

SBS1



SBS3



SBS4

$C > A$

C>G

$C > T$

T>A

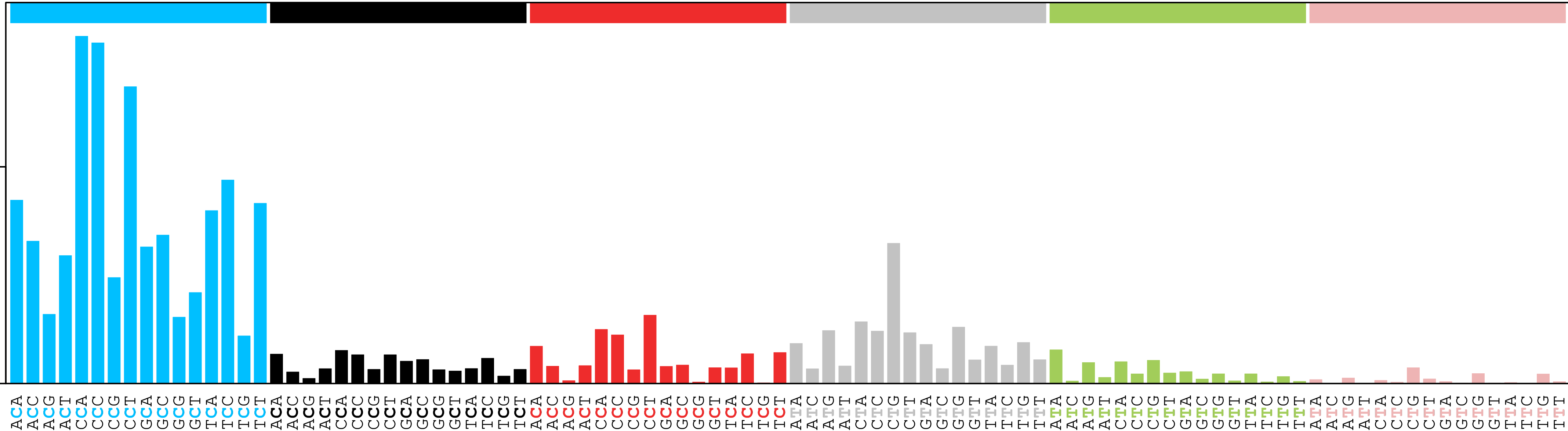
$$T > C$$

$T > G$

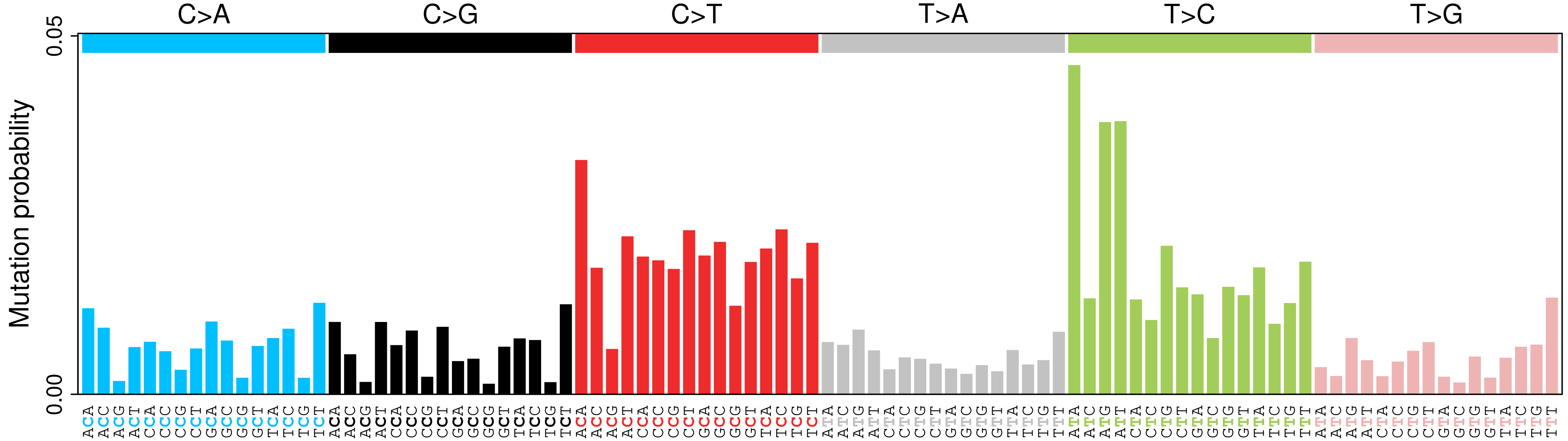
Mutation probability

0.05

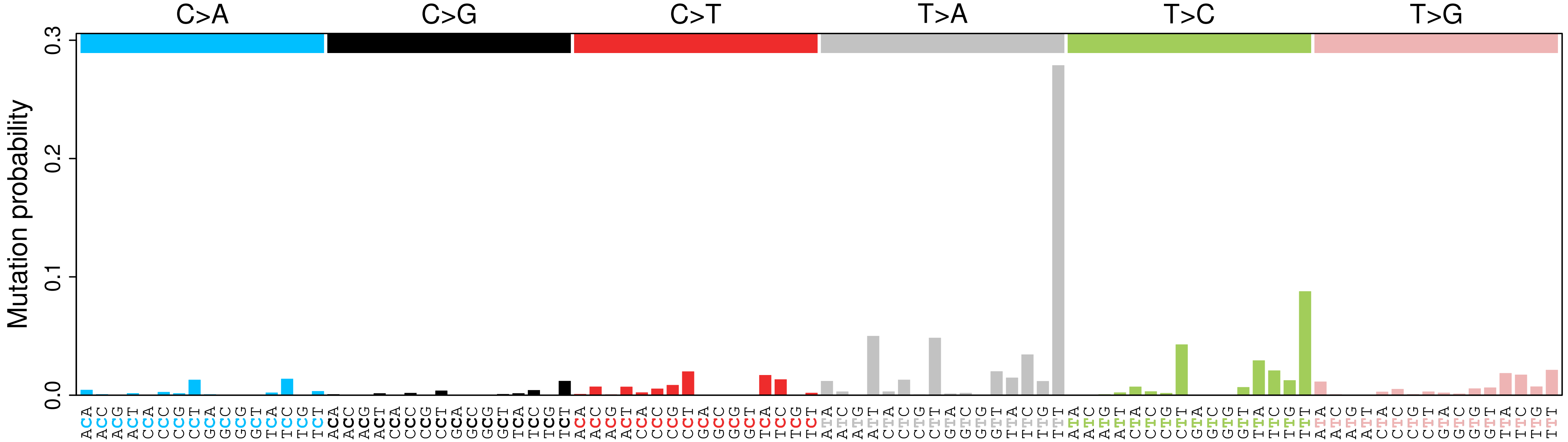
0.00



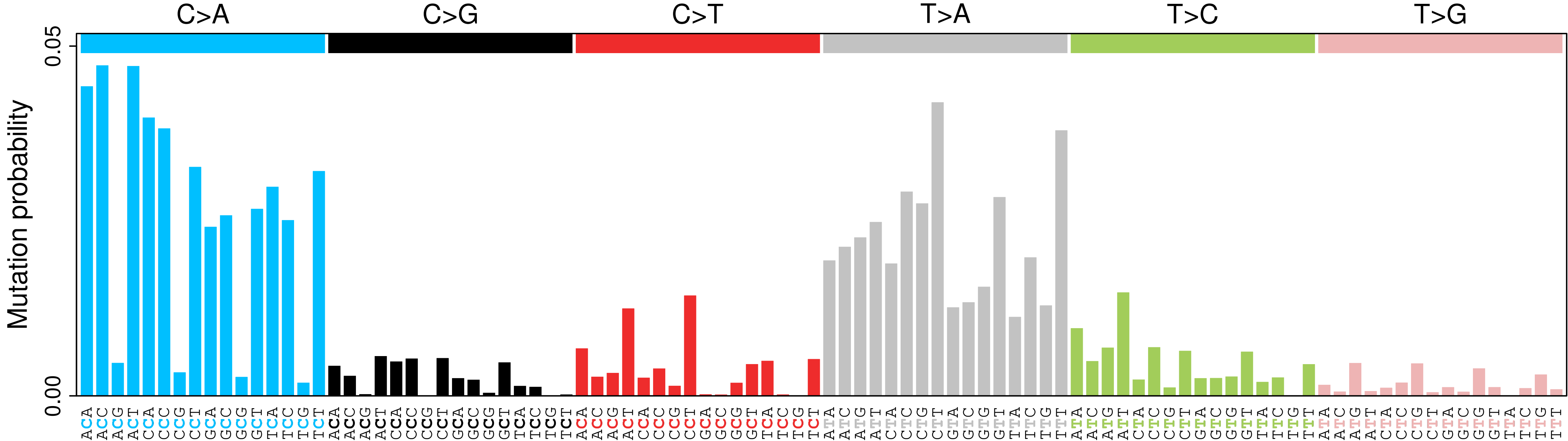
SBS5



SBS7c



SBS8



SBS9

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS10c

C > A

C > G

$C > T$

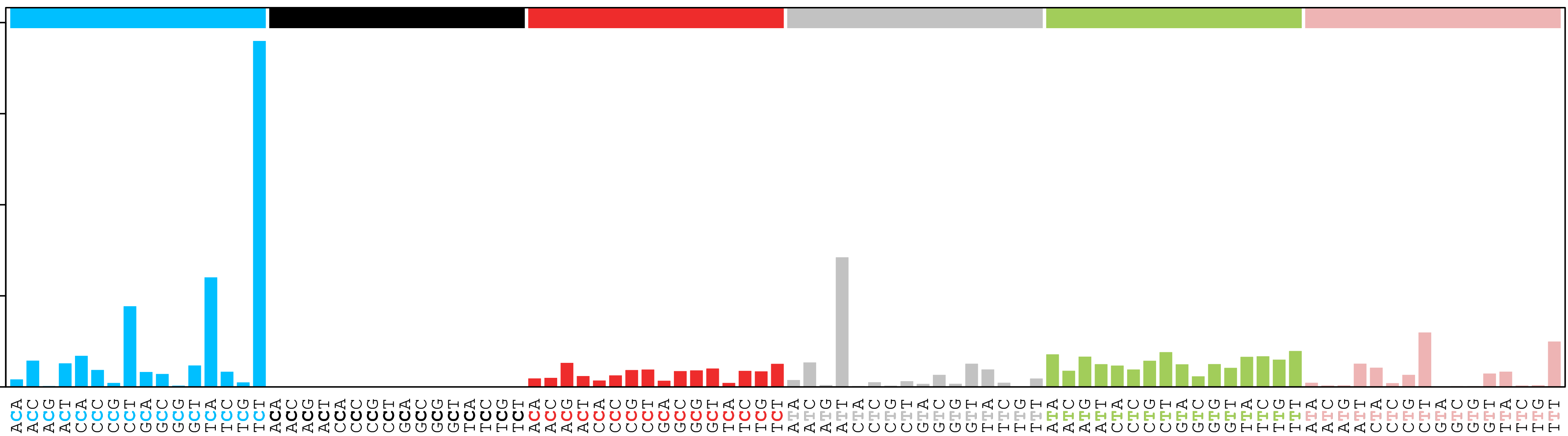
T > A

$T > C$

T>G

Mutation probability

0.00 0.05 0.10 0.15 0.20



SBS12

C>A

C>G

C>T

T>A

T>C

T>G

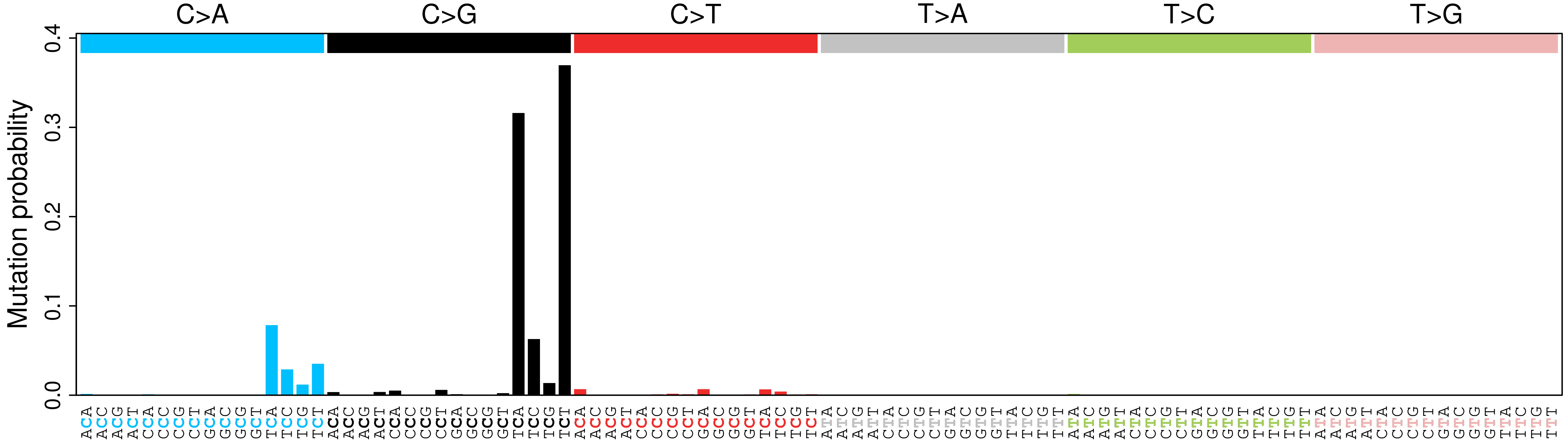
