Meta-plots of the motif match enrichment near splice donor, acceptor, TSS, start and stop codon positions (y-axis scaled separately)

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**ACCEPTOR**

**SNRPA−CAUUGCACN**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 8e−04            | 500      |
| 6e−04            | 0        |
| 4e−04            | 250      |
| 2e−04            | −250     |
| 0e+00            | −500     |

**intron**  **exon**

**SNRPA−NUGCACR**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 0.0002           | 500      |
| 0.0015           | 0        |
| 0.0010           | 250      |
| 0.0005           | −250     |
| 0.0000           | −500     |

**MEX3B_3−UAGAGUUUAU**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 6e−04            | 500      |
| 4e−04            | 0        |
| 2e−04            | 250      |
| 0e+00            | −250     |
| 0e+00            | −500     |

**intron**  **exon**

**MEX3B_3−UAUUUAU**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 4e−04            | 500      |
| 3e−04            | 0        |
| 2e−04            | 250      |
| 1e−04            | −250     |
| 0e+00            | −500     |

**intron**  **exon**

**KHDRBS2−UAAACAAAUA**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 6e−04            | 500      |
| 4e−04            | 0        |
| 2e−04            | 250      |
| 1e−04            | −250     |
| 0e+00            | −500     |

**intron**  **exon**

**CELF3_2−UGUGUNUGGU**

- - antisense  sense  - antisense  sense

| normalized count | position |
|------------------|----------|
| 3e−04            | 500      |
| 2e−04            | 0        |
| 1e−04            | 250      |
| 0e+00            | −250     |
| 0e+00            | −500     |

**intron**  **exon**
ACCEPTOR

RBMY1E−NGCUUCGNGCN

RBMY1E−NAGCUUNUGUGCUN

RBMY1F−NGCCCUCAAGGYN

RBMY1F−GCGCAAGAGC

RBMY1J−NGCCCUCAAGGYN

RBMY1J−GCGCAAGAGC
SNRPA–CAUUGCACN

- antisense — sense
- antisense • sense

SNRPA–NUGCACR

- antisense — sense
- antisense • sense

MEX3B_3–UAGAGUUUAU

- antisense — sense
- antisense • sense

MEX3B_3–UAUUUAU

- antisense — sense
- antisense • sense

KHDRBS2–UAAACAAUAA

- antisense — sense
- antisense • sense

CELF3_2–UGUGUNUGUGU

- antisense — sense
- antisense • sense

KHDRBS2–UAAACAAUAA

- antisense — sense
- antisense • sense
| DONOR       | MSI2–GUAGUNNNGUAGK | ZCRB1–GNNUUAAKK | ZCRB1–GUGGACUUAA | LARP6–GUGUCNNNNNNNNNGAAGUCN |
|-------------|--------------------|----------------|------------------|----------------------------|
|             |                    |                |                  |                            |
|             |                    |                |                  |                            |

- antisense — sense
- antisense • sense

- antisense — sense
- antisense • sense

- antisense — sense
- antisense • sense

- antisense — sense
- antisense • sense

| exon     | intron     | exon     | intron     |
|----------|------------|----------|------------|
| normalized count |               | normalized count |               |
| position |            | position |            |

-500 −250 0 250 500
RBFOX1_4–GKUGCAUGUG

RBFOX3–GUWGCAUGUG

RBM4–KGUUGCGGCG

RBM4–UGAGUCGCGGUAG

RBM4B–KGUUGCGGCG

RBM4B–UGAGUCGCGGUAG
TSS

TARDBP−GUGUGAAUGG

PUM2−NNUGUAYAGK

KHDRBS3−UAAANNNNNNUAAA

THUMPD1−UUCGUGGCUUG
TSS

SNRPA–CAUUGCACN

- • antisense — sense • antisense • sense

SNRPA–NUGCACR

- • antisense — sense • antisense • sense

MEX3B_3–UAGAGUUAUU

- • antisense — sense • antisense • sense

MEX3B_3–AUUUUAU

- • antisense — sense • antisense • sense

KHDRBS2–UAAACAAUAA

- • antisense — sense • antisense • sense

CELF3_2–UGUGUNUGUGU

- • antisense — sense • antisense • sense

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START codon

RBM42–NGGAACUAAN

- antisense
- sense

HNRNPCCL1–GUUUUUUGGG

- antisense
- sense

KHDRBS1–UAAUAGN

- antisense
- sense

ZFR_4–GUGACGGAUG

- antisense
- sense

HNRPLL–GCAURCAYCC

- antisense
- sense

ZFR_4–GUGCAGGAUGN

- antisense
- sense
STARTcodon

RBMS1–UUUAUAUCAAC

NOVA2_3–UCAUUCAU

ZFP36–KUAUUUAUGGUGG

ZFP36–UUUUAUUU

ELAVL4–UUUUAAUUUG

QKI–ACUAACANNACUAACA
STARTcodon

TARDBP−GUGUGAAUGG

−500 −250 0 250 500

PUM2−NNUGUAYAGK

−500 −250 0 250 500

KHDRBS3−UAAANNNNNNNUAAA

−500 −250 0 250 500

THUMPD1−UUCGUUGGCUUG

−500 −250 0 250 500
START codon

**RNA Pol III**

**RPNA3-5GGGGGGGGGUACUACKKGGK**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense

**RB14-UGCGUCG**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense

**CELF4-UGUGUUGUGU**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense

**ZRANB2-NNNGGUAAGGUNN**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense

**RBM4-CGGGGURUGN**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense

**RBPMS-NGGCACR**

- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
- Antisense — Sense
STARTcodon

