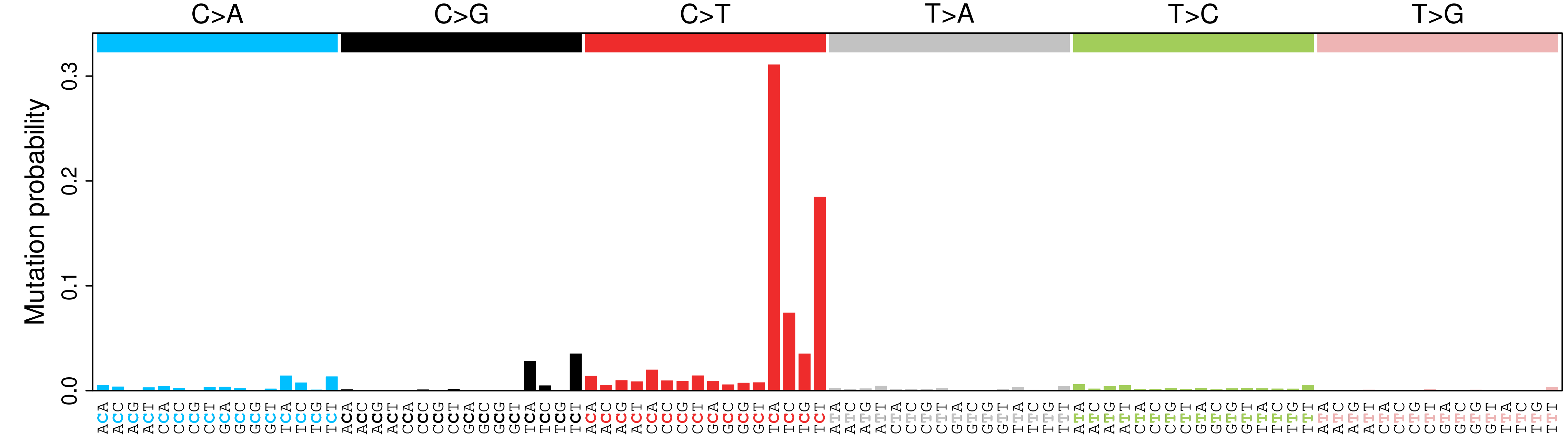


SBS2



SBS3

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 ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS4

$C > A$

C > G

$$C > T$$

T > A

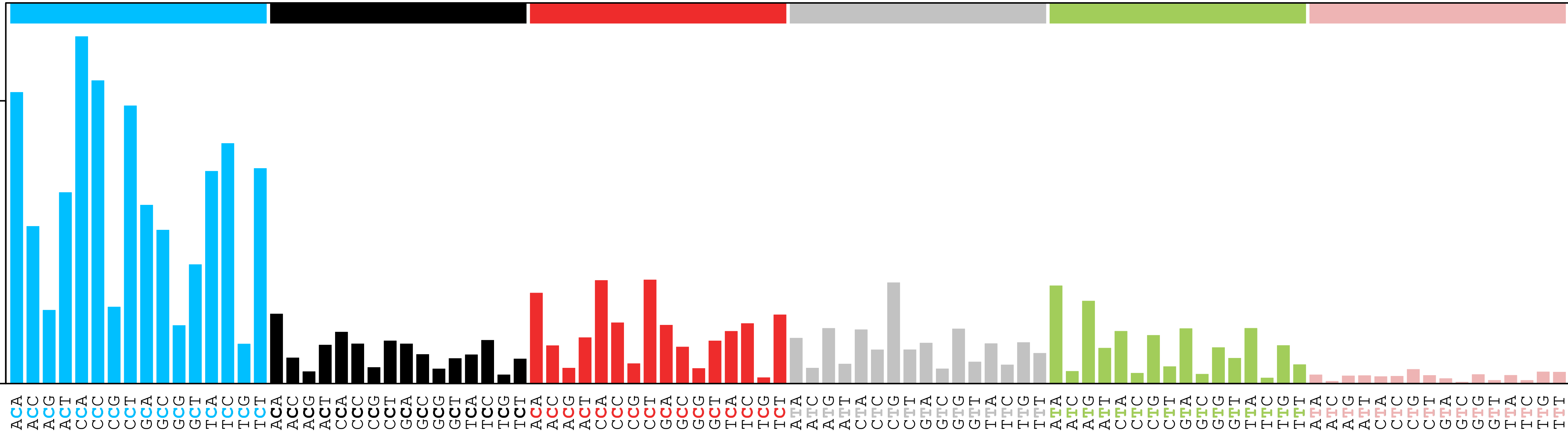
$T > C$

$T > G$

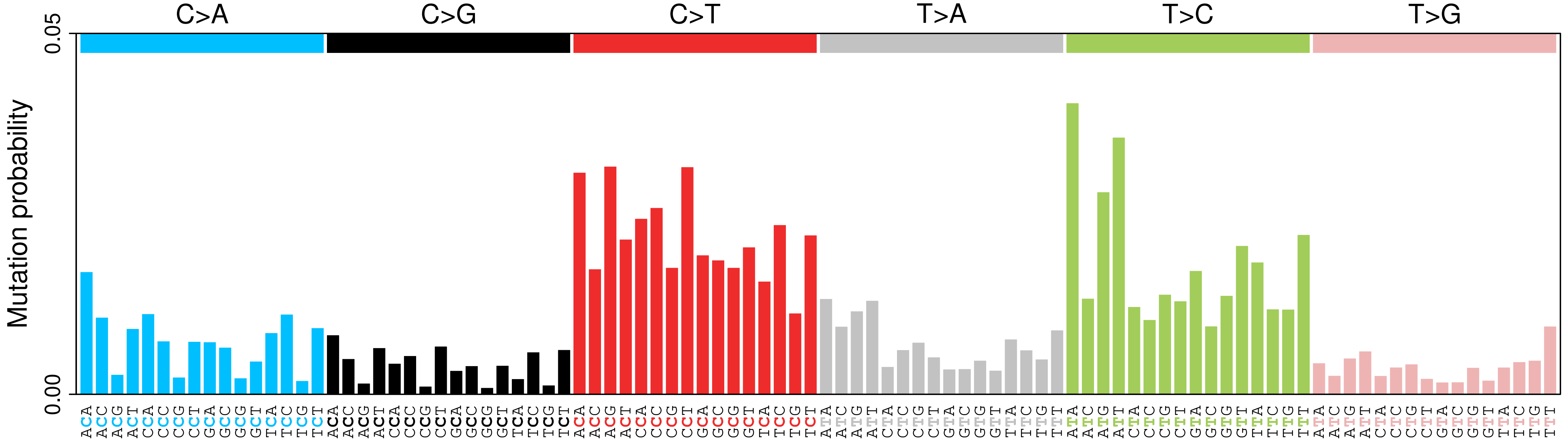
Mutation probability

0.05

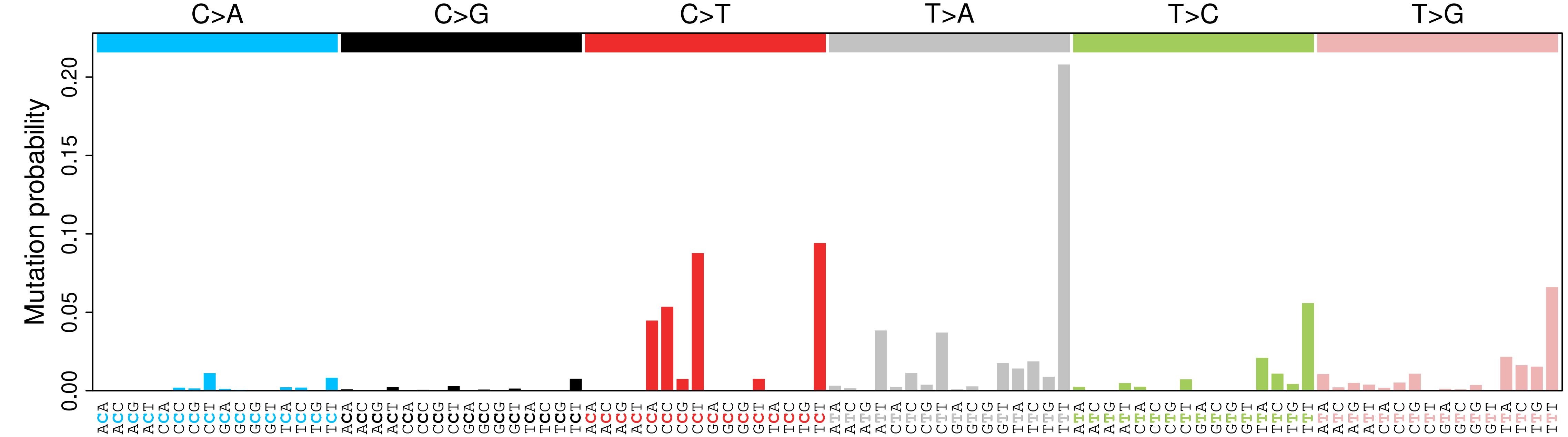
0.00



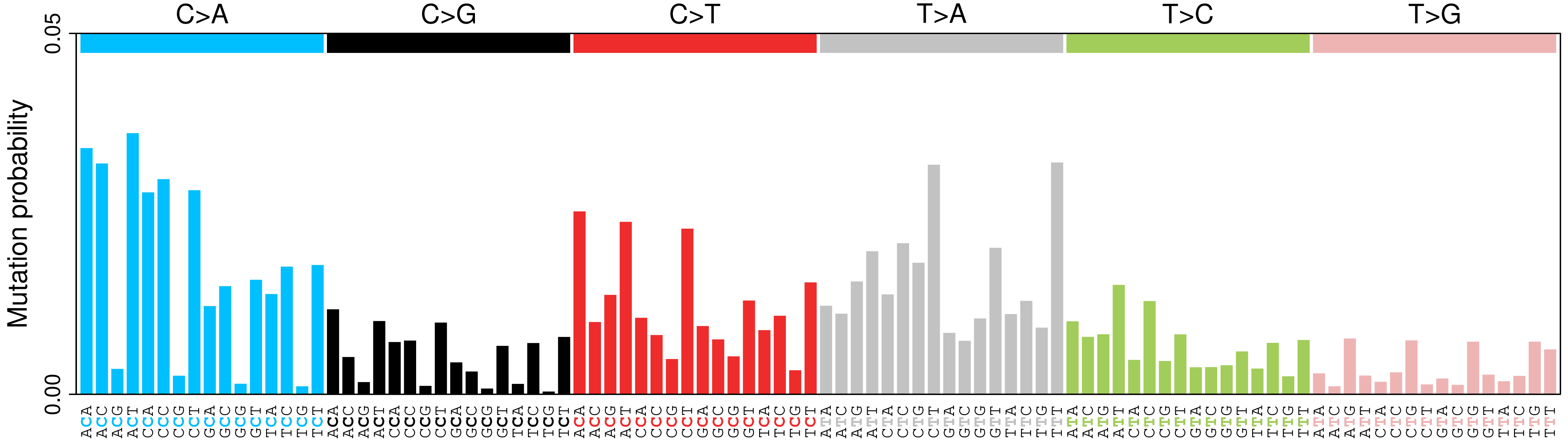
SBS5



SBS7c



SBS8



SBS9

C > A

C > G

$$C > T$$

T > A

$T > C$

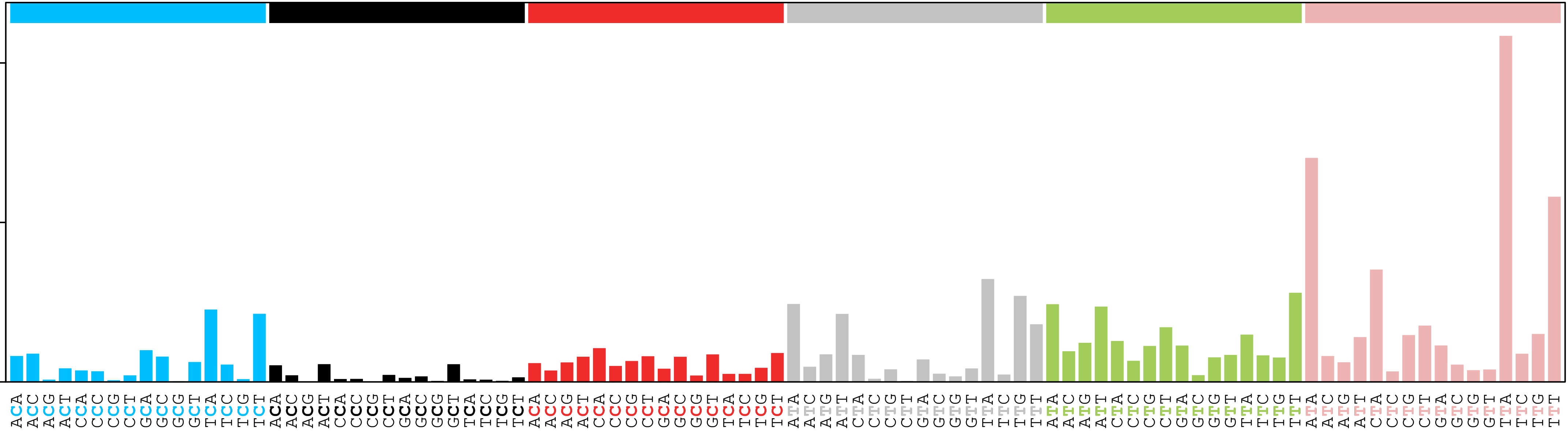
T>G

Mutation probability

0.10

0.05

0.00



SBS10a

C>A

C>G

C>T

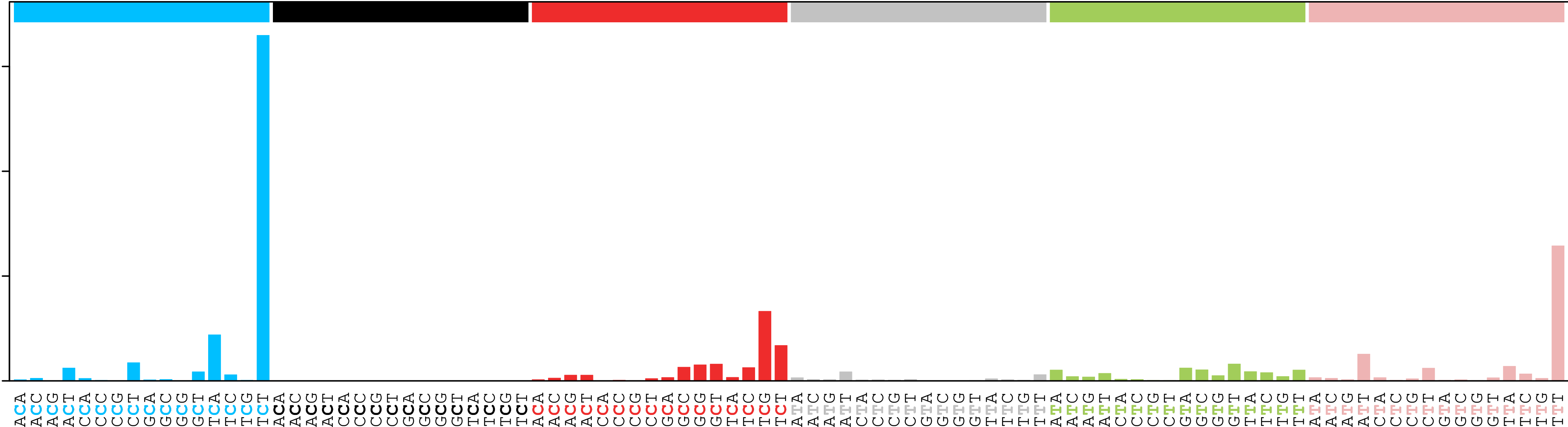
T>A

T>C

T>G

Mutation probability

0.3
0.2
0.1
0.0



SBS10d

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.20
0.15
0.10
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 ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT GCA GCC GGT TTA TCC TTG TTT ATA ATC ATG ATT CTA CTC CTG CTT