Mutation probability

0.05

0.00

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SBS13



SBS14

C > A

C > G

$$C > T$$

T>A

$T > C$

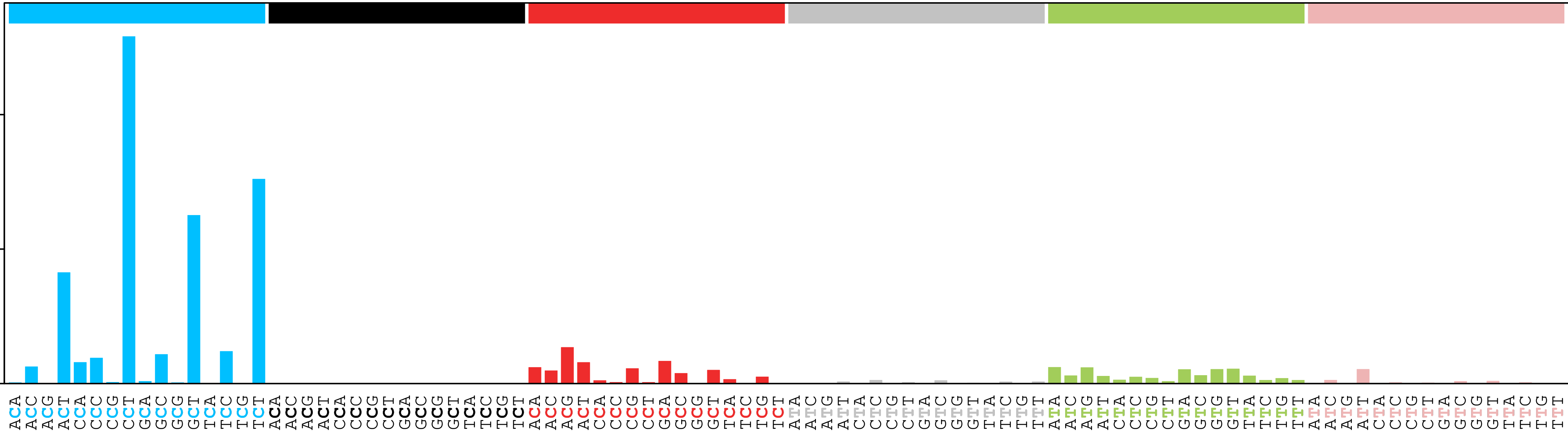
T>G

Mutation probability

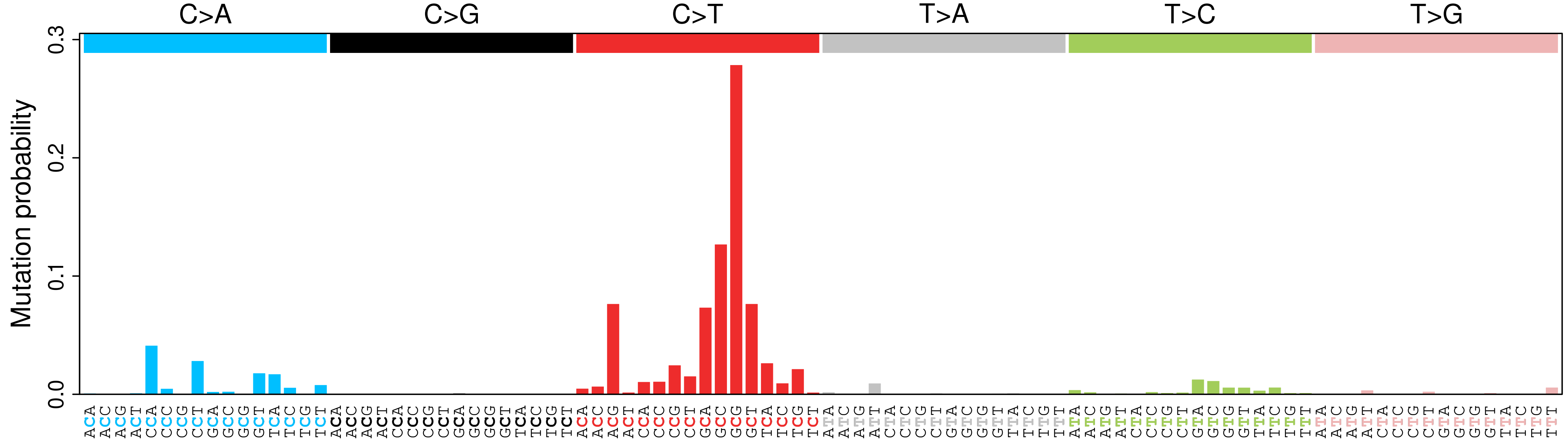
0.2

0.1

0



SBS15



SBS17a

C>A

C>G

C>T

T>A

T>C

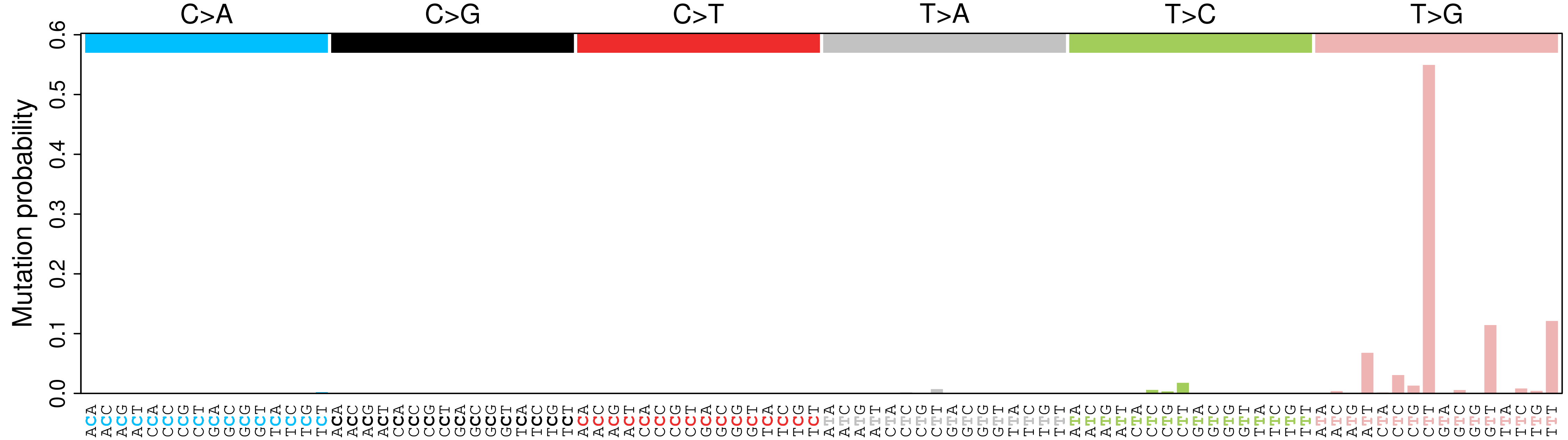
T>G

Mutation probability

0.4
0.3
0.2
0.1
0.0

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS17b



SBS18

C > A

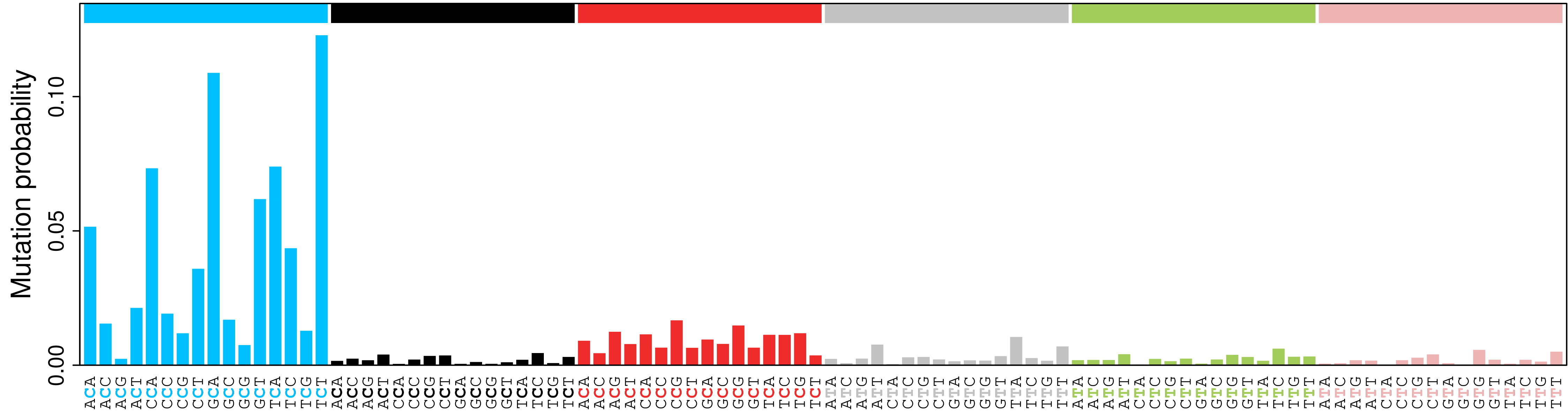
C > G

$$C > T$$

T > A

$T > C$

T>G



SBS22b

$C > A$

