---GVVKPDVVFFGESLPDAFFNV--F-A---EIT
TcSir2rp3    -------------EDVVHGTS-RCKC--CNA--V---DTLRPHIVWFGEMPL--HMDE--ISA-AVEET

cons

HsSir2       D--LLLVMGTSLQVQPFASLISKA-PL-STP-R-----------------------------------
LdSir2rp1    E--LVIIIGTSMQVHPFALLPCVV-PK-SVP-R-----------------------------------
LdSir2rp2    S--CLLCLGTSLQVYSAYRYVLEA-KQLGIP-V-----------------------------------
LdSir2rp3    D--LFVAIGTSGNVYPAAGFVKRA-QFYGAT-T-----------------------------------
LiSir2rp1    E--LVIIIGTSMQVHPFALLPCVV-PK-SVP-R-----------------------------------
LiSir2rp2    S--CLLCLGTSLQVYSAYRYVLEA-KQLGIP-V-----------------------------------
LiSir2rp3    D--LFVAIGTSGNVYPAAGFVKRA-QFYGAT-T-----------------------------------
PfSir2A      D--LLLVIGTSSTVSTATNLCHFA-CK-KKKKI-----------------------------------
PfSir2B      D--FHFCLGSSFYIVPASSYPSKK-KY-ANANSYSCVINYQKSFLSKEVNLNIHSNVNNISDIIIKEFS
SmSir2       D--LLIIMGTSLTVLPFCAMIHRV-GN-DVP-R-----------------------------------
TbSir2rp1    E--LLLILGTSLQVHPFADLALMV-PS-DVP-R-----------------------------------
TbSir2rp2    S--CLICLGTSLQVFSALRFVLAA-RESGVP-I-----------------------------------
TbSir2rp3    G--LFVAVGTSGNVYPAAGLVMIA-KAHGAE-T-----------------------------------
TcSir2rp1    EVELLLIMGTSLQVHPFAELAVRVRP--DVP-R-----------------------------------
TcSir2rp3    D--LFVAVGTSGNVYPAAGFVTRA-REKGAR-T-----------------------------------