SBS12

C>A

C>G

C>T

T>A

T>C

T>G

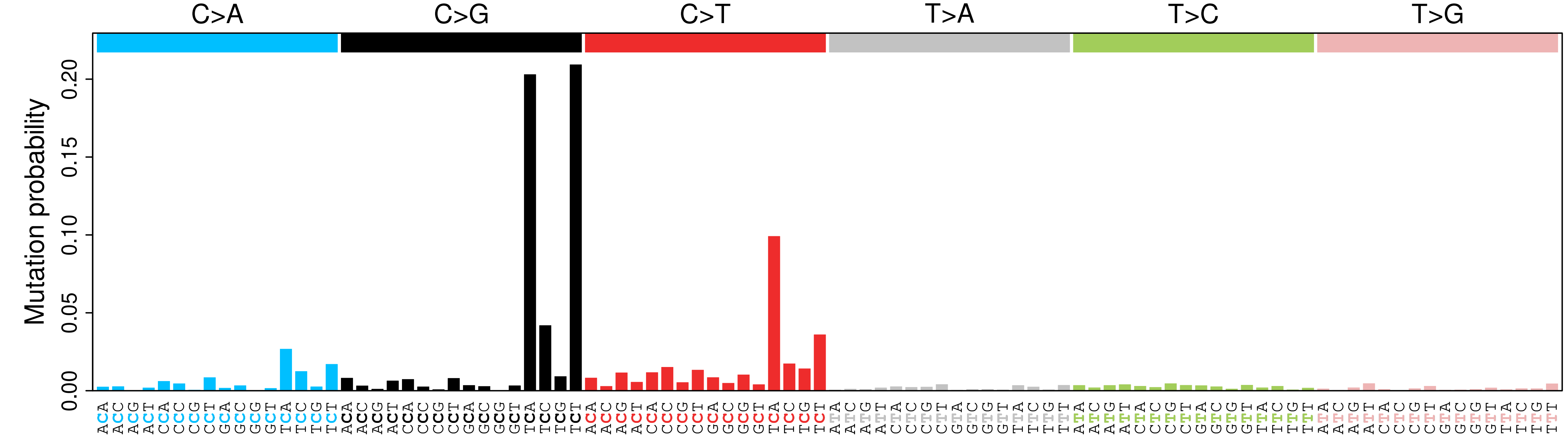
Mutation probability

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 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

SBS13



SBS15

C > A

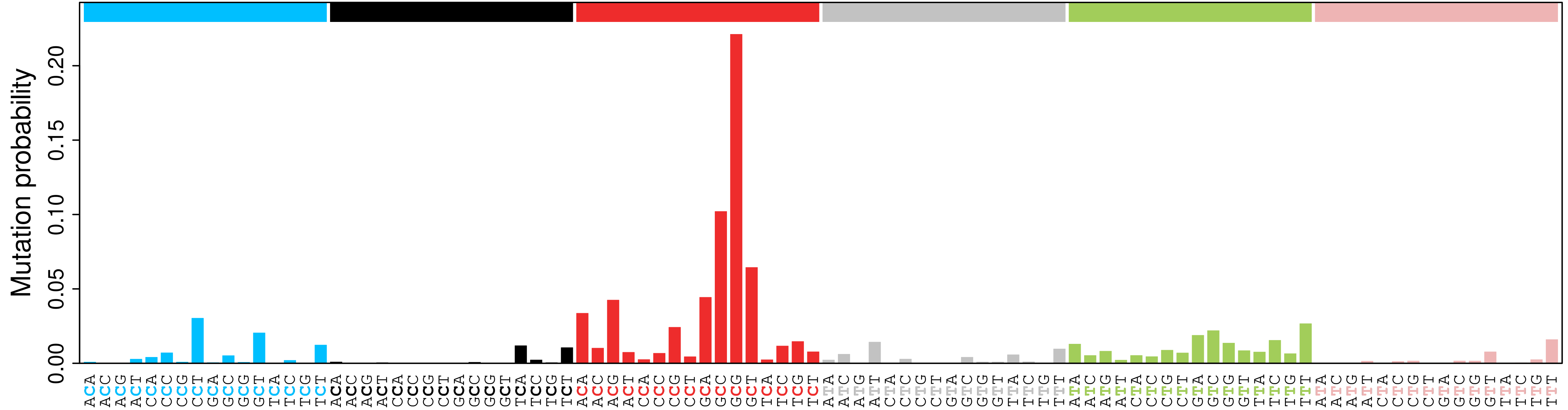
C > G

$C > T$

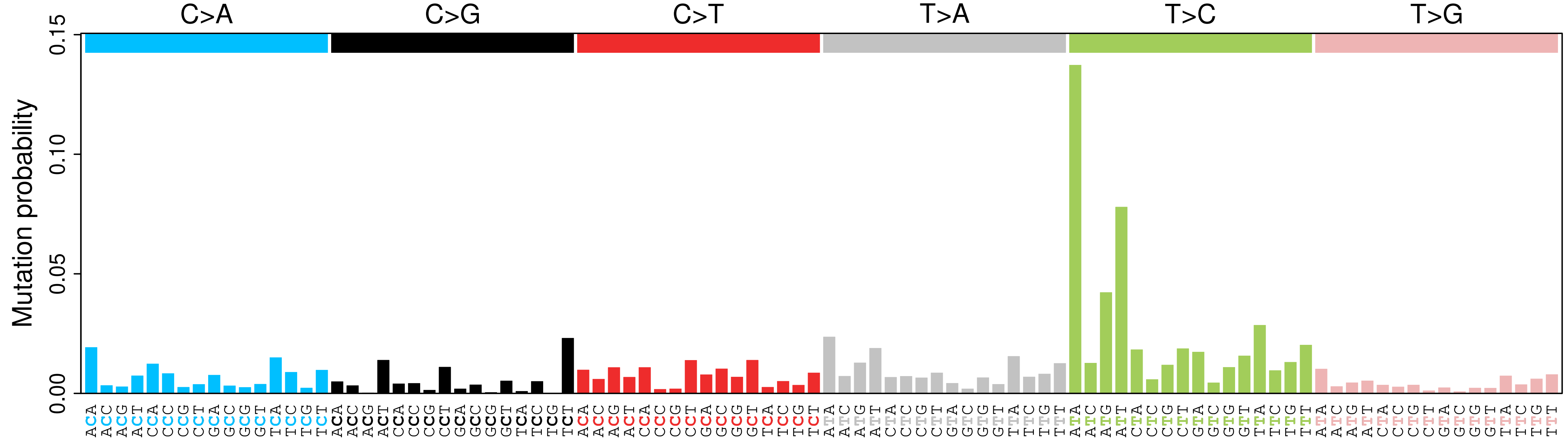
T > A

$T > C$

T>G



SBS16



SBS18

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 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 ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS20



SBS22

$C > A$

C > G

$C > T$

T > A

$T > C$

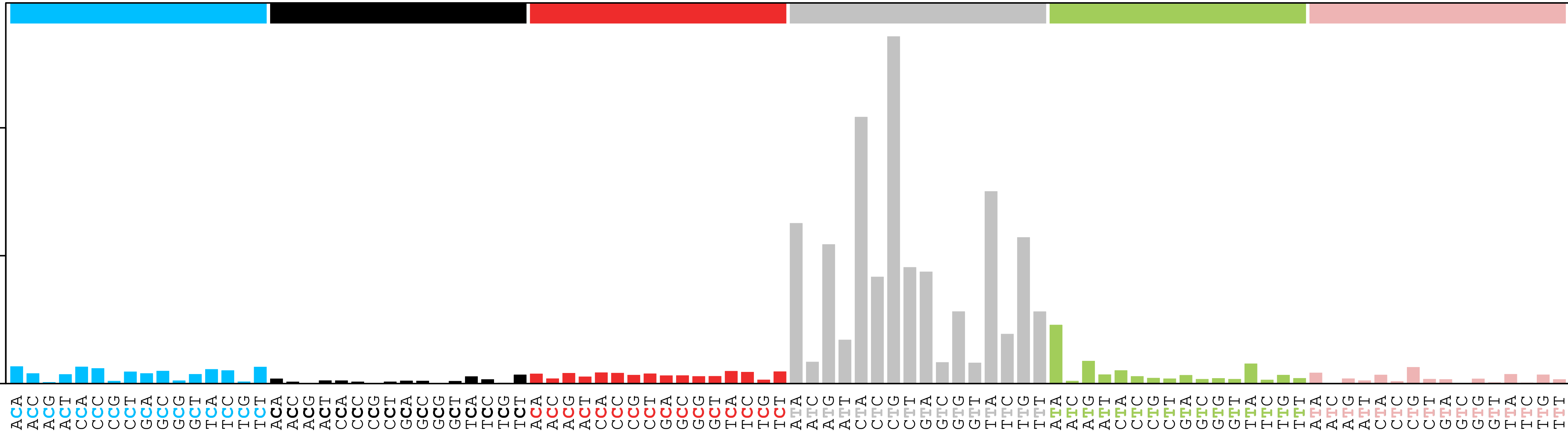
T>G

Mutation probability

0.10

0

0.00



SBS23



SBS24

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.15

0.10

0.05

0.00

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

SBS28



SBS32

$C > A$

C > G

$C > T$

T > A

$$T > C$$

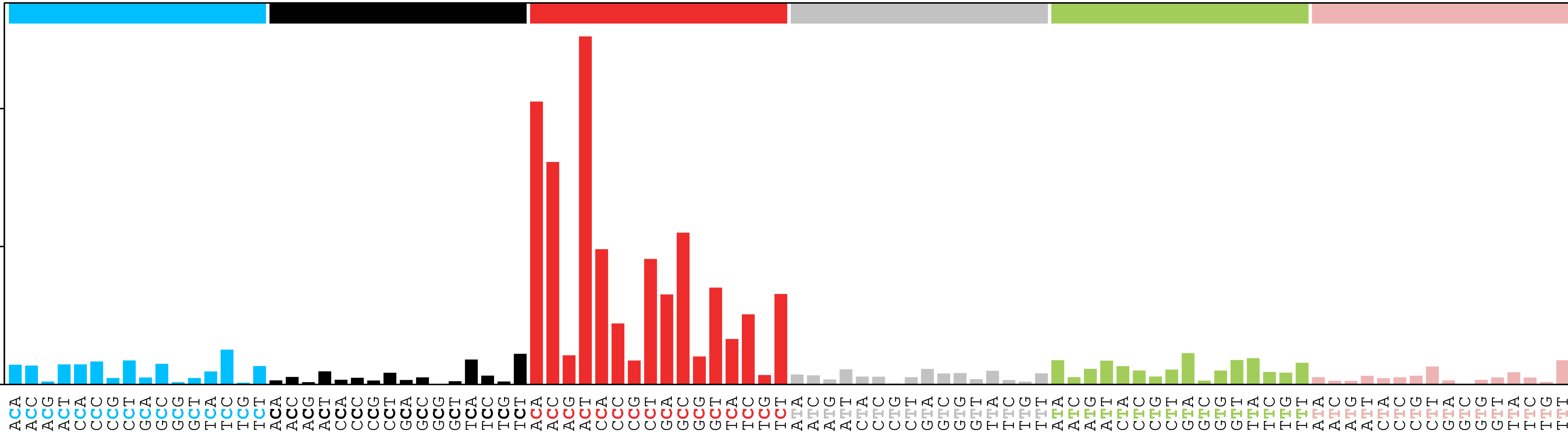
T > G

Mutation probability

0.10

50.