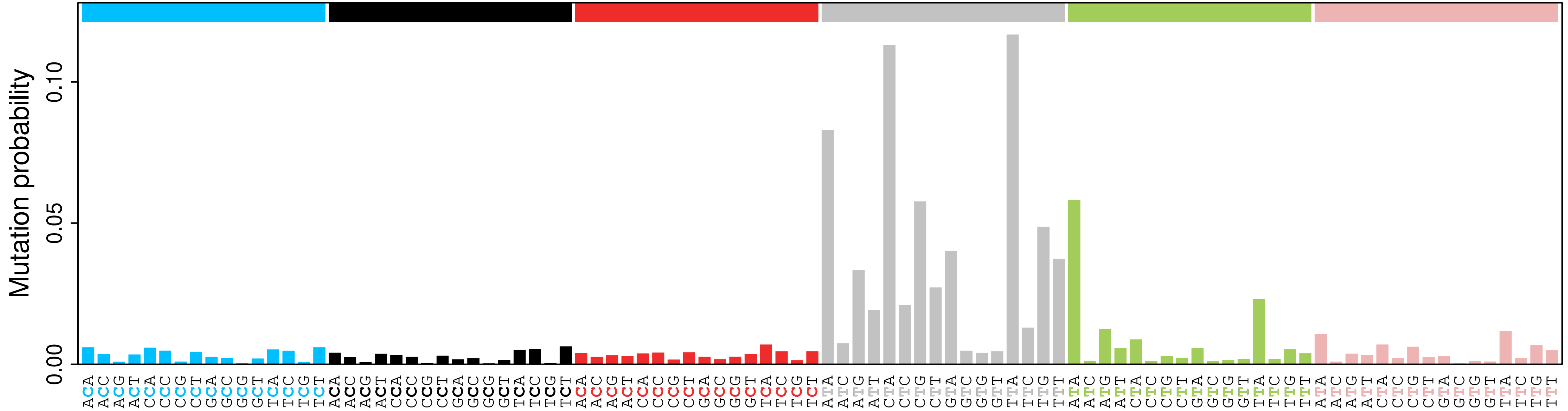
C > G

C>T

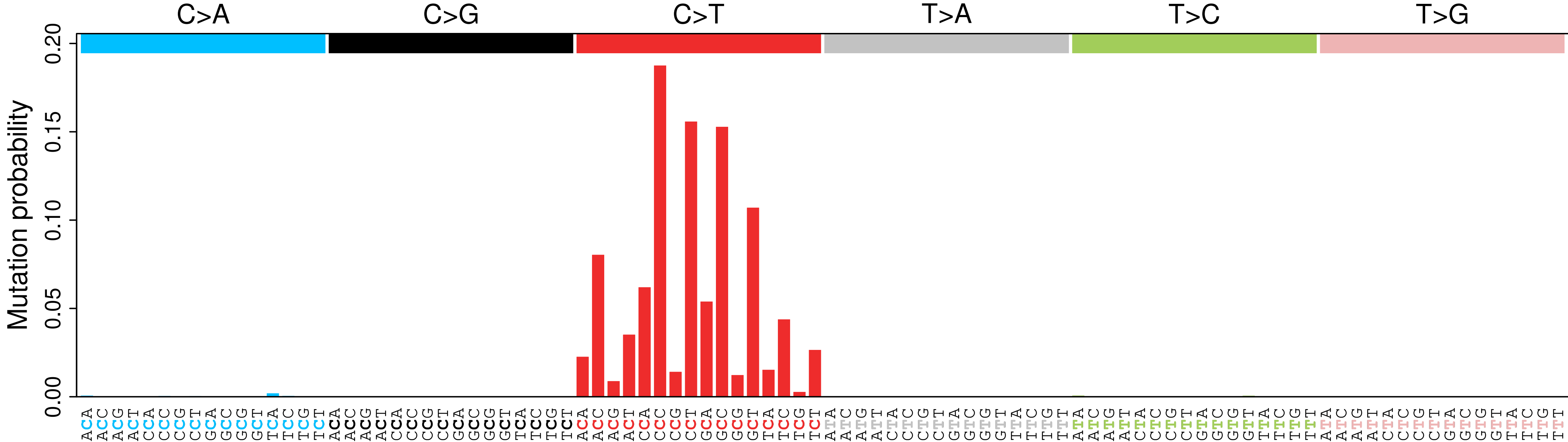
T>A

$T > C$

T>G



SBS23



SBS24

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.10

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GGA GGC GGT GCA GCC GCG GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GGA GCC GCG GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GGA GCC GCG GCT TCA TCC TCG TCT ATC ATG ATT ATA CTC CTT CTA CTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTT CTA CTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTT CTA CTC GTG GTT TTA TTC TTG TTT