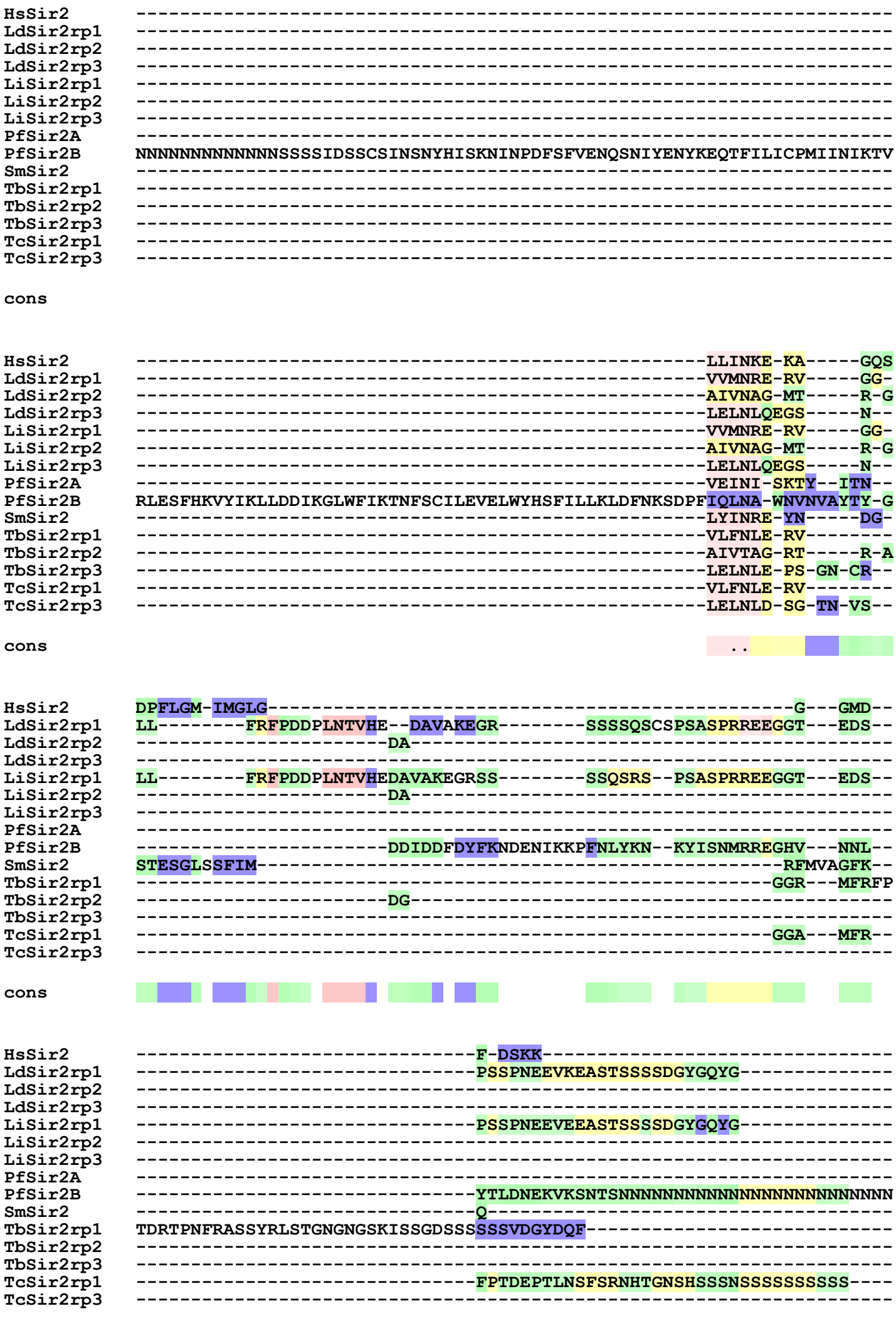
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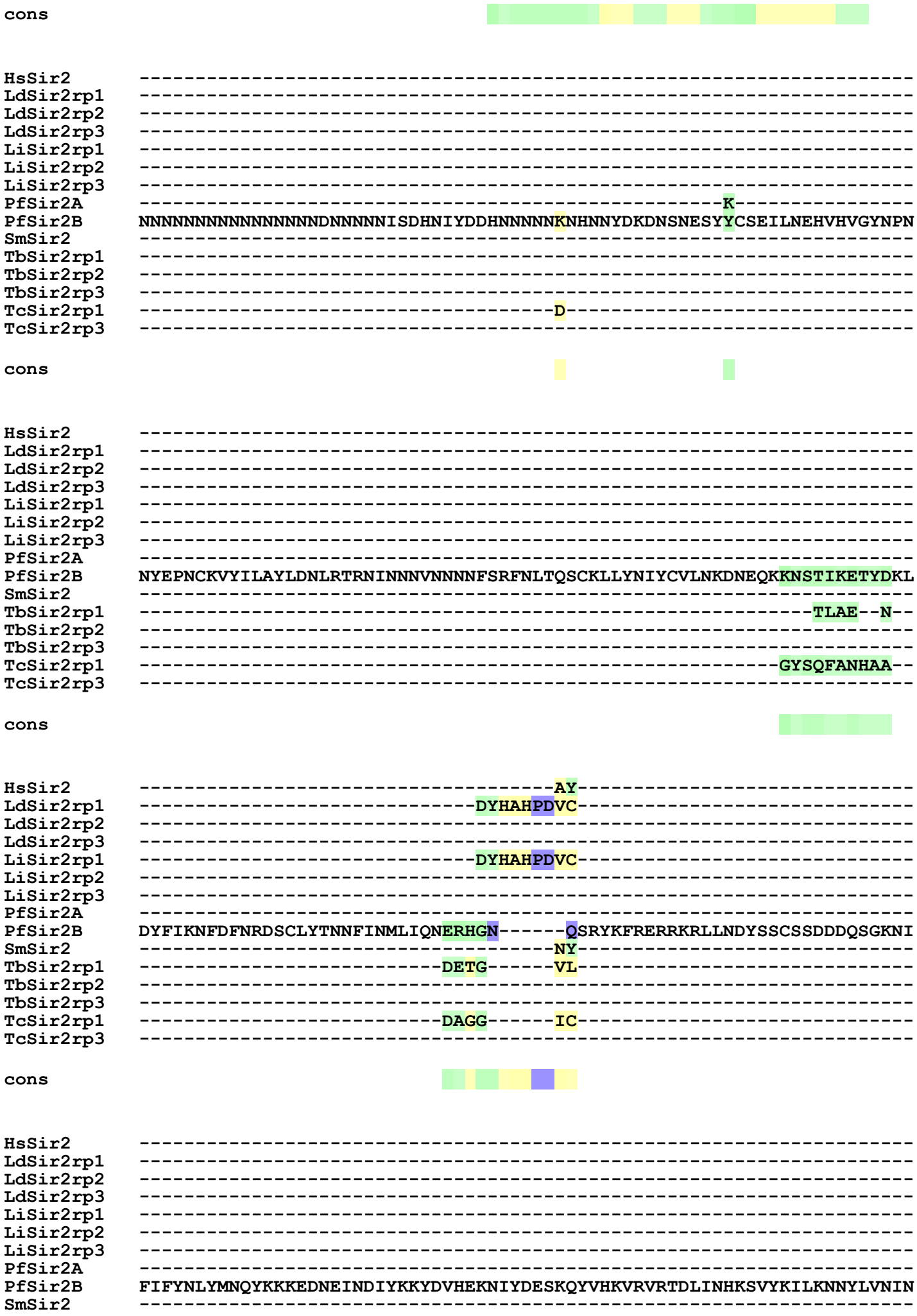
HsSir2       -------------------------------------------------------------------
LdSir2rp1    -------------------------------------------------------------------
LdSir2rp2    -------------------------------------------------------------------
LdSir2rp3    -------------------------------------------------------------------
LiSir2rp1    -------------------------------------------------------------------
LiSir2rp2    -------------------------------------------------------------------
LiSir2rp3    -------------------------------------------------------------------
PfSir2A      -------------------------------------------------------------------
PfSir2B      LNPLSIRSARITIVRCPINTLDVICDKLISIHNIKMKHKSMRQHSIDYSQMGNKDEKYNNEKYVKRNMT
SmSir2       -------------------------------------------------------------------
TbSir2rp1    -------------------------------------------------------------------
TbSir2rp2    -------------------------------------------------------------------
TbSir2rp3    -------------------------------------------------------------------
TcSir2rp1    -------------------------------------------------------------------
TcSir2rp3    -------------------------------------------------------------------