0.00



SBS33

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.2

0.1

0.0

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

SBS35



SBS38

C > A

C > G

$C > T$

T > A

$$T > C$$

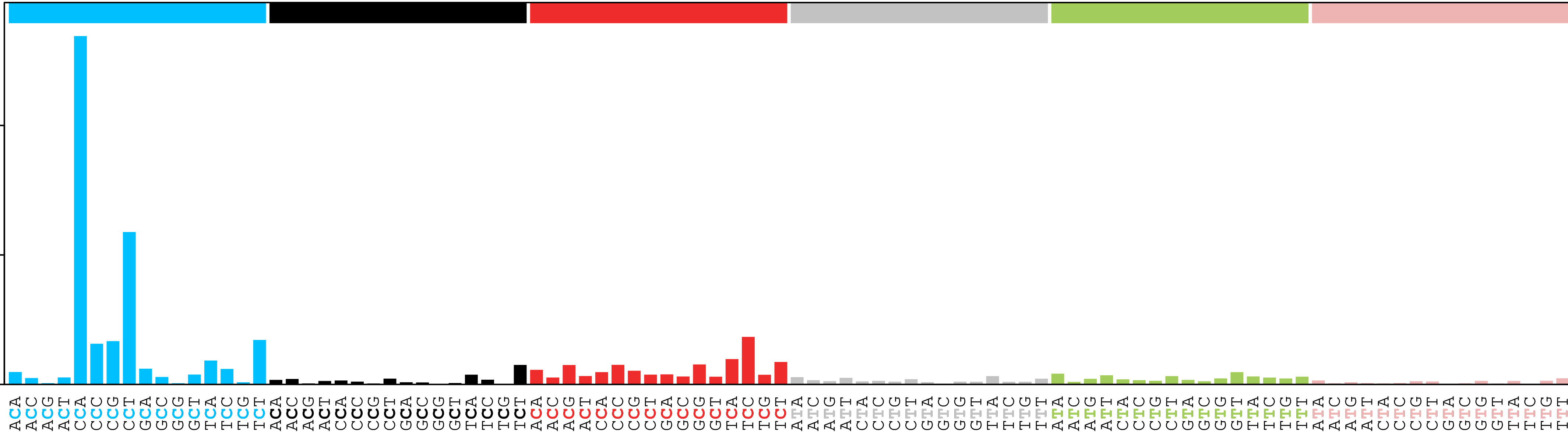
T > G

Mutation probability

0.2

0.1

0.0



SBS44

C > A

C > G

$C > T$

T > A

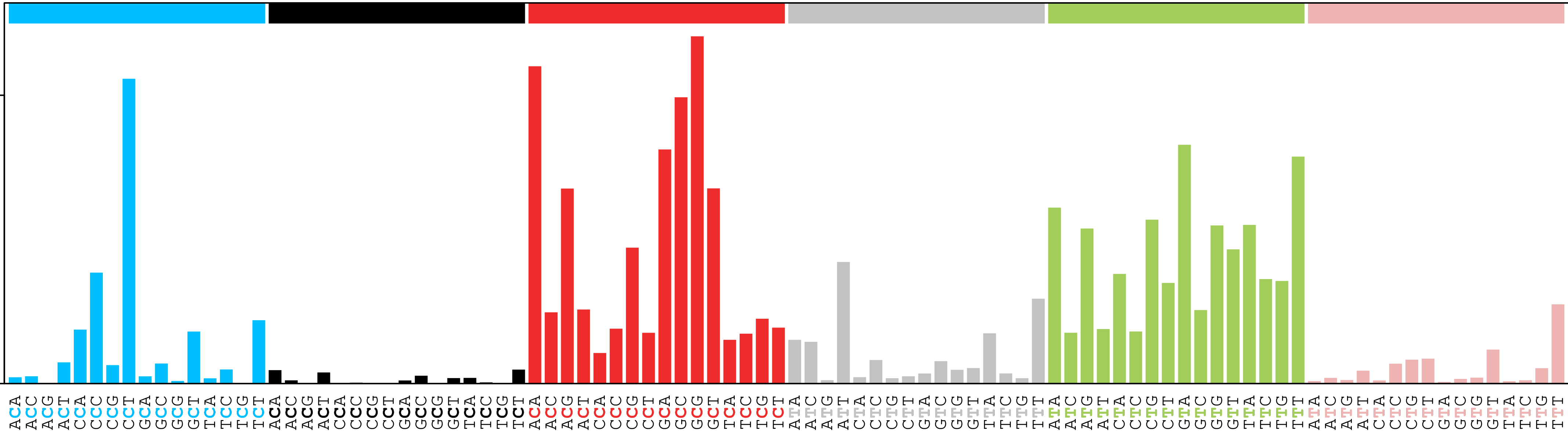
$T > C$

T>G

Mutation probability

0.05

0.00



SBS53

C > A

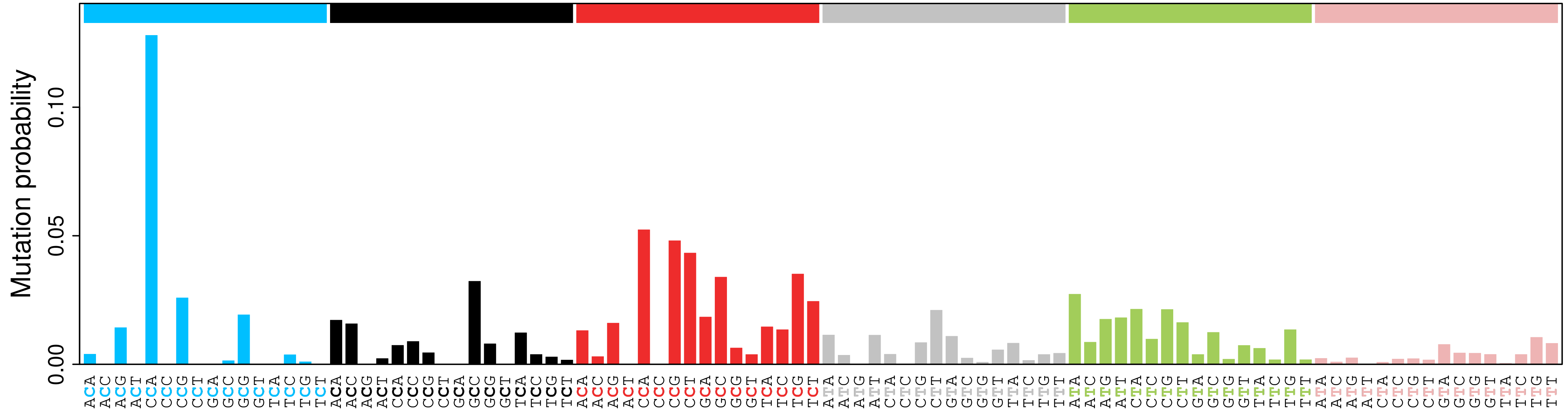
C > G

$C > T$

T > A

$T > C$

T>G



SBS57

C>A

C>G

C>T

T>A

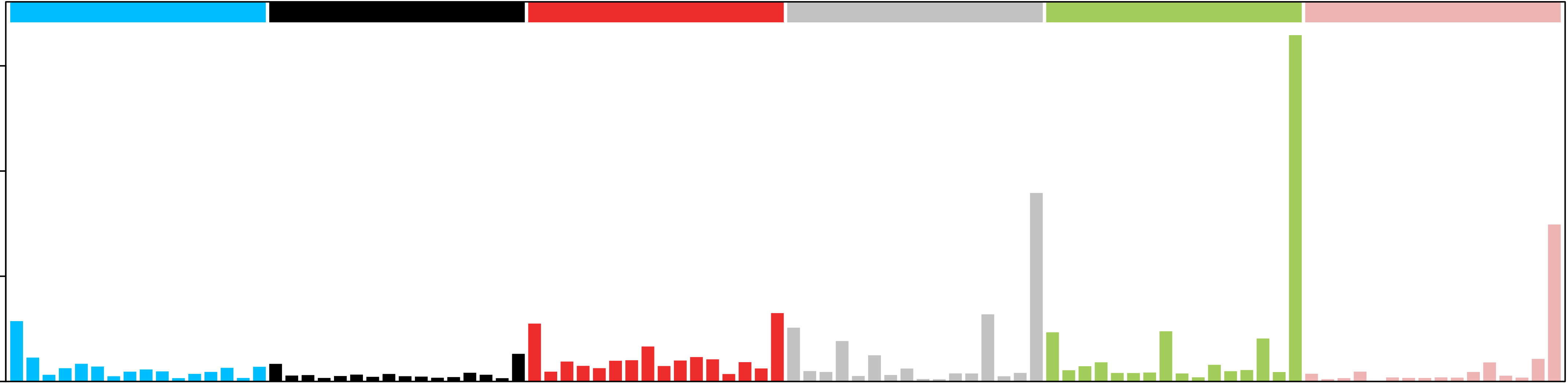
T>C

T>G

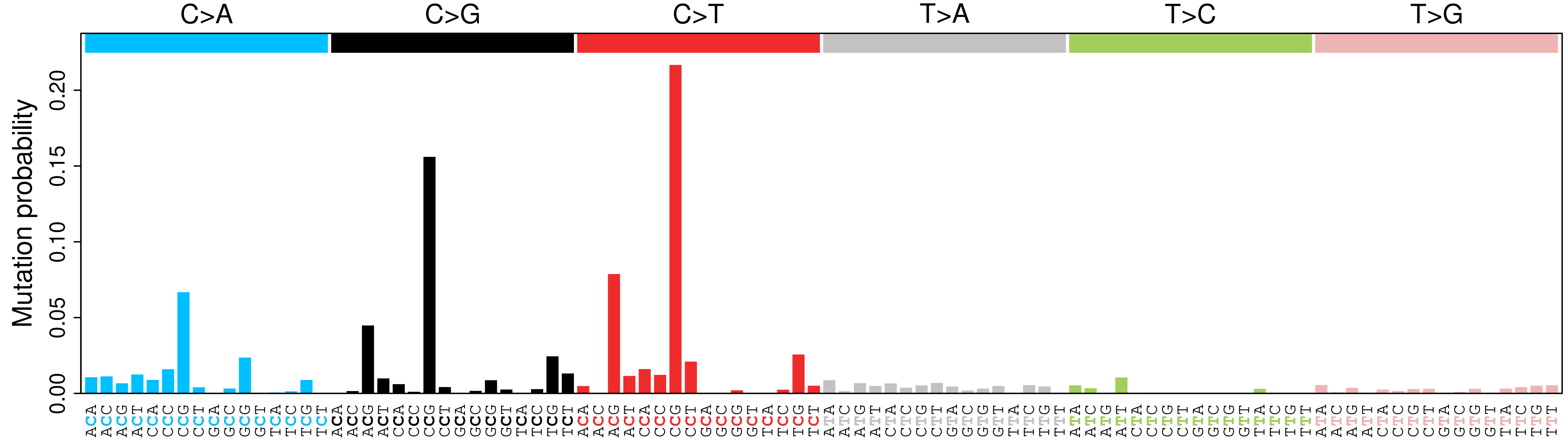
Mutation probability

0.15
0.10
0.05
0.00

ACA ACC ACG ACT CCA CCC CCG CCT 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 ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT



SBS87



SBS88

C>A

C>G

C>T

T>A

T>C

T>G

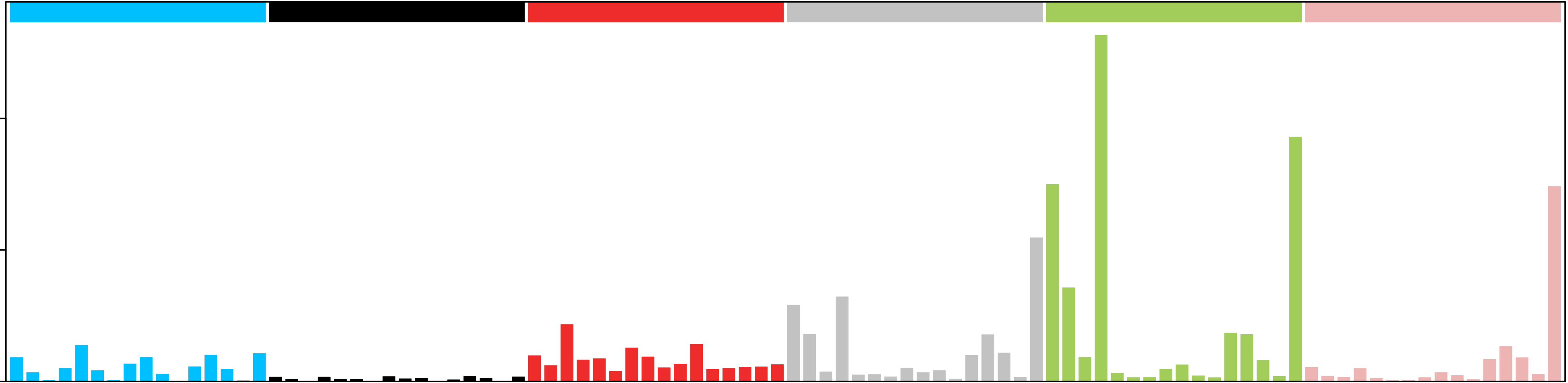
Mutation probability

0.10

0.05

0.00

ACA ACC AGC 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 ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT



SBS90

C > A

C > G

$C > T$

T > A

$T > C$

T>G

Mutation probability

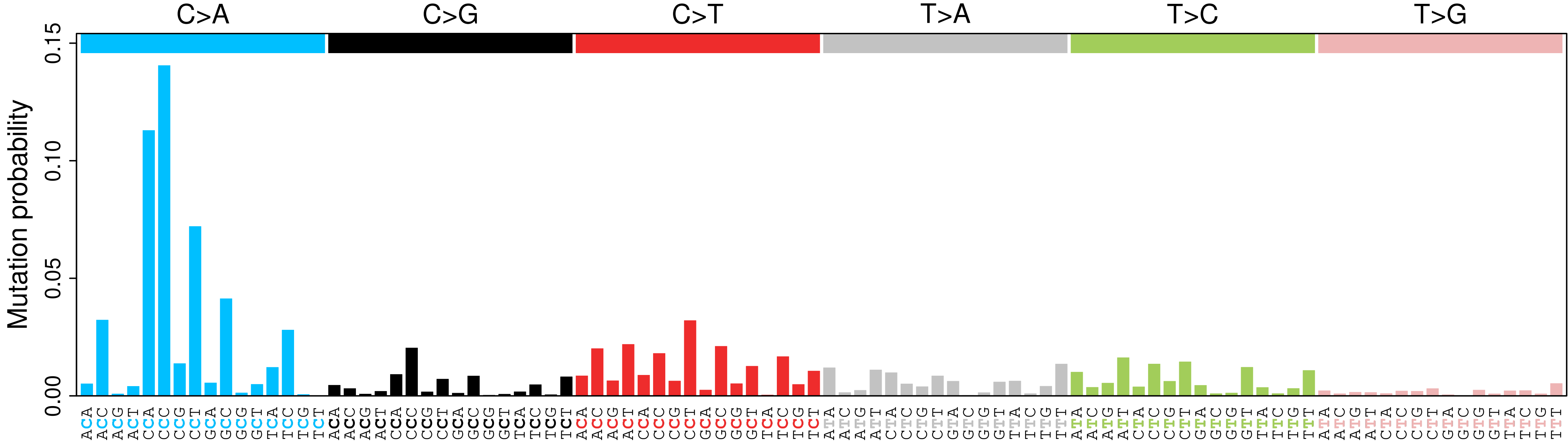
0.00 0.05 0.10 0.15 0.20



SBS93



SBS94



SBS97

C > A

C > G

$C > T$

T > A

$$T > C$$

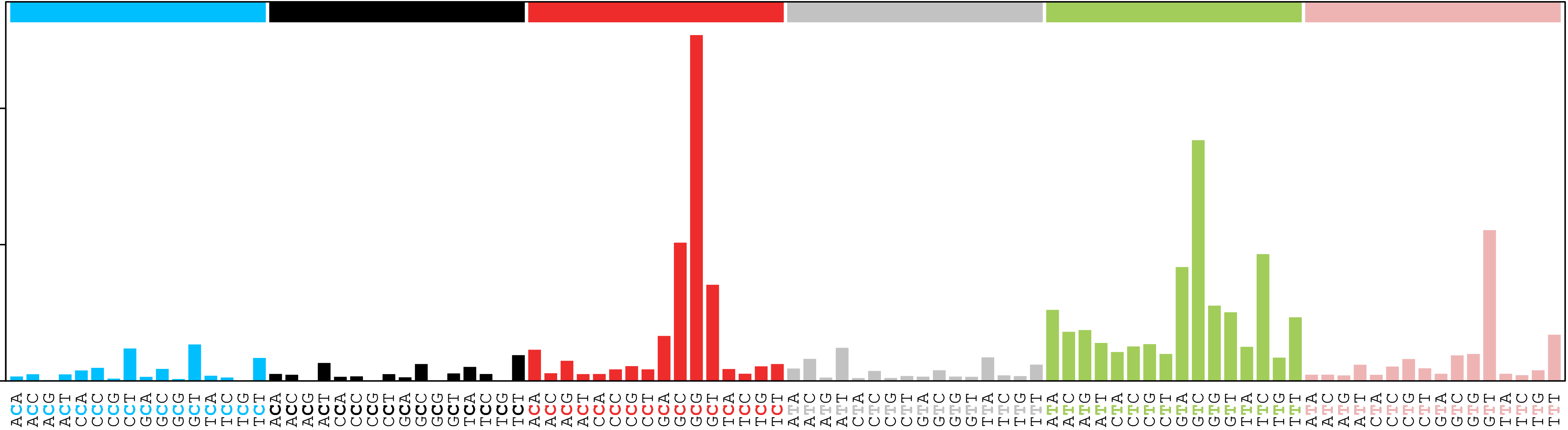
T > G

Mutation probability

0.10

50

0.00



SBS98



SBS99

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.05

0.00

ACA ACC ACG ACT CCA CCC CCT CCA GCC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCT CCA GCC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCT CCA GCC 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 CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS100