SBS25

C>A

C>G

C>T

T>A

T>C

T>G

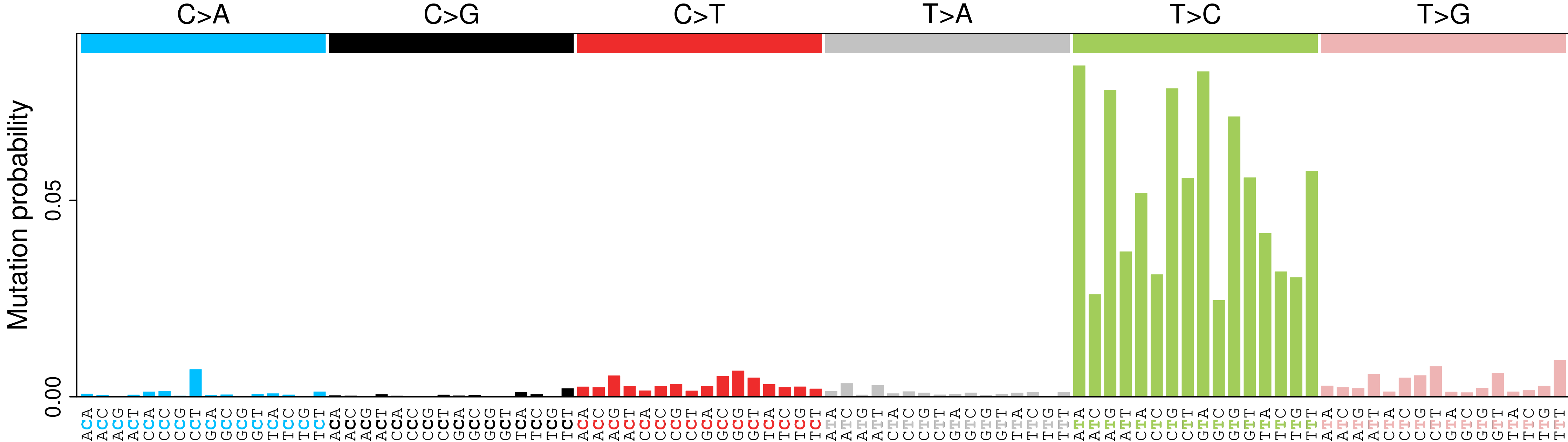
Mutation probability

0.05

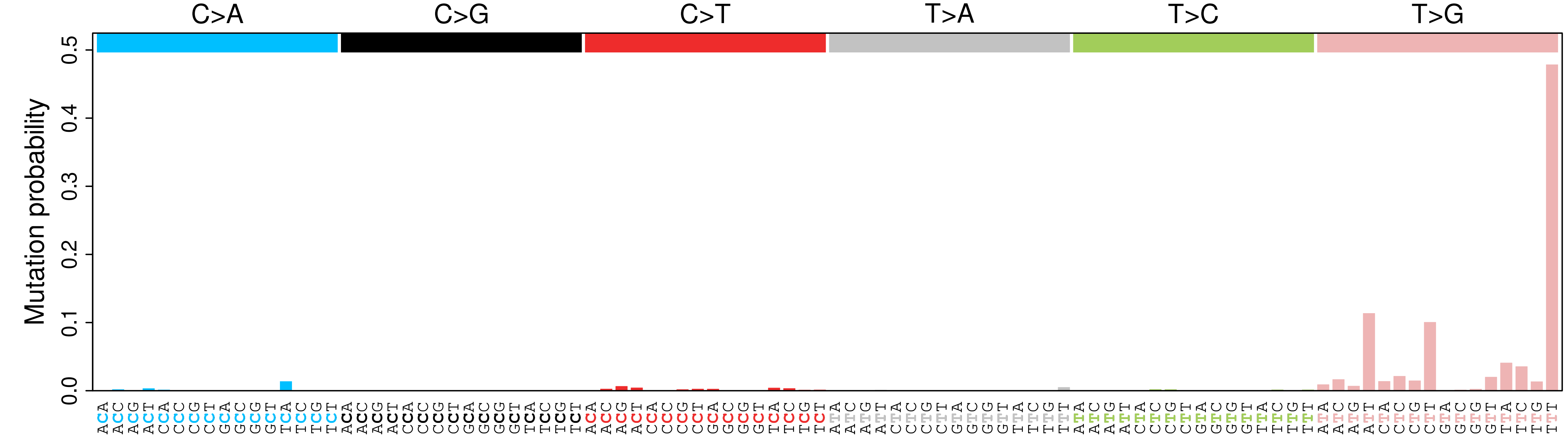
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SBS26



SBS28



SBS31

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.15
0.10
0.05
0.00

ACA ACC ACG ACT CCA CCC CCG CCT CCA GCA GCC GCG GGT GCA GGC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GGC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GGC GCG GGT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CCG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CCG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS34

C > A

C > G

$$C > T$$

T>A

$T > C$

T>G

Mutation probability

3.

 \circ

0.1

[illegible]