cons

HsSir2       -------------------------------------------------------------------
LdSir2rp1    -------------------------------------------------------------------
LdSir2rp2    -------------------------------------------------------------------
LdSir2rp3    -------------------------------------------------------------------
LiSir2rp1    -------------------------------------------------------------------
LiSir2rp2    -------------------------------------------------------------------
LiSir2rp3    -------------------------------------------------------------------
PfSir2A      -------------------------------------------------------------------
PfSir2B      ECLYYNKEGECYEKRKYKLMEKKFFPNNQQNEFIPNRINIFEQKFHEHNNNNNNNNNNNNNNNNNNNN
SmSir2       -------------------------------------------------------------------
TbSir2rp1    -------------------------------------------------------------------
TbSir2rp2    -------------------------------------------------------------------
TbSir2rp3    -------------------------------------------------------------------
TcSir2rp1    -------------------------------------------------------------------
TcSir2rp3    -------------------------------------------------------------------

cons
```


HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons


cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2

```
TbSir2rp1   ------------------------------------------------------------
TbSir2rp2   ------------------------------------------------------------
TbSir2rp3   ------------------------------------------------------------
TcSir2rp1   ------------------------------------------------------------
TcSir2rp3   ------------------------------------------------------------

cons


HsSir2      ------------------------------------------------------------
LdSir2rp1   ------------------------------------------------------------
LdSir2rp2   ------------------------------------------------------------
LdSir2rp3   ------------------------------------------------------------
LiSir2rp1   ------------------------------------------------------------
LiSir2rp2   ------------------------------------------------------------
LiSir2rp3   ------------------------------------------------------------
PfSir2A     ------------------------------------------------------------
PfSir2B     NMKLMEKKNNSEKLFLINDKDNNSLLSINNKENFNCIPSRQNNVKKNSEYMHEEENNKTNSNENIARLN
SmSir2      -------------------MKW------------------------------------------
TbSir2rp1   ------------------------------------------------------------
TbSir2rp2   ------------------------------------------------------------
TbSir2rp3   ------------------------------------------------------------
TcSir2rp1   ------------------------------------------------------------
TcSir2rp3   ------------------------------------------------------------