C > A

C > G

$C > T$

T > A

$T > C$

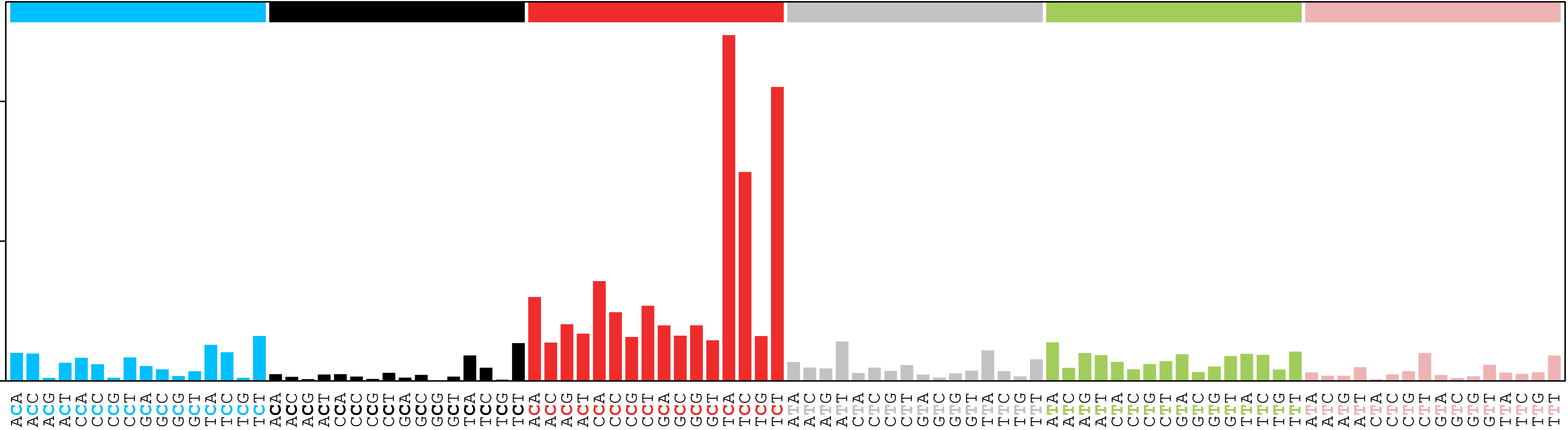
T>G

Mutation probability

0.10

0.05

0.00



SBS101

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 CTC TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CGC CTC GCA GCC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CGC CTC GCA GCC 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 CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS102

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 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



SBS103



SBS104

$C > A$

C > G

$C > T$

T > A

$$T > C$$

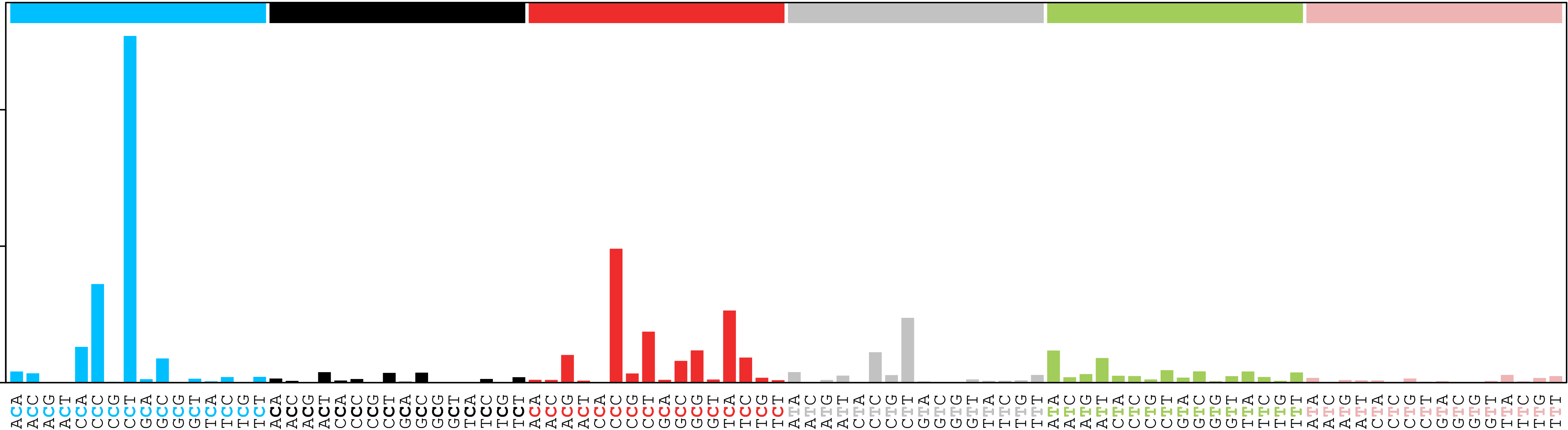
T>G

Mutation probability

0.2

0.1

0.0



SBS105



SBS106

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 GCA GCC GGT TCA TCC TCG TTC TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT TCA TCC TCG TTC TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GGT TCA TCC TCG TTC 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

SBS107

C > A

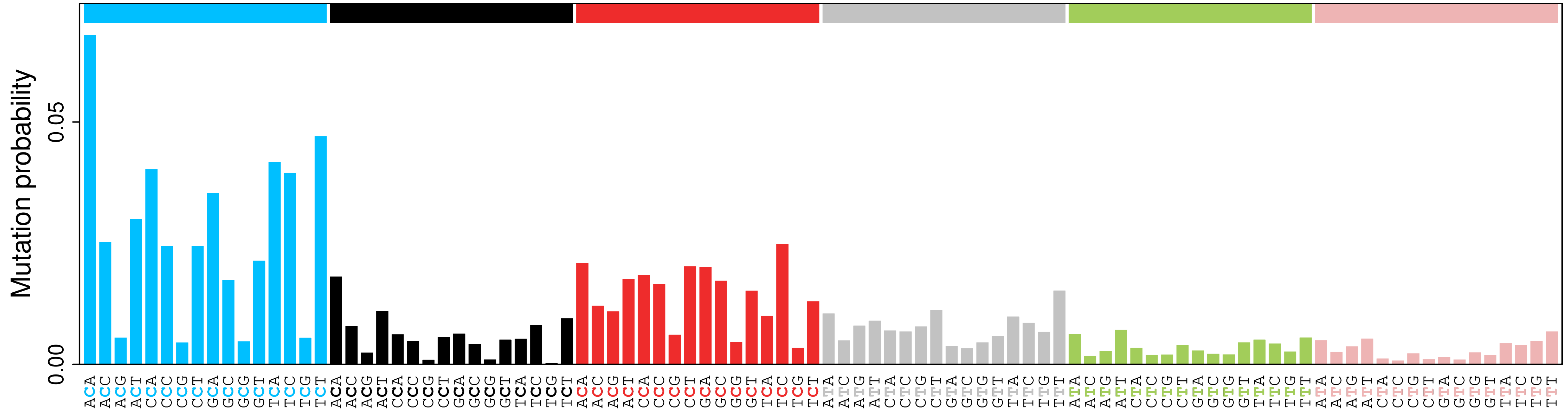
C > G

$C > T$

T > A

$$T > C$$

T > G



SBS111

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 GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC GCG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC 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 CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS112