SBS35

C > A

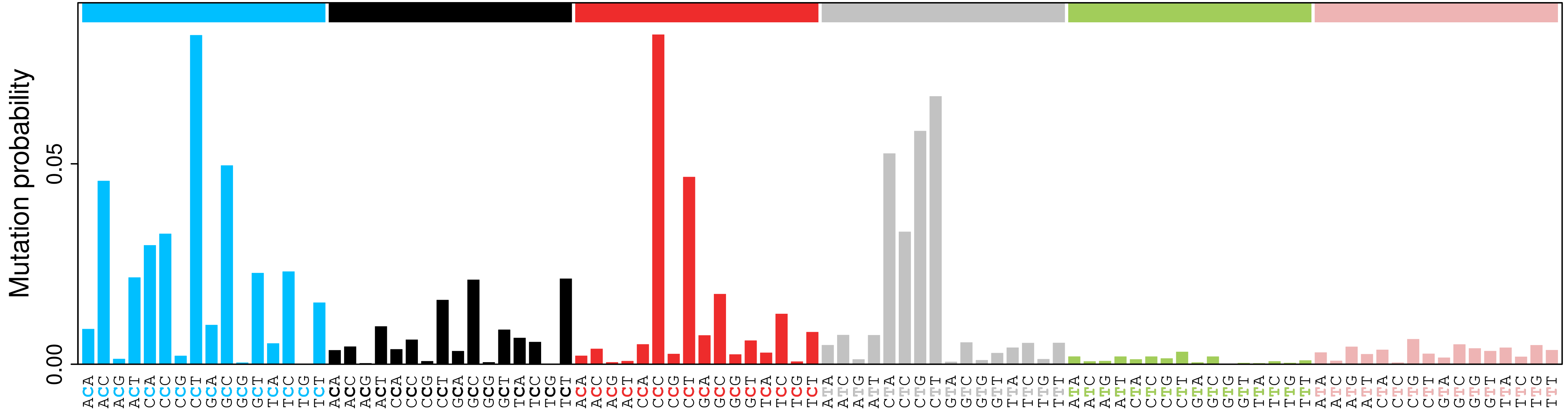
C > G

$$C > T$$

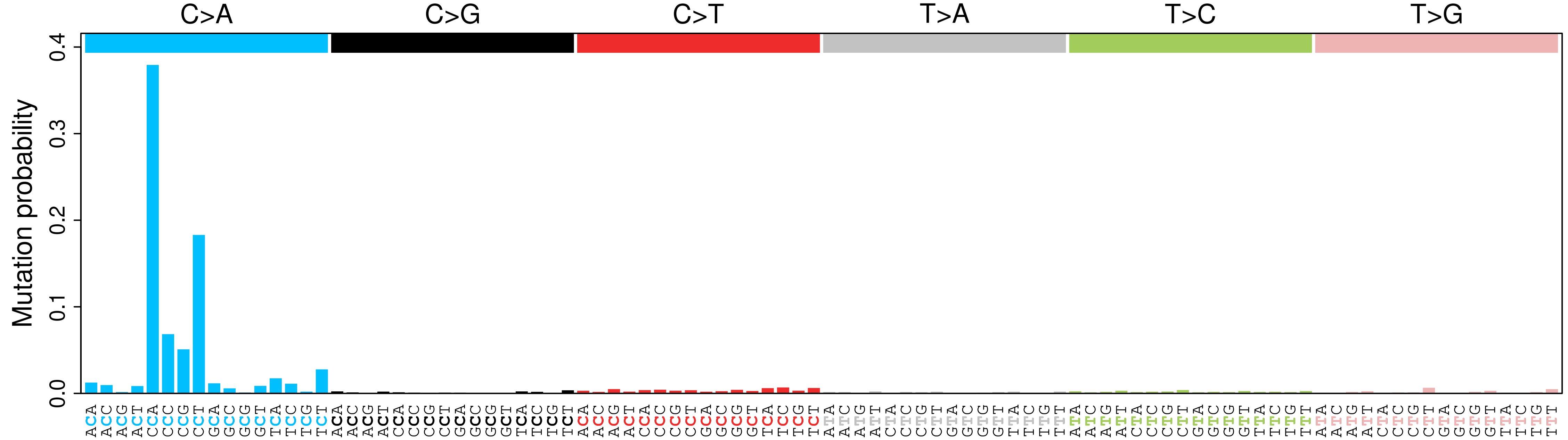
T > A

$T > C$

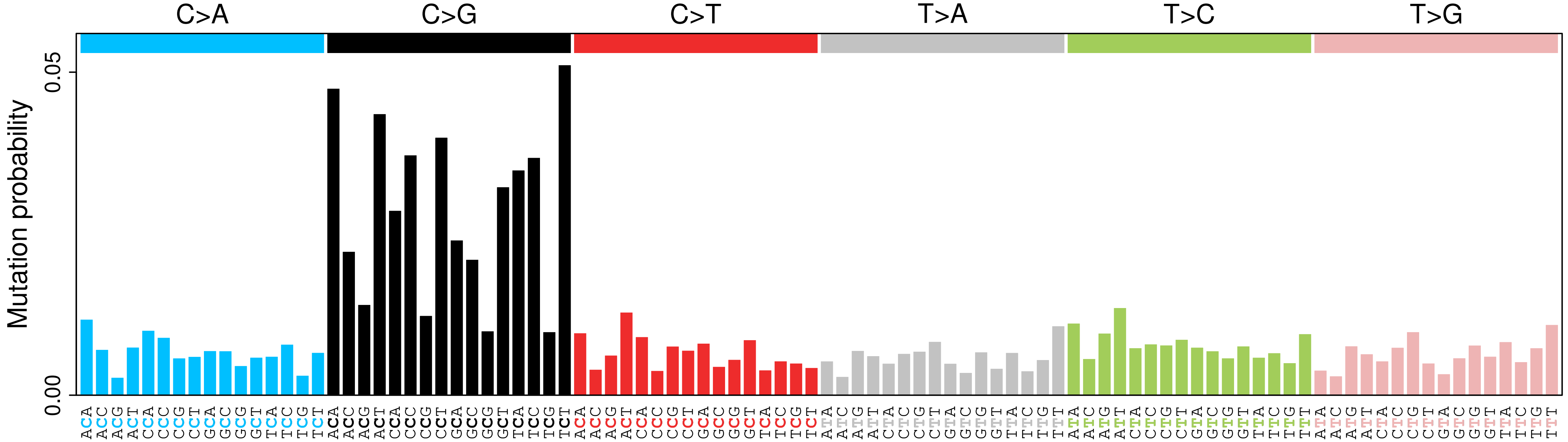
T>G



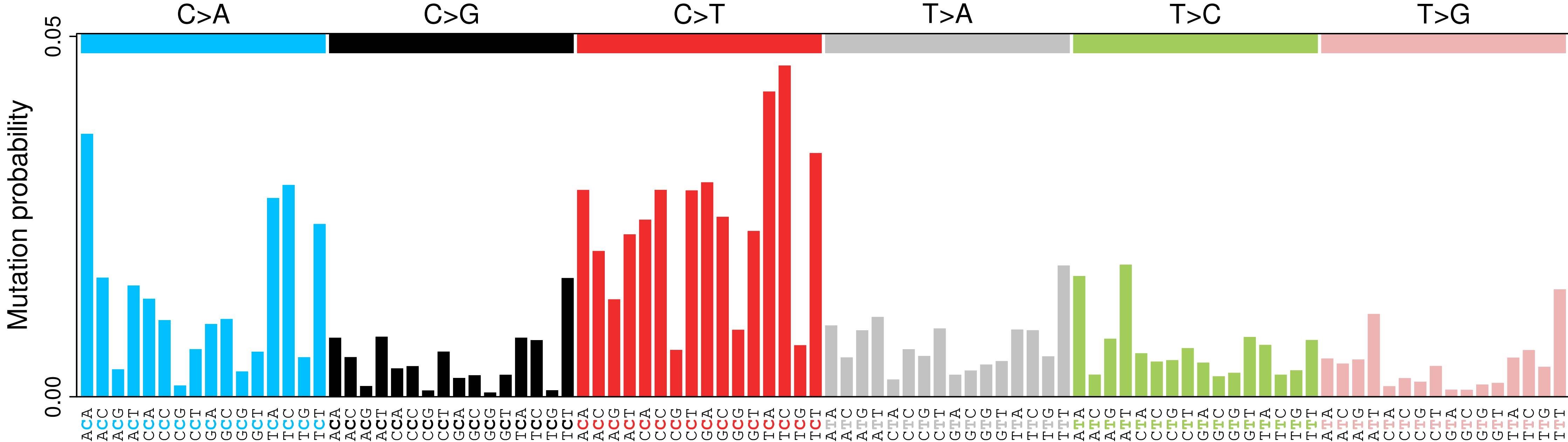
SBS38



SBS39



SBS40a



SBS40b

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS40c



SBS41

C>A

C>G

C>T

T>A

T>C

T>G

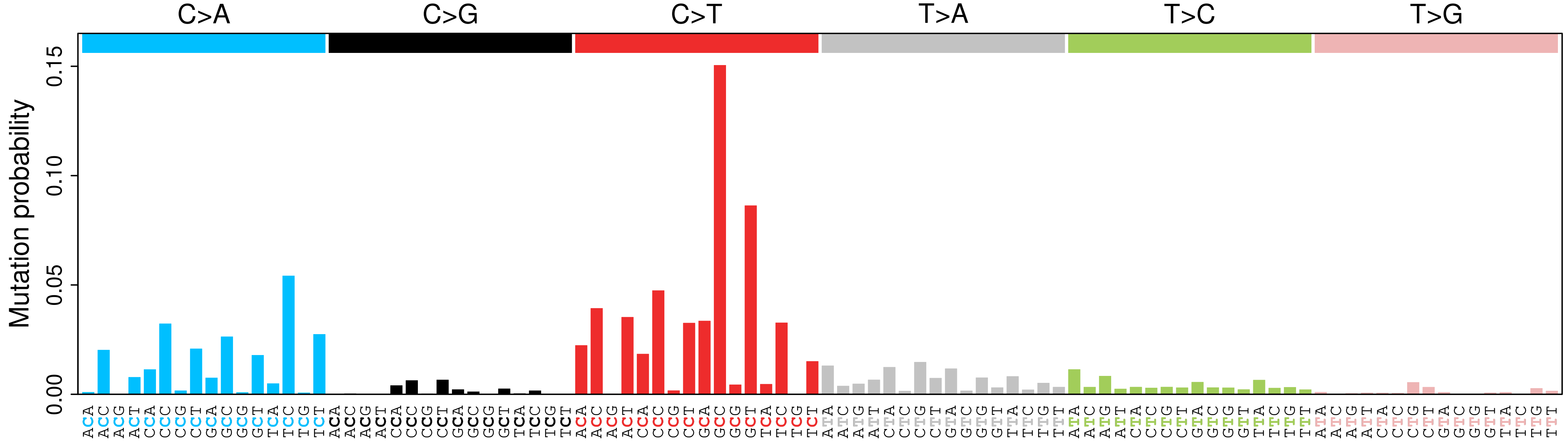
Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CGC CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CGC CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CGC CCT GCA GCC GGT GCT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS42



SBS43

C > A

C > G

$$C > T$$

T > A

$$T > C$$

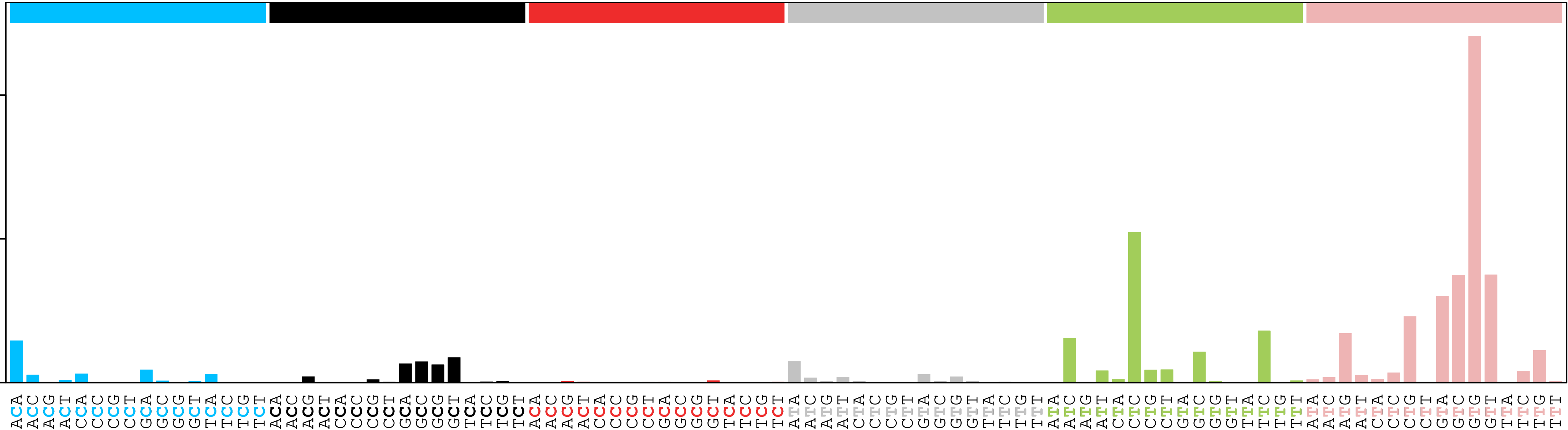
$T > G$

Mutation probability

0.2

0.