cons

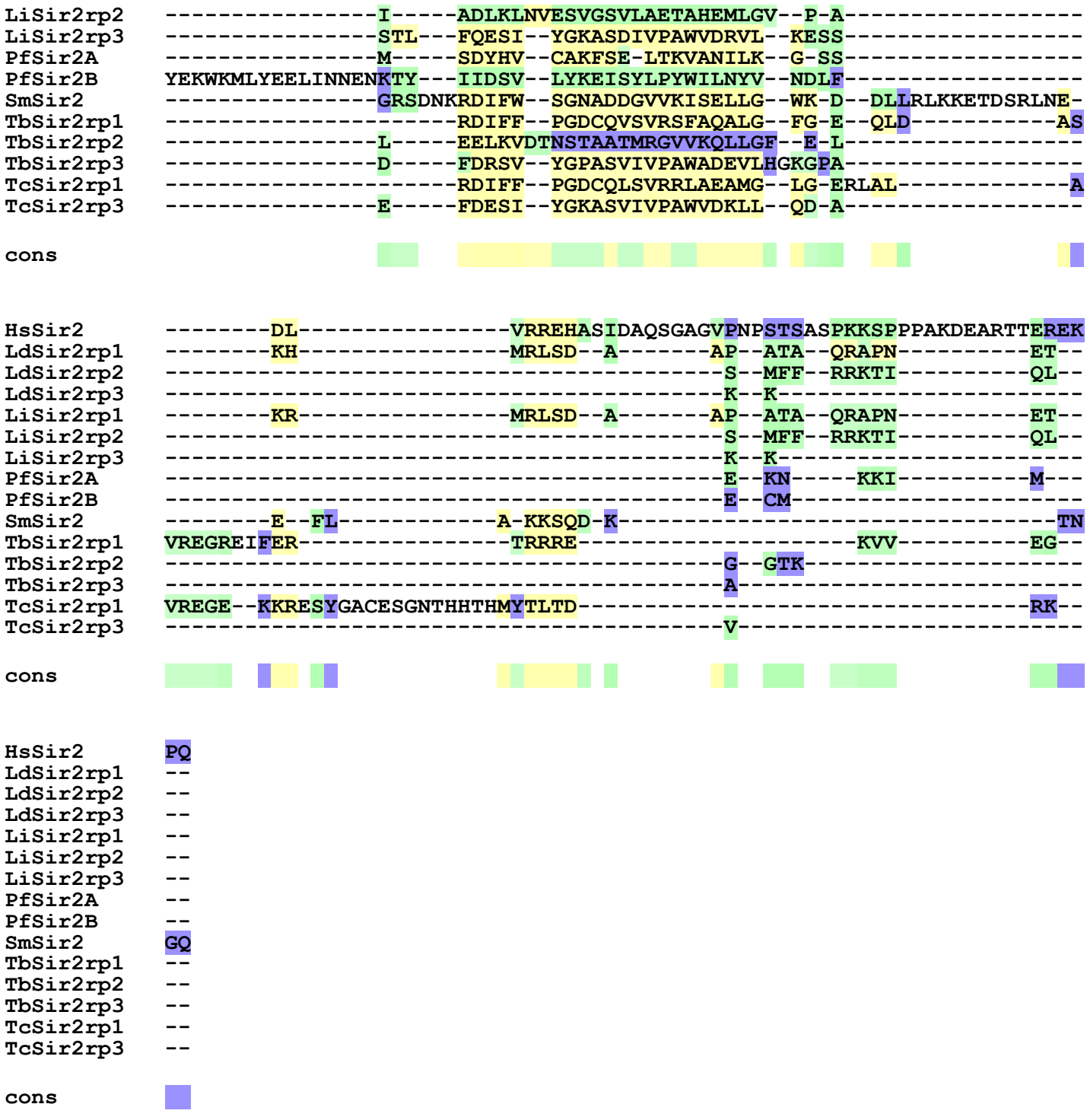

HsSir2      ------------------------------------------------------------
LdSir2rp1   ------------------------------------------------------------
LdSir2rp2   ------------------------------------------------------------
LdSir2rp3   ------------------------------------------------------------
LiSir2rp1   ------------------------------------------------------------
LiSir2rp2   ------------------------------------------------------------
LiSir2rp3   ------------------------------------------------------------
PfSir2A     ------------------------------------------------------------
PfSir2B     NNDFIQVMETEKQKKYNSFDKYNSDRSSINDTFDEIKYNKNNDNNNDDNNYDDNKNDDDNNNDDNNNND
SmSir2      ------------------------------------------------------------
TbSir2rp1   ------------------------------------------------------------
TbSir2rp2   ------------------------------------------------------------
TbSir2rp3   ------------------------------------------------------------
TcSir2rp1   ------------------------------------------------------------
TcSir2rp3   ------------------------------------------------------------

cons


HsSir2      ------------------------------------------------------------
LdSir2rp1   ------------------------------------------------------------
LdSir2rp2   ------------------------------------------------------------
LdSir2rp3   ------------------------------------------------------------
LiSir2rp1   ------------------------------------------------------------
LiSir2rp2   ------------------------------------------------------------
LiSir2rp3   ------------------------------------------------------------
PfSir2A     ------------------------------------------------------------
PfSir2B     DNNNNDDNNNNDDNNNGYIYSPVLFINKKFKLGELVYKIPKYVKPQKIYTPYKKISRNKKYSNTLQKDR
SmSir2      ------------------------------------------------------------
TbSir2rp1   ------------------------------------------------------------
TbSir2rp2   ------------------------------------------------------------
TbSir2rp3   ------------------------------------------------------------
TcSir2rp1   ------------------------------------------------------------
TcSir2rp3   ------------------------------------------------------------

cons


HsSir2      ----------------------RDVAW--LGECDQGCLALAELLG--WK-K--ELE-------------
LdSir2rp1   ----------------------RDVLF--RGDCQENVVTLAEYLG--LS-E--ALA-------------
LdSir2rp2   ----------------I-----ADLKLNVESVGSVLAETAHEMLGV--P-A------------------
LdSir2rp3   ----------------STL---FQESI--YGKASDIVPAWVDRVL--KESS-----------------
LiSir2rp1   ----------------------RDVLF--RGDCQENVVTLAEYLG--LS-E--ALA-------------
```


LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons
HsSir2
LdSir2rp1
LdSir2rp2
LdSir2rp3
LiSir2rp1
LiSir2rp2
LiSir2rp3
PfSir2A
PfSir2B
SmSir2
TbSir2rp1
TbSir2rp2
TbSir2rp3
TcSir2rp1
TcSir2rp3
cons