$C > A$

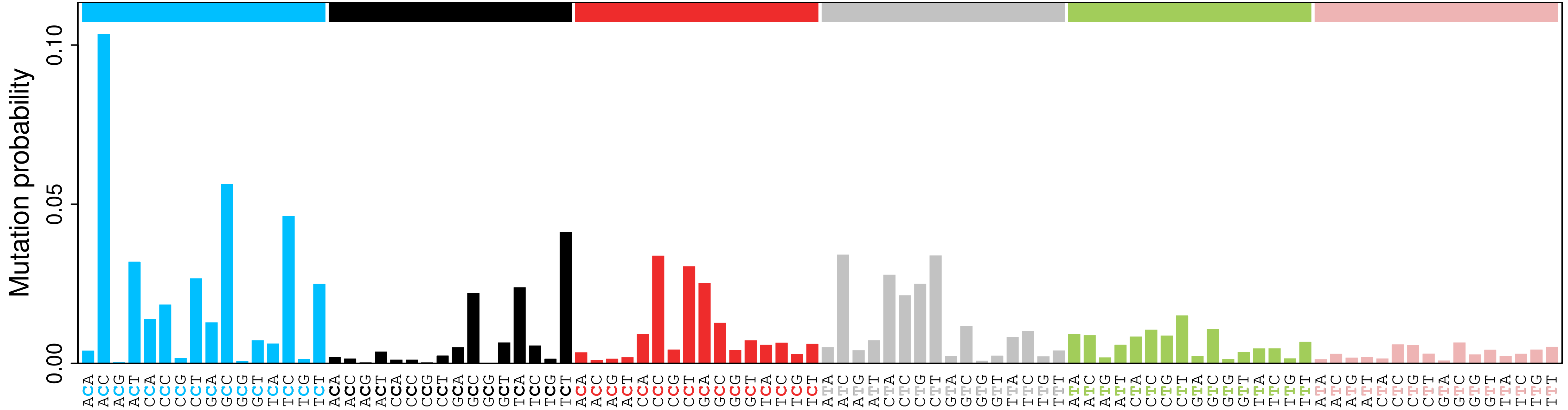
C > G

C>T

T > A

$$T > C$$

T>G



SBS113

C > A

C > G

$C > T$

T > A

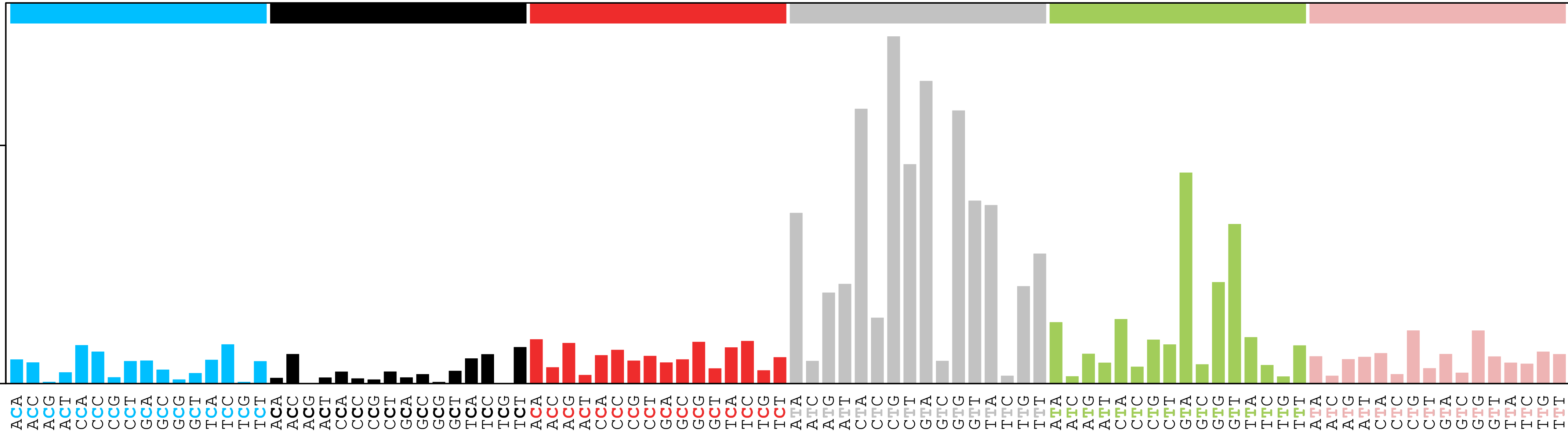
$$T > C$$

T > G

Mutation probability

0.05

0.00



SBS114

C > A

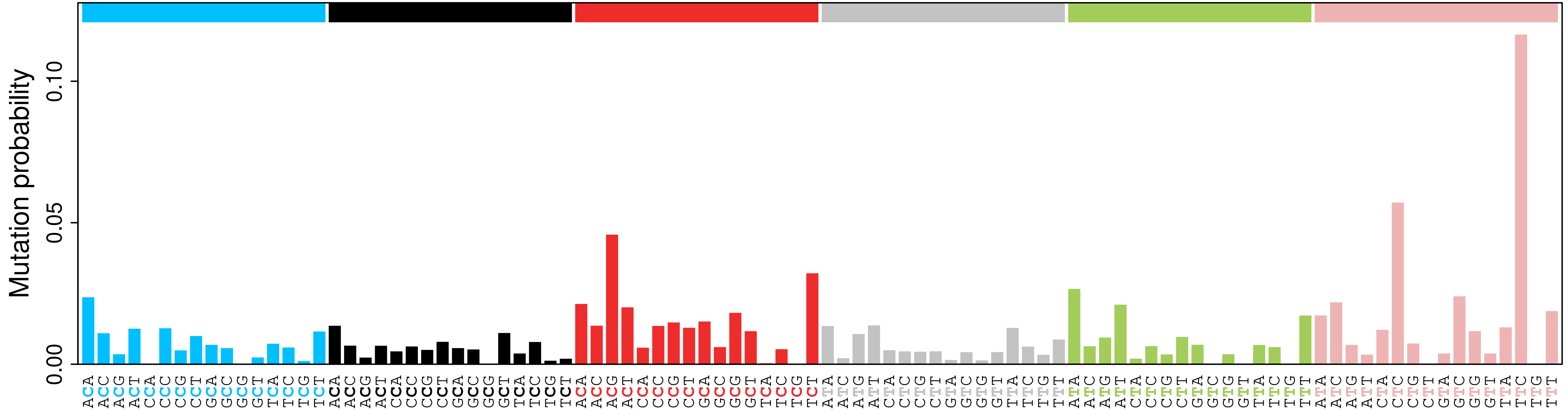
C > G

$C > T$

T > A

$T > C$

T>G



SBS115

$C > A$

C > G

$C > T$

T > A

$T > C$

$T > G$

Mutation probability

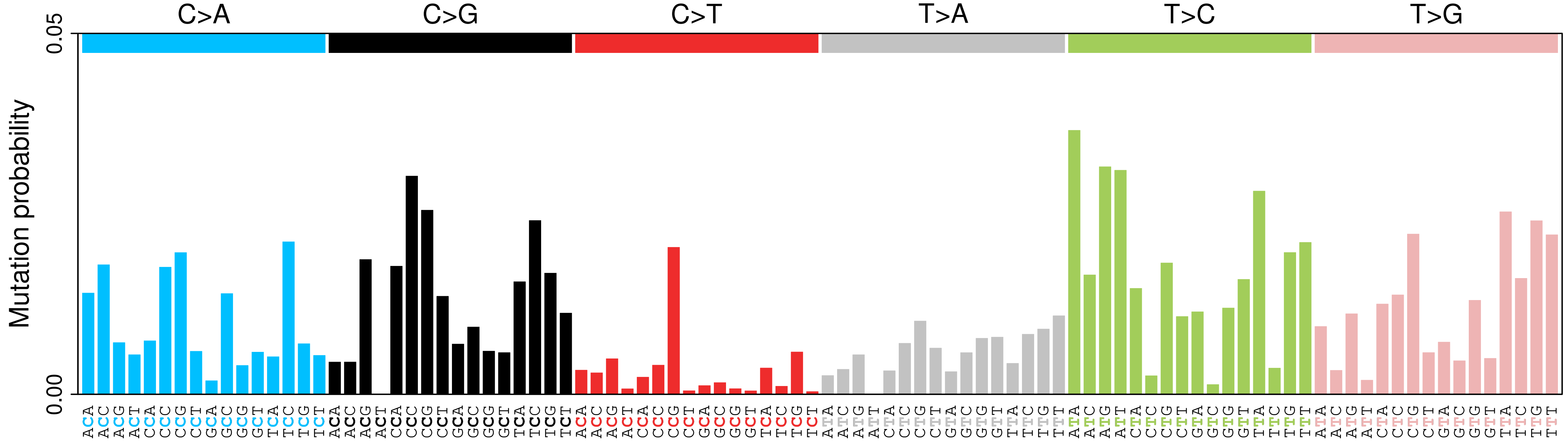
0.00 0.05 0.10 0.15 0.20

[illegible]

SBS116



SBS117



SBS118

C>A

C>G

C>T

T>A

T>C

T>G

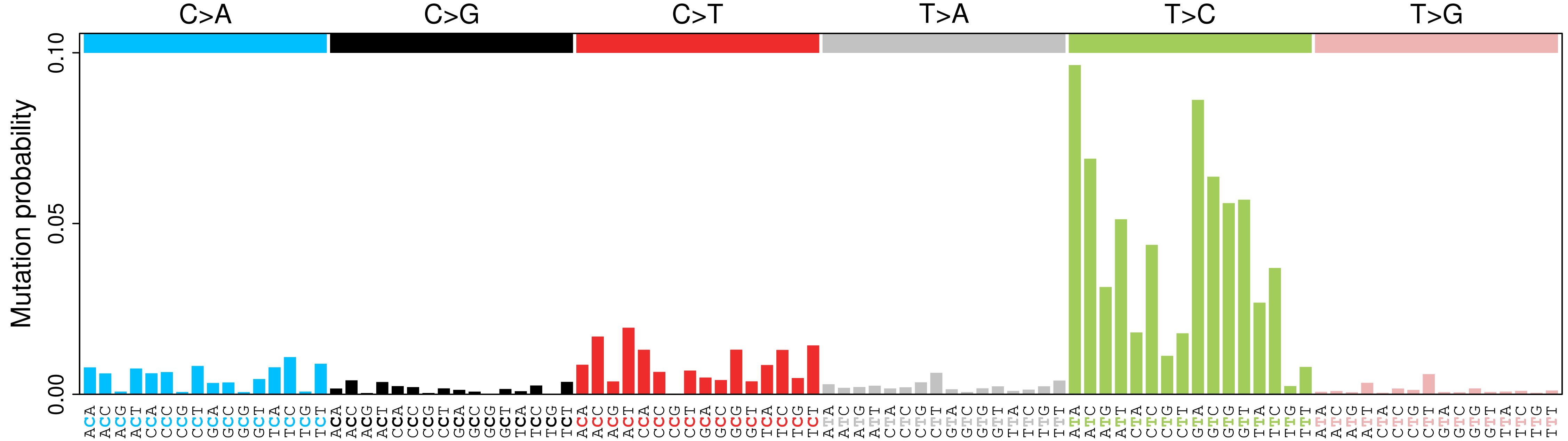
Mutation probability

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 TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CCG CCT GCA GCC 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

SBS119



SBS121

C>A

C>G

C>T

T>A

T>C

T>G

Mutation probability

0.15

0.10

0.05

0.00

ACA ACC AGT ACT CCA CCC CGG GGT TCA TCC TCG TCT ACA ACC ACG ACT CCA CCC CGG CCT GCA GCC 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 CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS122