0.0



SBS44



SBS45

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.2

0.1

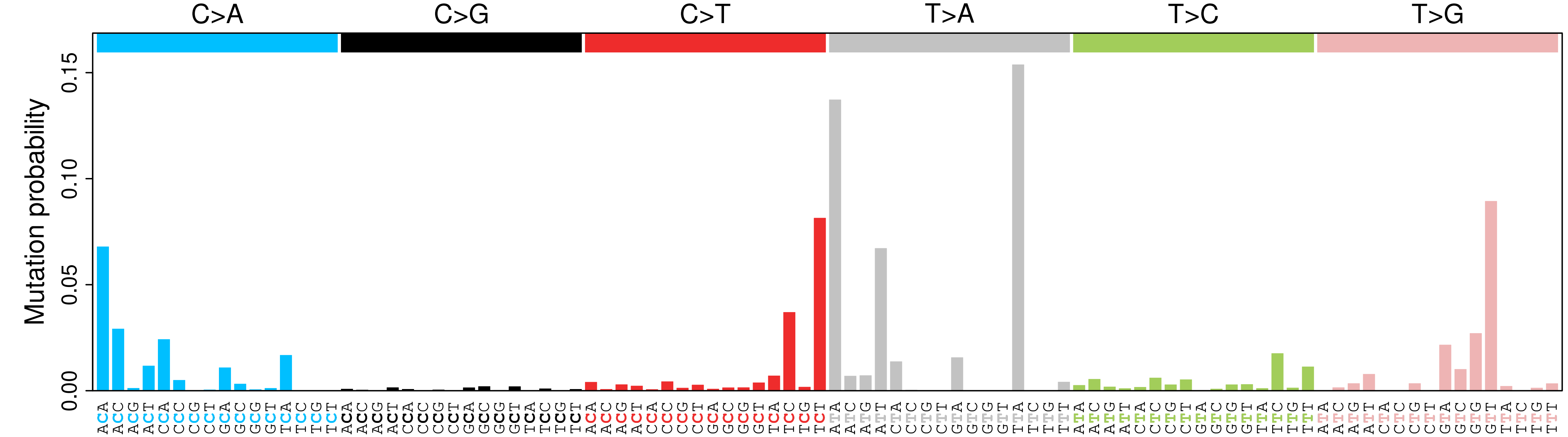
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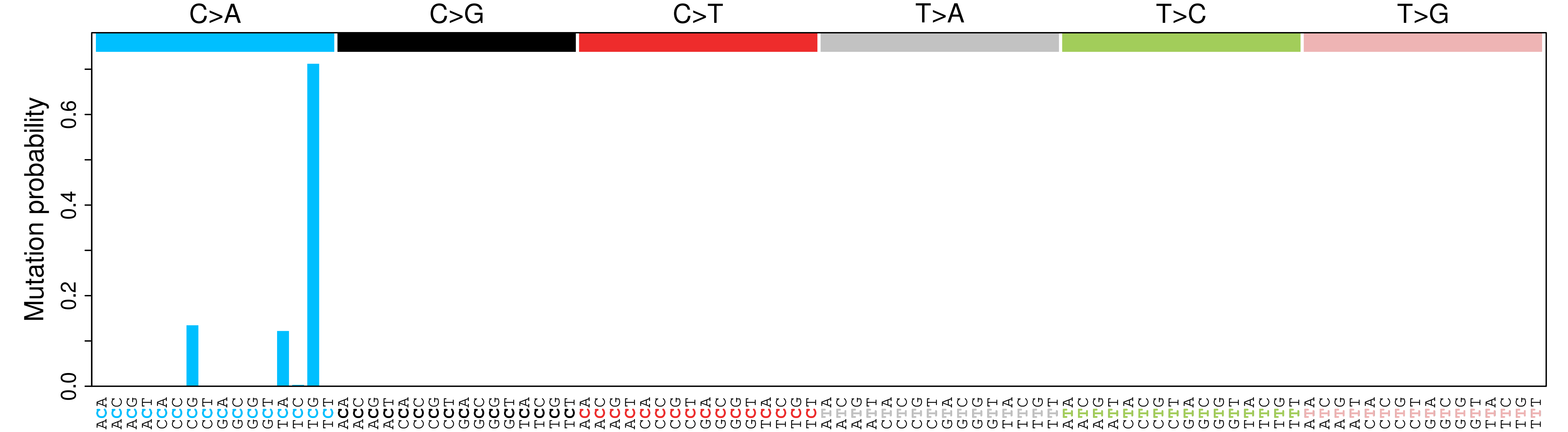
SBS46



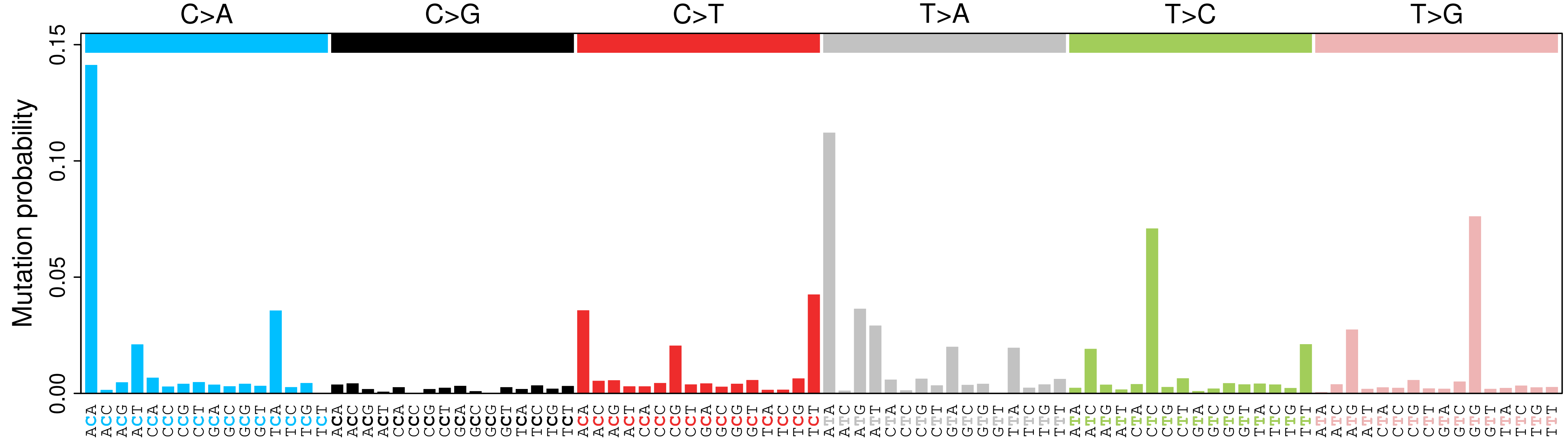
SBS47



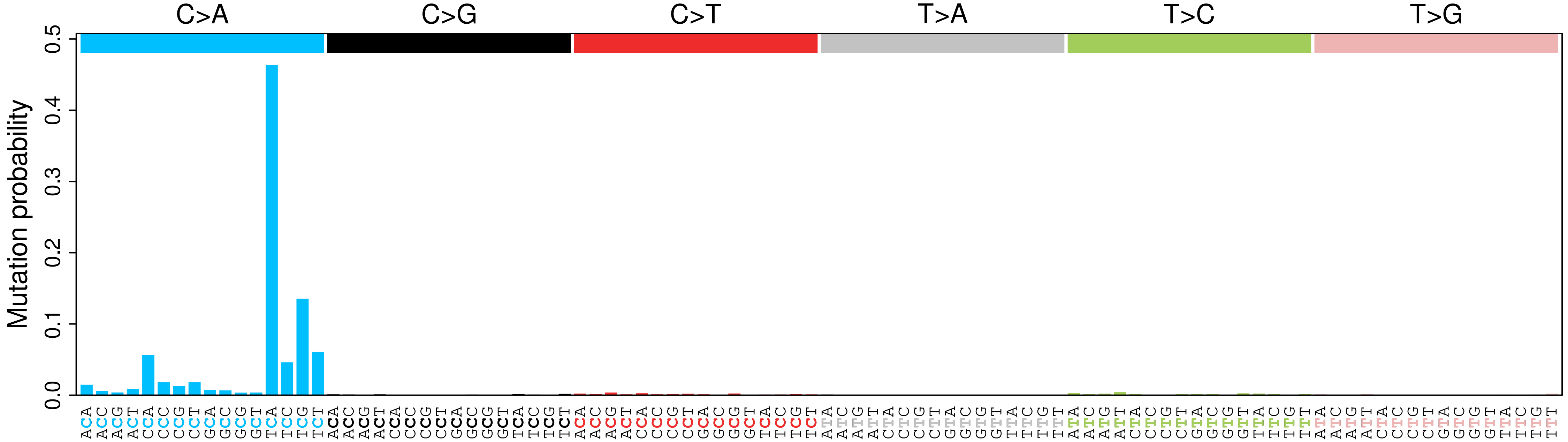
SBS48



SBS51



SBS52



SBS56

C>A

C>G

C>T

T>A

T>C

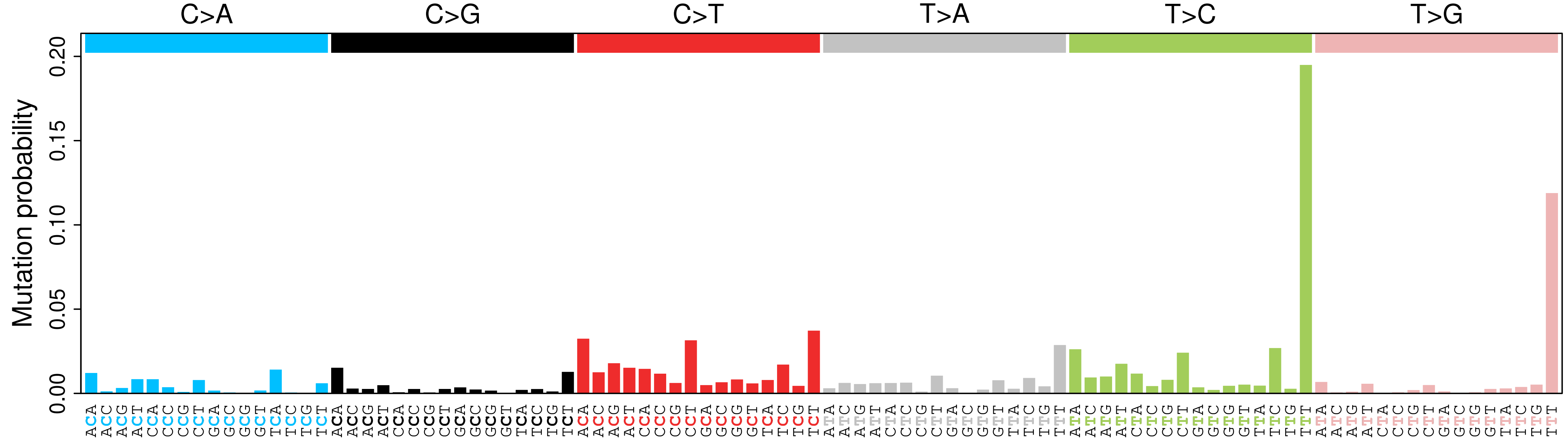
T>G

Mutation probability

0.4
0.3
0.2
0.1
0.0

ACA ACC AGC ACT CCA CCC CCG CCT GCA GCC GGG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGG GGT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS57