ZC3H10–NGCGCAGCGUN

RBFOX1_2–GCAUGNNNGCAUG

MSI1–KUAGUWKUAGK

HEXIM1–GKDKCGACGGK

SART3–NGUUAGCRK

MSI2–GUAGUGDGUAGK
STOP codon

ZC3H12C–NUGCNCAGUCGGUAGC

HNRNPL_2–ACAUWWCAUW

RBMS2–CAGUGAUUUGG

RBM14–GGKUGCGUCG

RBMS2–CGNUUAUAUAG

RBMS1–GUAUUUAKNGGG
STOPcodon

RBMS1–UUAUAAUCAAC

· · antisense  sense  · antisense  sense

NOVA2_3–UCAUUCAU

· · antisense  sense  · antisense  sense

ZFP36–KUAUUUAUGGUUG

· · antisense  sense  · antisense  sense

ZFP36–UUAAUUAUU

· · antisense  sense  · antisense  sense

ELAVL4–UUUAUUUUG

· · antisense  sense  · antisense  sense

QKI–ACUAACANNUCACA

· · antisense  sense  · antisense  sense
STOP codon

**TARDBP−GUGUGAAUGG**

- - antisense  sense  antisense  sense

**TARDBP−GUGUGNGUGUG**

- - antisense  sense  antisense  sense

**PUM2−NNUGUAYAGK**

- - antisense  sense  antisense  sense

**PUM2−NUGUAAAUAGKN**

- - antisense  sense  antisense  sense

**KHDRBS3−UAAANNNNNNUAAA**

- - antisense  sense  antisense  sense

**THUMPD1−UUCGUGGCUUG**

- - antisense  sense  antisense  sense
| Gene            | Sequence                      | Position | Normalized Count |
|-----------------|-------------------------------|----------|------------------|
| MEX3D-UNURUUUAUU | ![Graph](image1.png)         | -500     | 0.0e+00          |
| RBPMS2-CACAGNGCACA | ![Graph](image2.png)        | -500     | 0.0e+00          |
| RBPMS2-UCACRUGCACA | ![Graph](image3.png)        | -500     | 0.0e+00          |
| YBX2-GCCAUNNAUCGC | ![Graph](image4.png)        | -500     | 0.0e+00          |
| YBX2-NUAACAUCAUCNN | ![Graph](image5.png)       | -500     | 0.0e+00          |

STOP codon

104
STOP codon

CSTF2T–CGUAGCGUCU

SNRNP70–GNUCANGNNG

SNRNP70–GUUCAAGGUG

DAZ4–GYUCUAGUAGYAUCC

IGF2BP1–CAGNUWCA

HEXIM2–NGCGACGGKN

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense

- - antisense • sense • antisense • sense
STOP codon

DAZAP1–UUAGGUUAGG

CARHSP1–GCCAUGAUCAUGAU

CARHSP1–UUGCCUUGUCCCGAU

RNPC3–GGGUSUACGGGGU

ELAVL1–UUUAUGNUUU

RBM46–GUGAUUG

11
STOP codon

ESRP1_3—GGUGUGGUGU

SNRPB2—GGGUGUGGCAC

SNRPB2—NNCAUUGCACN

MEX3C—NNAGAGUUUAUNN

HNRNPA0—KUAGKUUAGGK

HNRNPA0—KUAGKUUUAGGK

12

108
STOP codon

RNPC3–GGGDDGGGDKUACKKGGK

RBM14–UGCGUCG

CELF4–UGUGUUGUGU

ZRANB2–NNNGGUAAAGGUNN

RBM4–CGGGGURUGN

RBPMS–NAGGCACR
STOP codon

DAZ1_2–NNUGUGUGSGUUUCCGSN

- antisense - sense
- antisense - sense

DAZ1_2–NUGKUGUUGUAGN

- antisense - sense
- antisense - sense

DAZ1_2–CRNAUGUUGUAGN

- antisense - sense
- antisense - sense

DAZ3–NNUGUGUGSGUUUCCGSN

- antisense - sense
- antisense - sense

DAZ4–NNUGUGUGSGUUUCCGSN

- antisense - sense
- antisense - sense

DAZ4–CUGKUGUUGUAGG

- antisense - sense
- antisense - sense
STOP codon

RBM6–YRCGCUCCUNGCY

RBM6–YRYGCUCGUGCYN

RBMS1–SGUGCAUAAAKGCN

RBMS2–NUGCAUAAUGN

RBMS3–NUGCAUAAUGN

RBMS3–SAUGYAURAKKUG

Normalized count vs. position for antisense and sense orientations.
STOP codon

**RNPC3**–GCAGUKUUGGGGY

- antisense  —  sense  —  antisense  —  sense

**YBX1**–RCCAYRHCAUCGY

- antisense  —  sense  —  antisense  —  sense

**ZC3H12A**–NGCAGGUAAGUCN

- antisense  —  sense  —  antisense  —  sense

**ZC3H12B**–NGCAGGUAAGUGSN

- antisense  —  sense  —  antisense  —  sense

**ZC3H12B**–SCAGGUAUUAUGS

- antisense  —  sense  —  antisense  —  sense