C > A

C > G

$C > T$

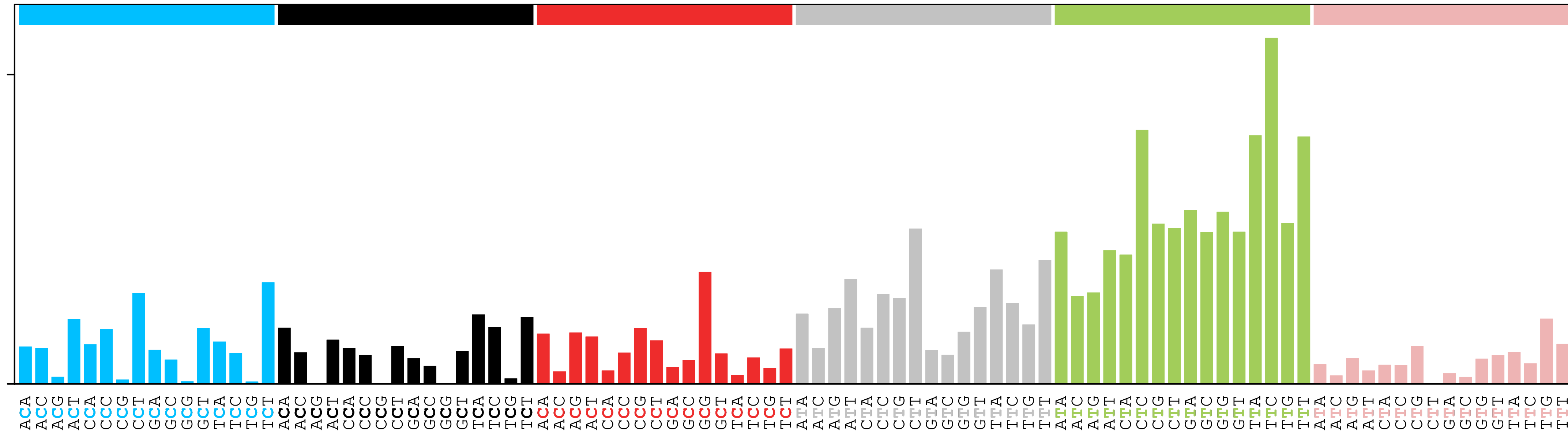
T > A

$$T > C$$

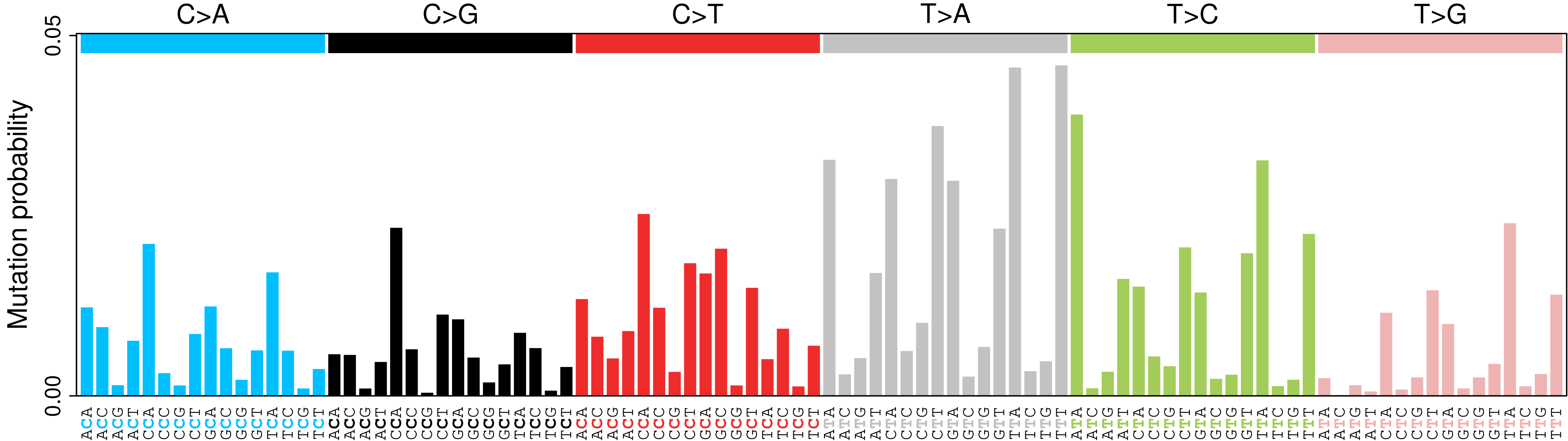
$T > G$

0.05

0.00



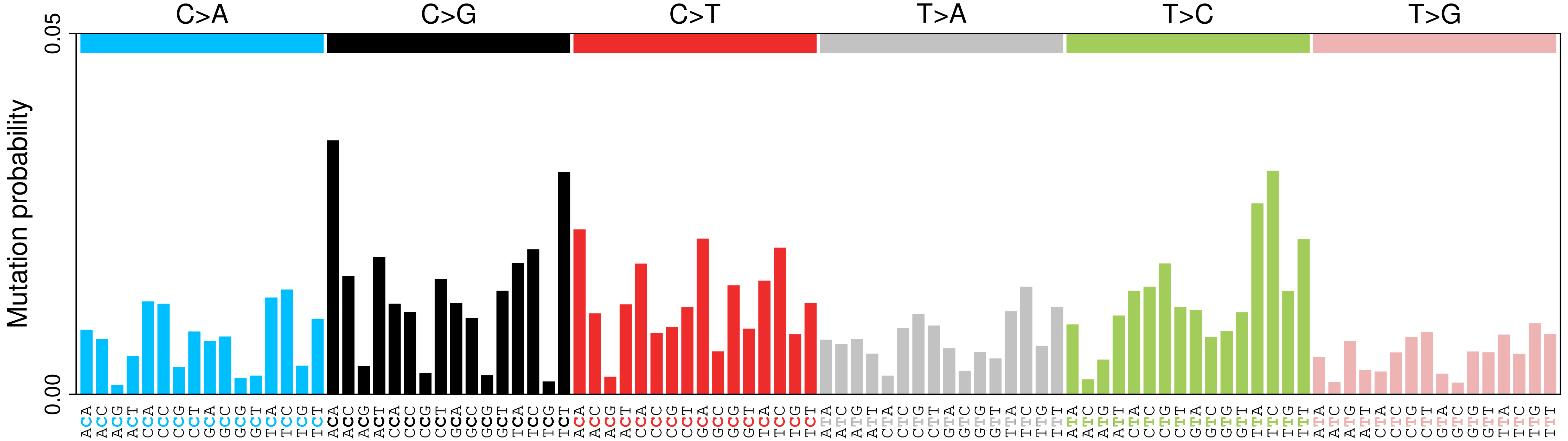
SBS124



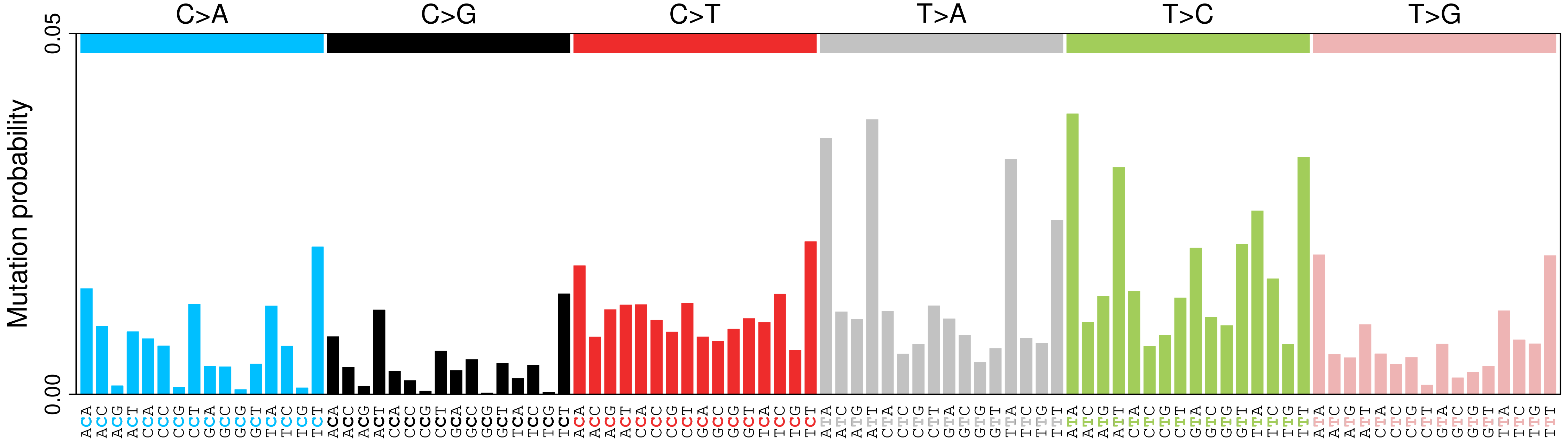
SBS125



SBS126



SBS127



SBS131

$C > A$

C > G

$C > T$

T > A

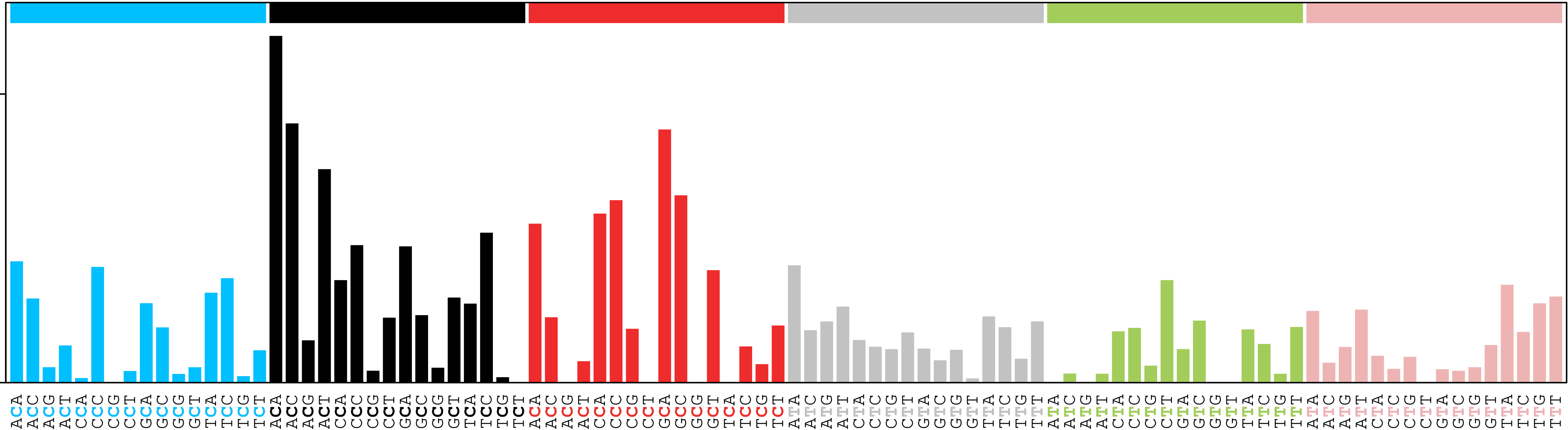
$$T > C$$

T>G

Mutation probability

0.05

0.00



SBS132



SBS133

C > A

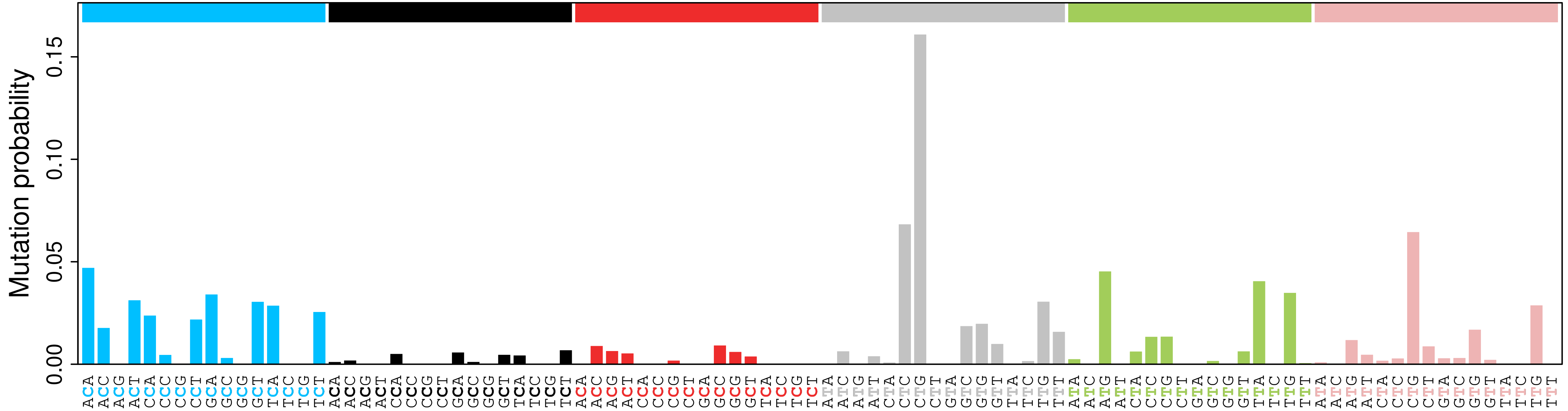
C > G

$C > T$

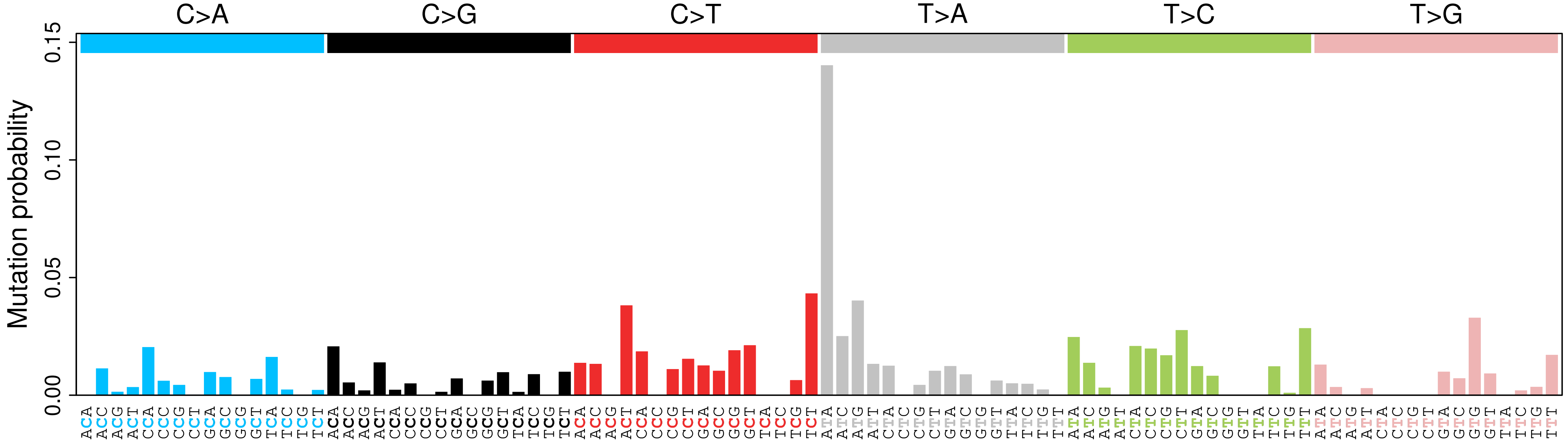
T > A

$T > C$

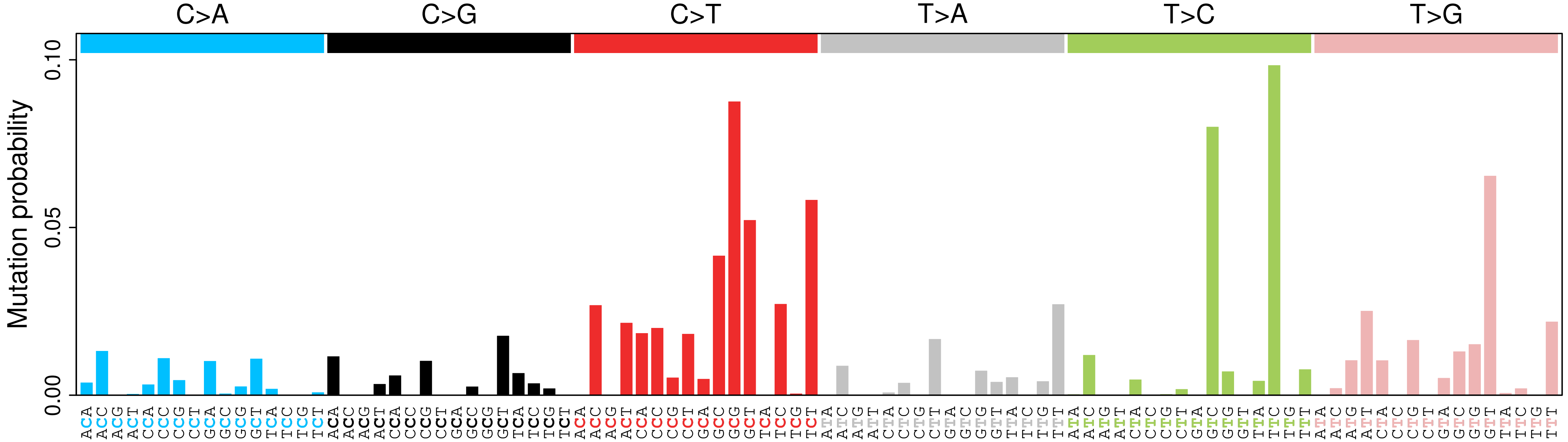
T>G



SBS135



SBS136



SBS141

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 ATA ATC ATG ATT CTA CTC CTG CTT GTA GTC GTG GTT TTA TTC TTG TTT

SBS143