SBS58

C>A

C>G

C>T

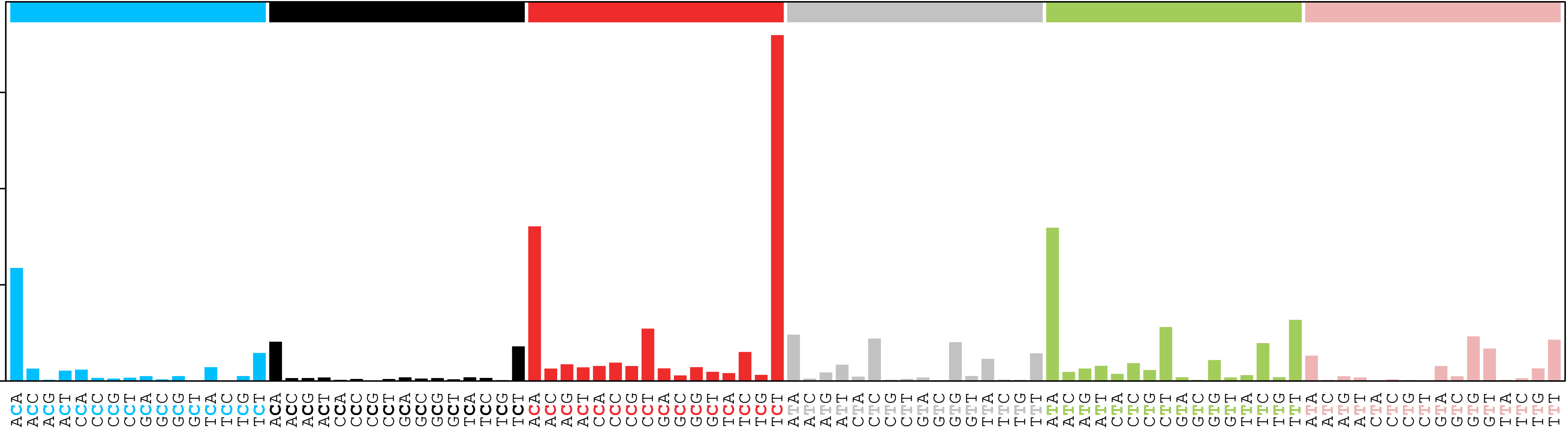
T>A

T>C

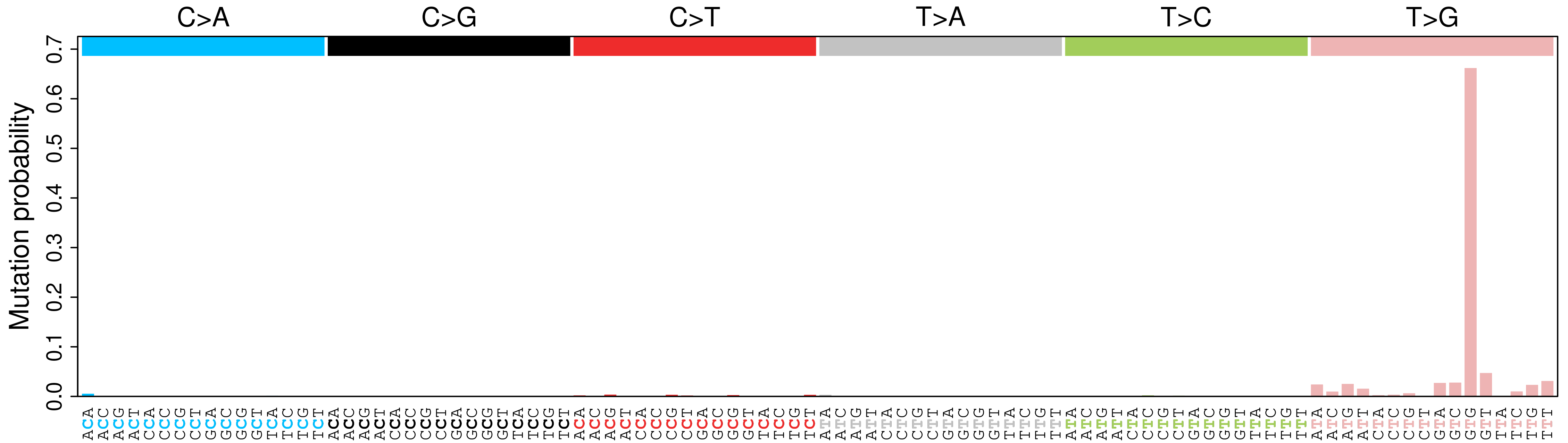
T>G

Mutation probability

0.00
0.05
0.10
0.15



SBS60



SBS86

$C > A$

C > G

C>T

T>A

$T > C$

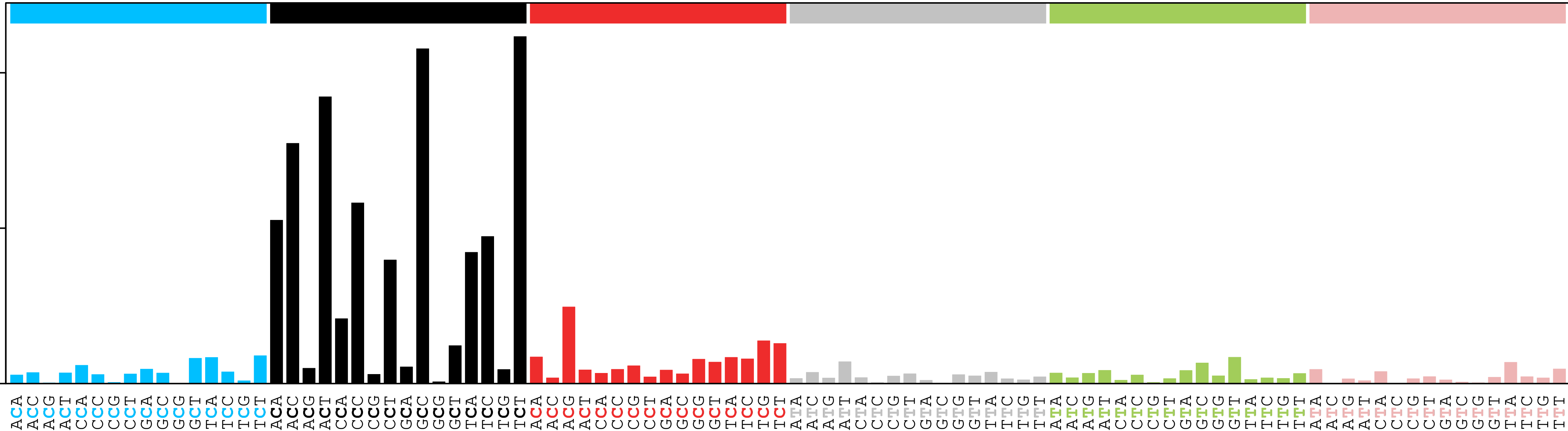
T>G

Mutation probability

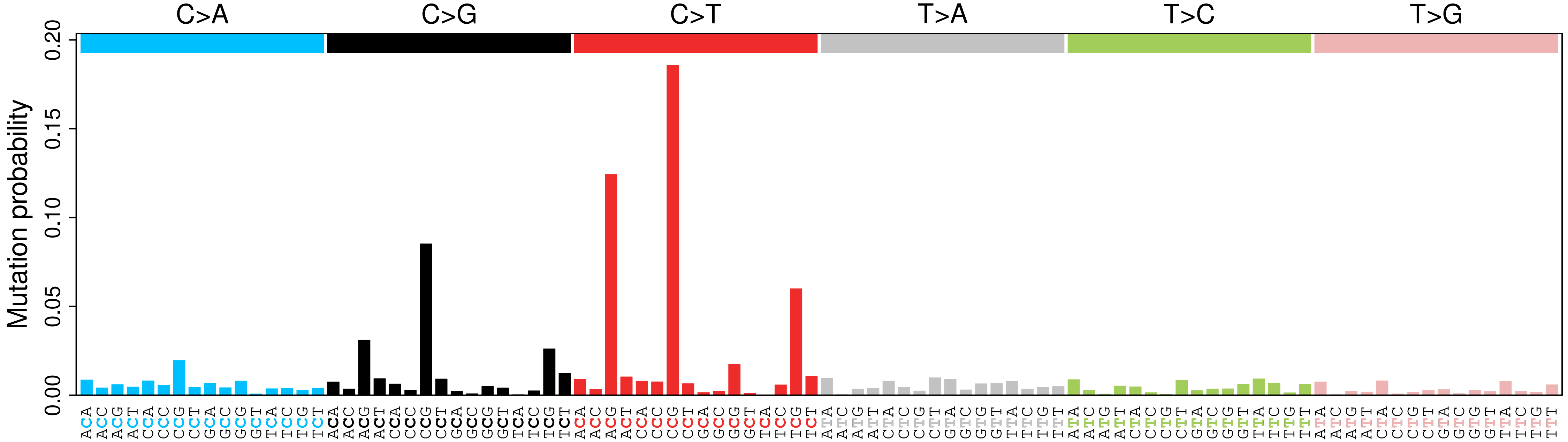
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0.05