SBS144

C > A

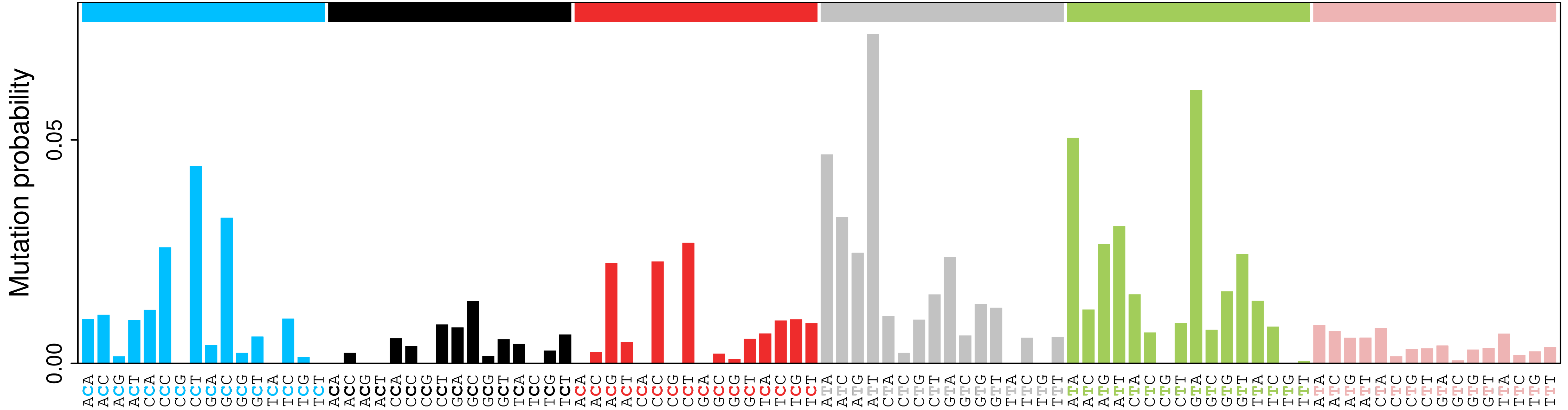
C > G

$C > T$

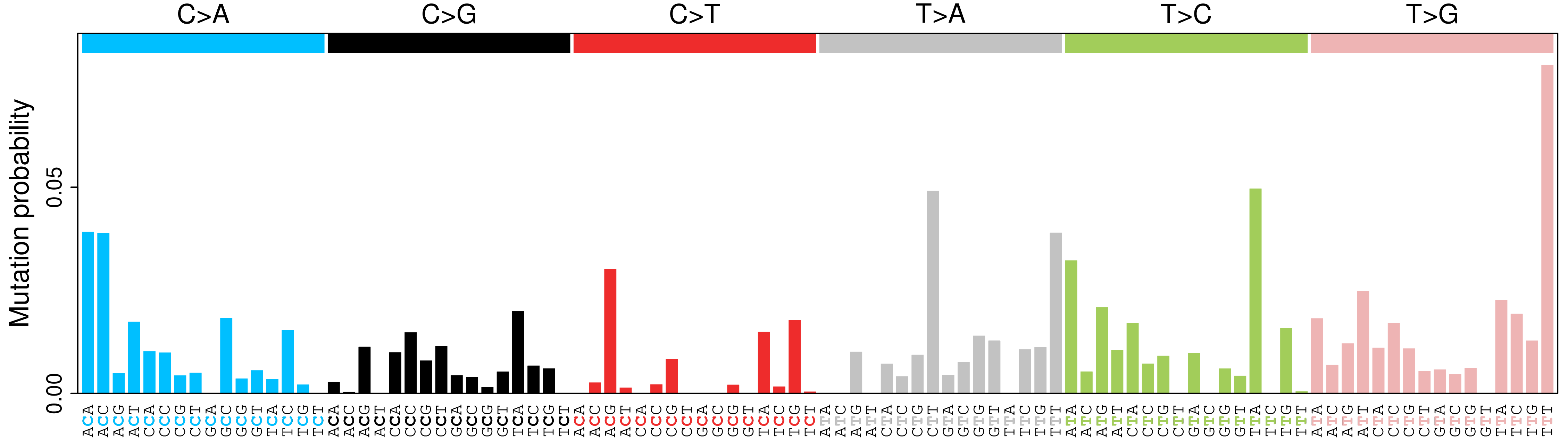
T > A

$T > C$

T>G



SBS145



SBS146

C > A

C > G

$C > T$

T > A

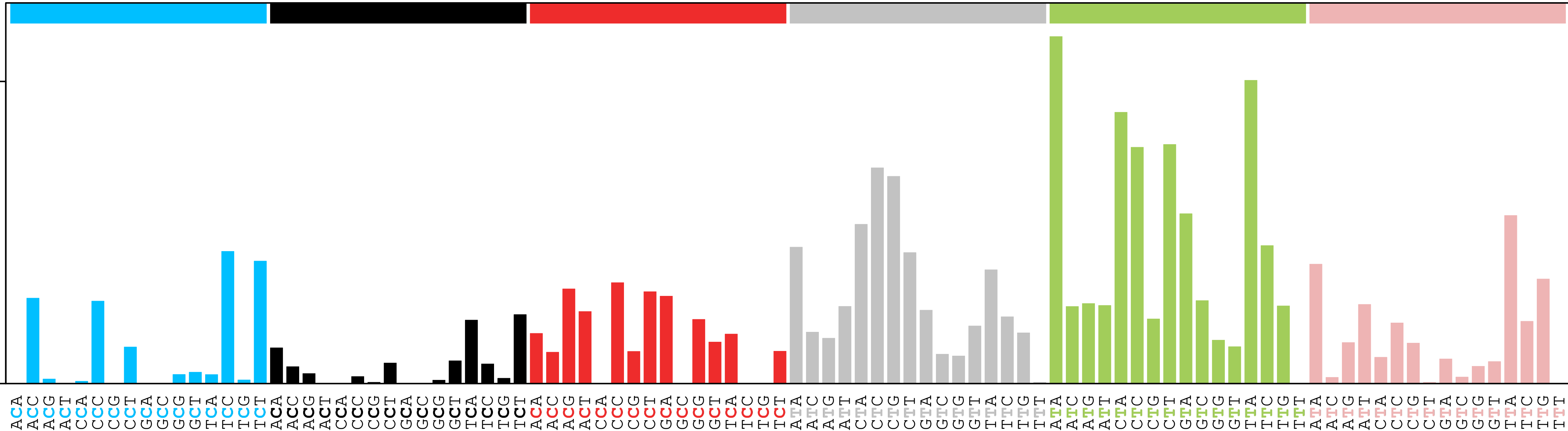
$$T > C$$

T > G

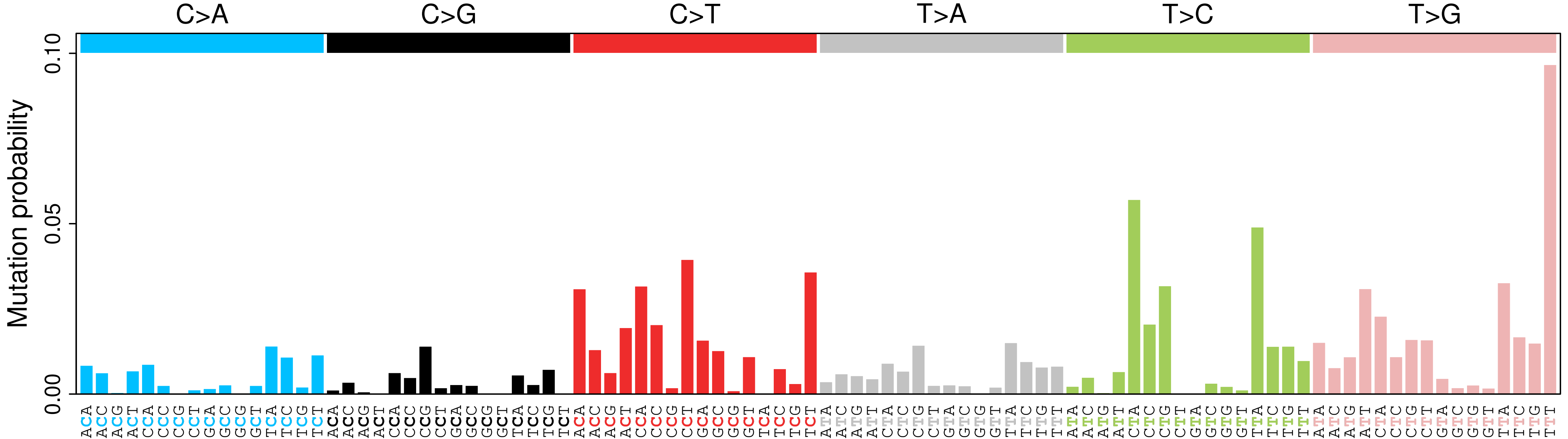
Mutation probability

0.05

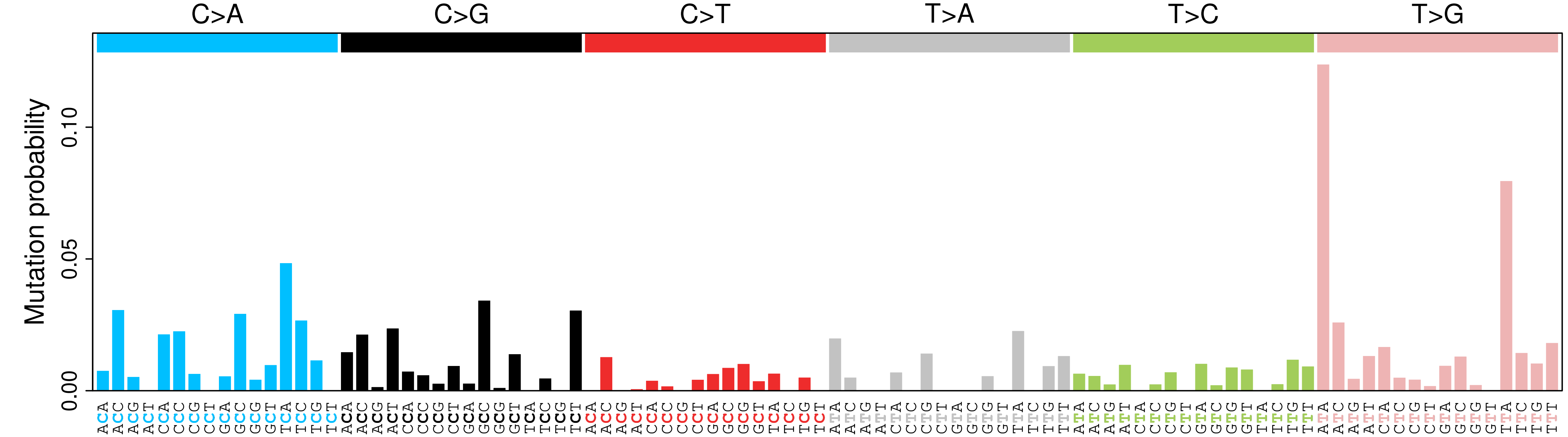
0.00



SBS147



SBS148



SBS149

C > A

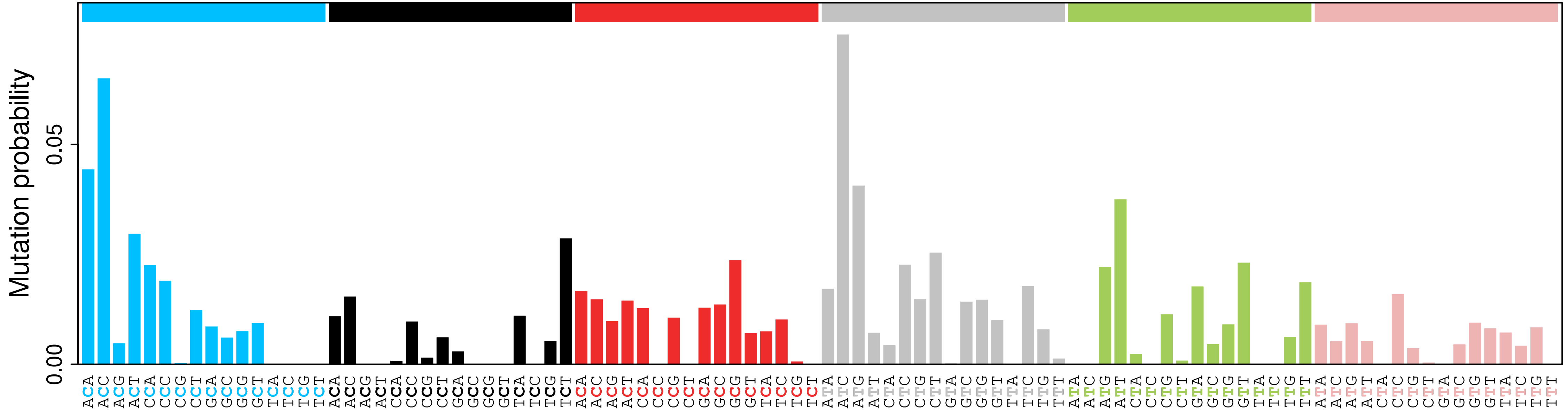
C > G

$C > T$

T > A

$T > C$

T>G



SBS153

C>A

C>G

C>T

T>A

T>C

T>G

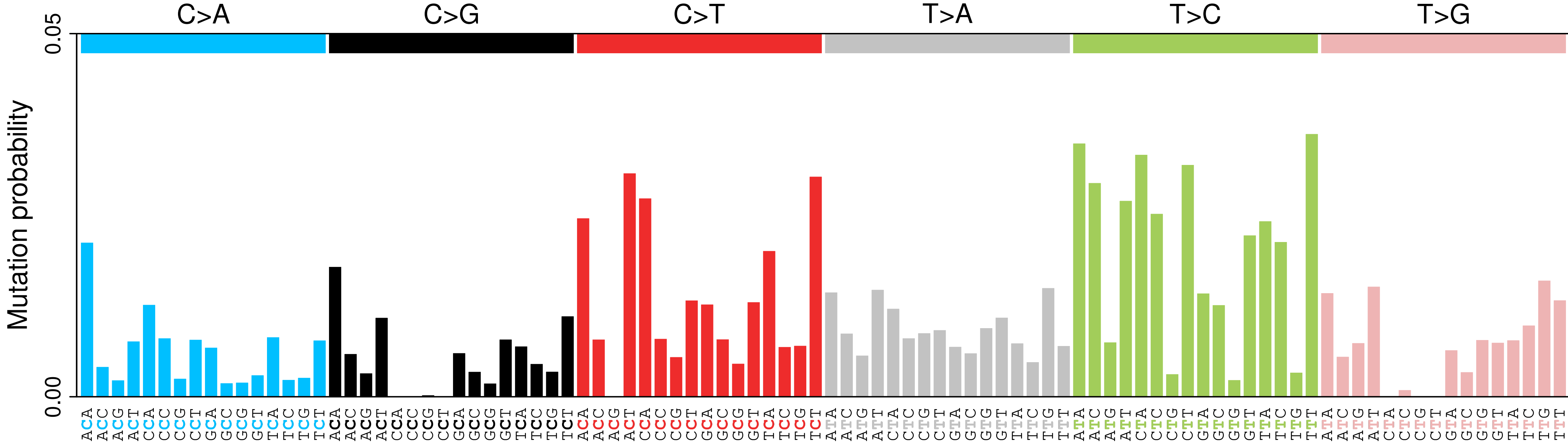
Mutation probability

0.05

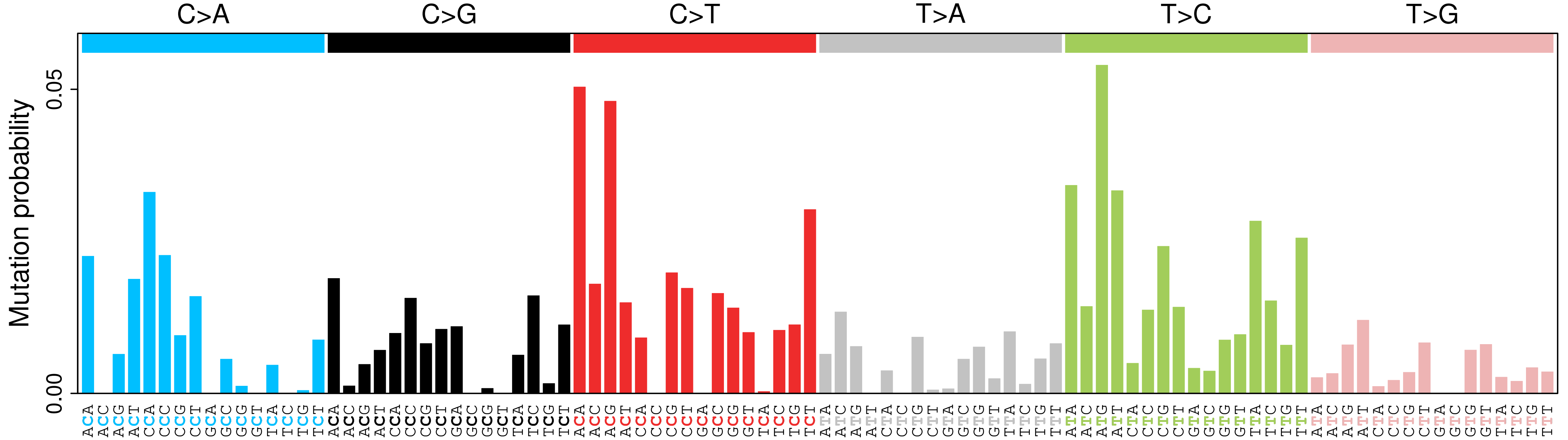
0.00

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 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