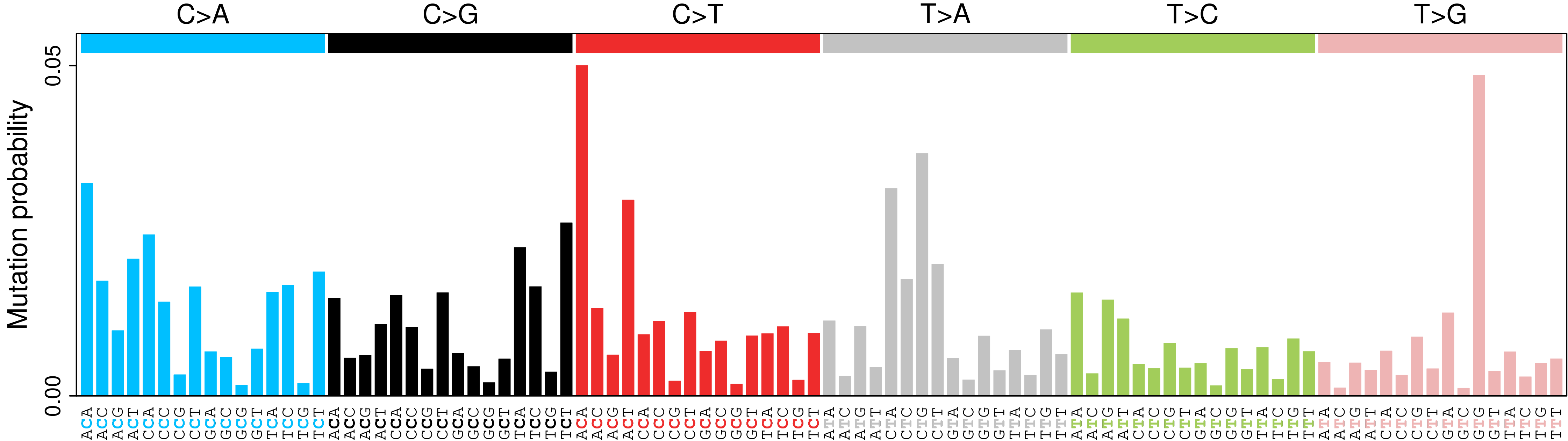
0.00



SBS87



SBS89



SBS92

C>A

C>G

C>T

T>A

T>C

T>G

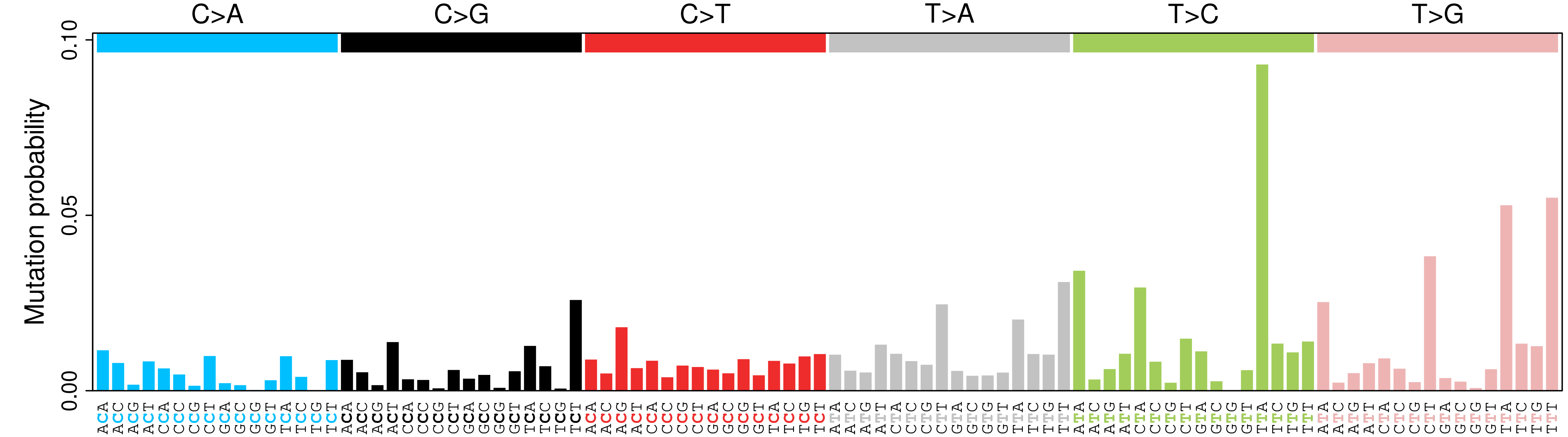
Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC GTT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC GTT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS93



SBS94

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGG GGT TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS95

C > A

C > G

$C > T$

T>A

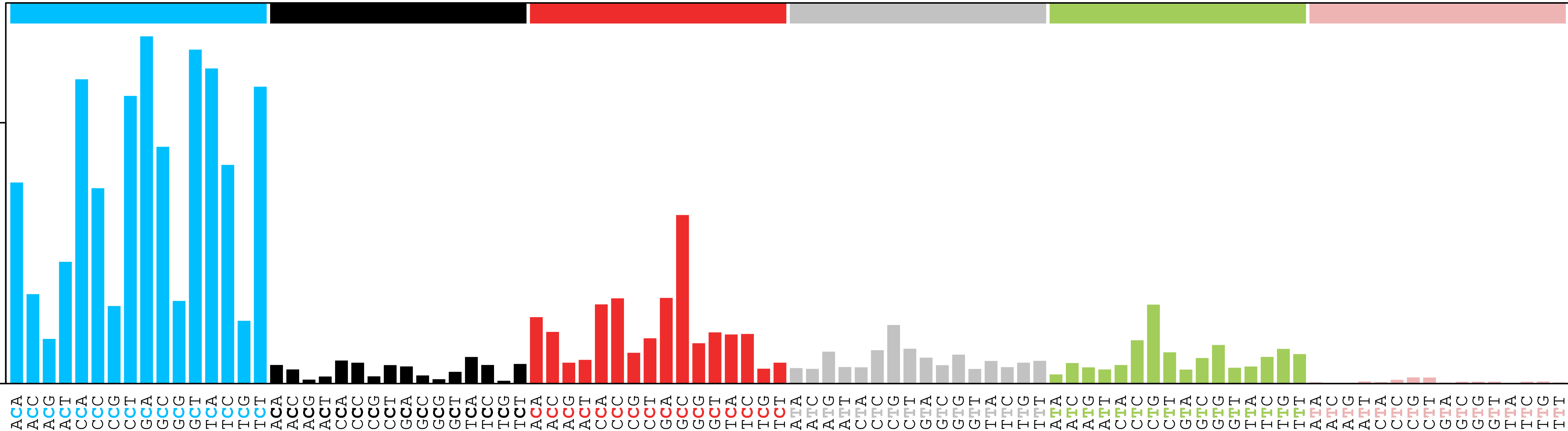
$T > C$

T>G

Mutation probability

0.05

0.00



SBS96

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GCT TCA TCC TCG TCT ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS97



SBS98

C>A

C>G

C>T

T>A

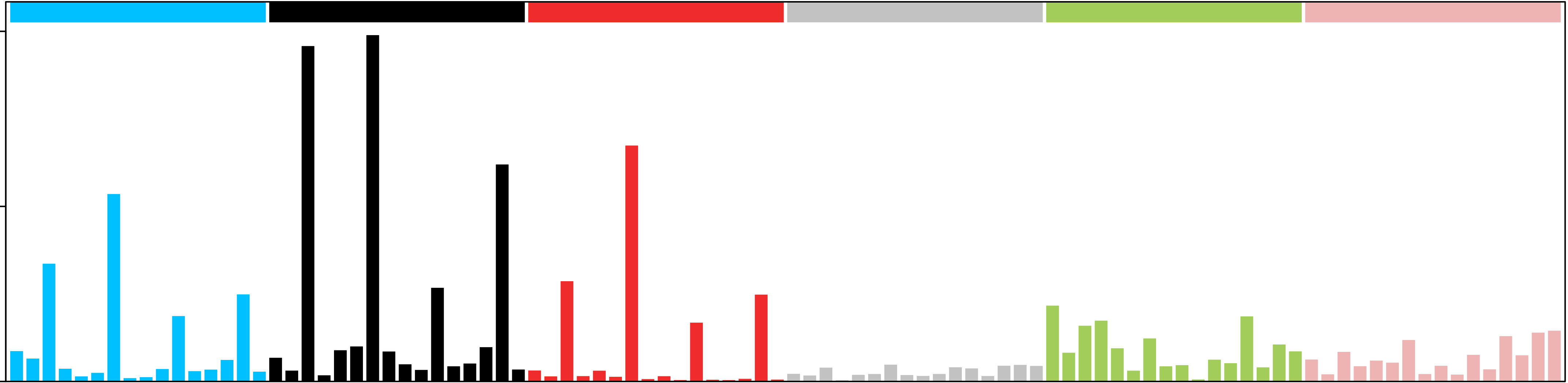
T>C

T>G

Mutation probability

0.10
0.05
0.00

ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT GTC TCA TCC TCG TCT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT



SBS99

C > A

C > G

$$C > T$$

T>A

$T > C$

T>G