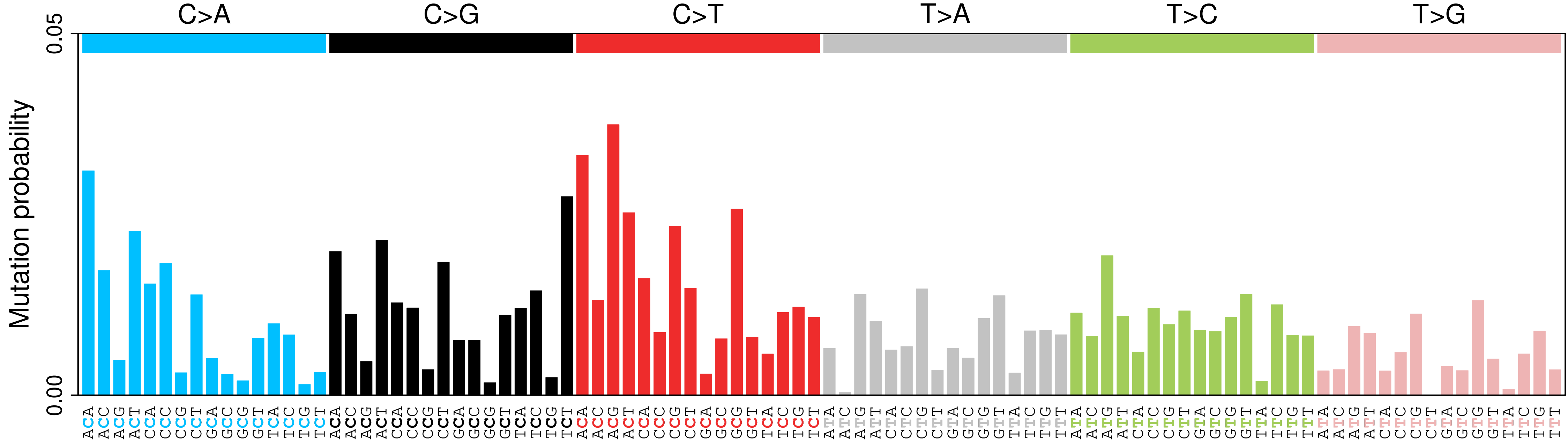
SBS154



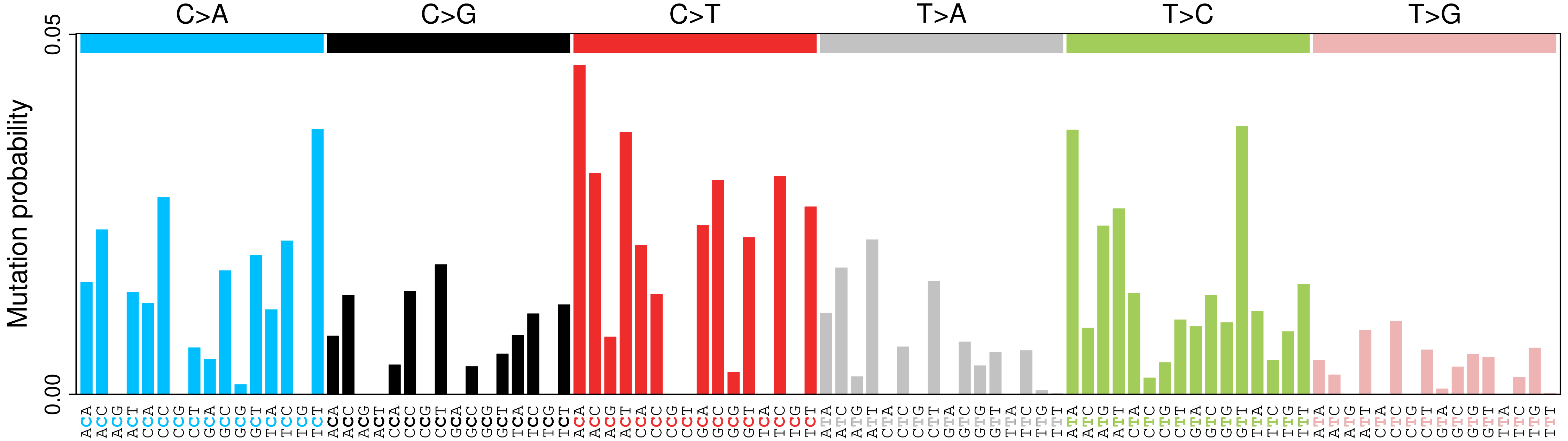
SBS156



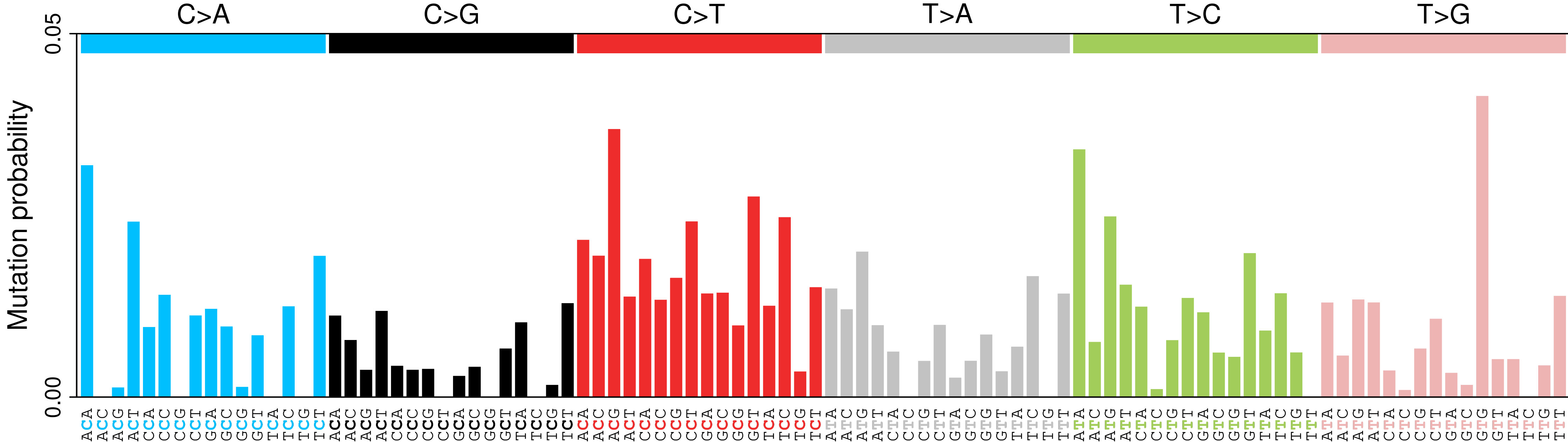
SBS157



SBS159



SBS160



SBS161

$C > A$

C > G

$C > T$

T > A

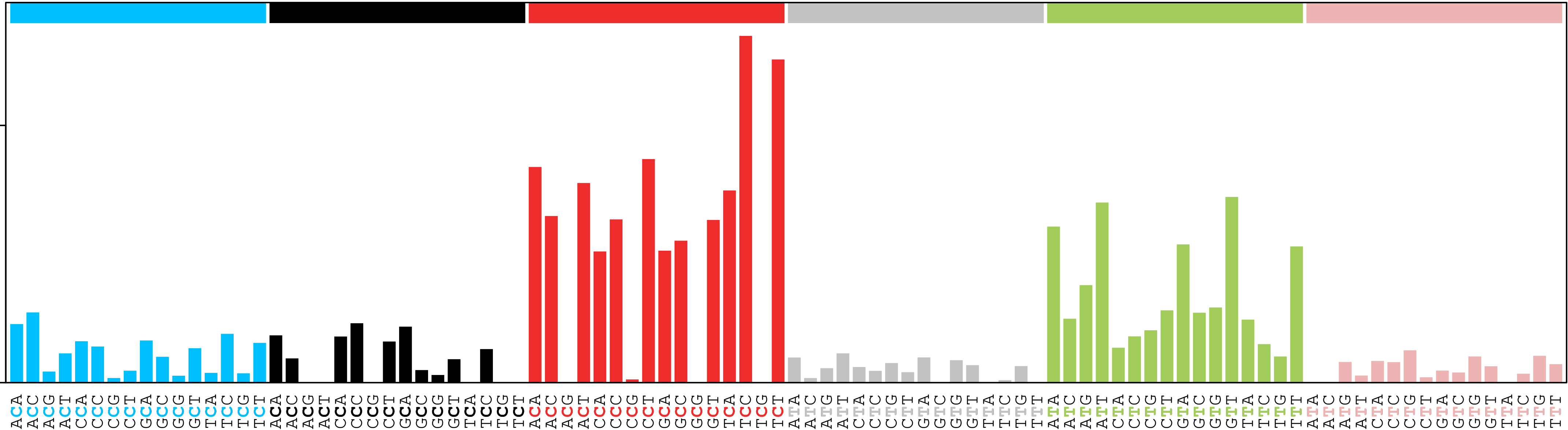
$T > C$

T>G

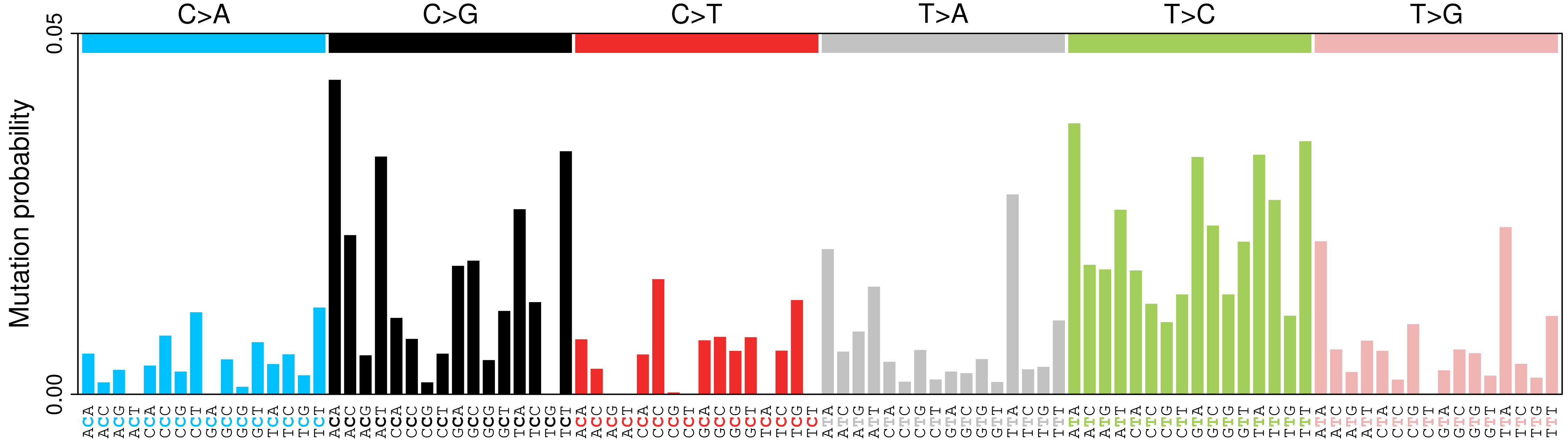
Mutation probability

0.05

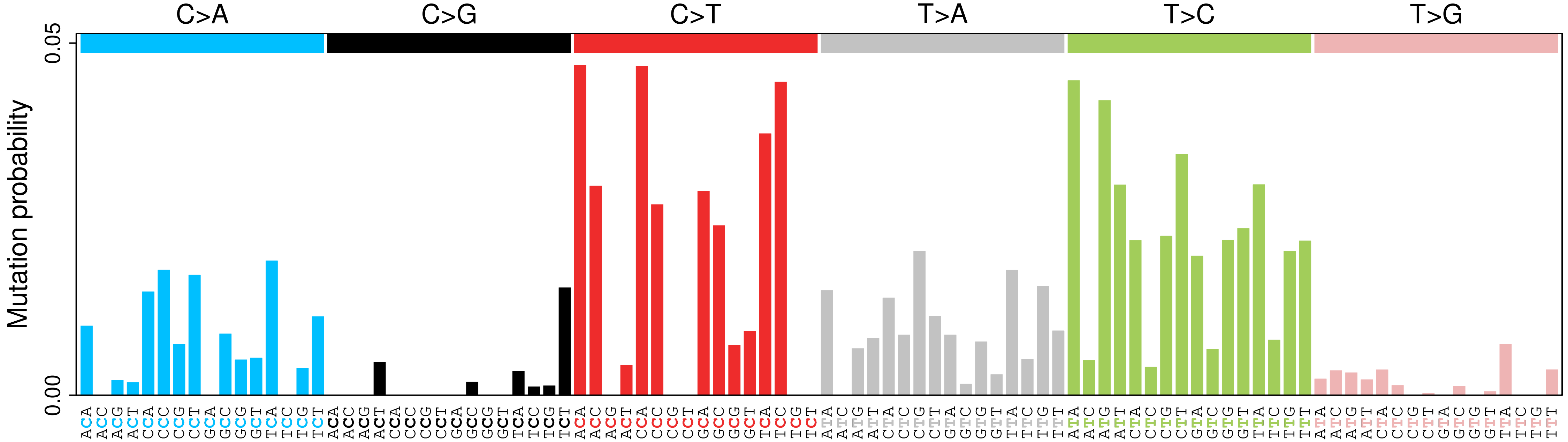
0.00



SBS163



SBS164



SBS165

$C > A$

C > G

$C > T$

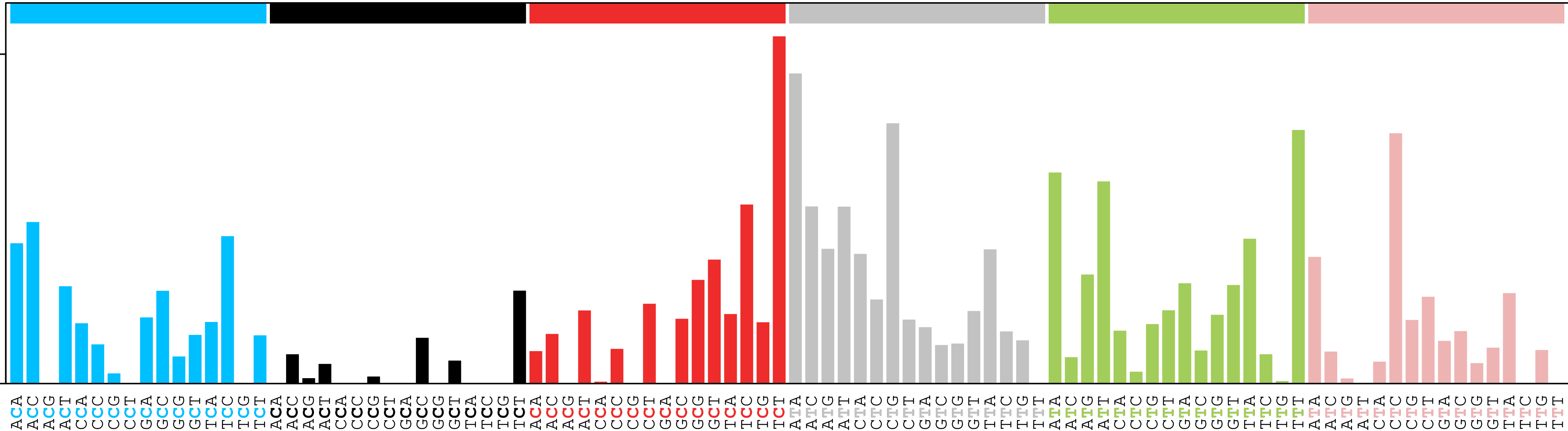
T > A

$T > C$

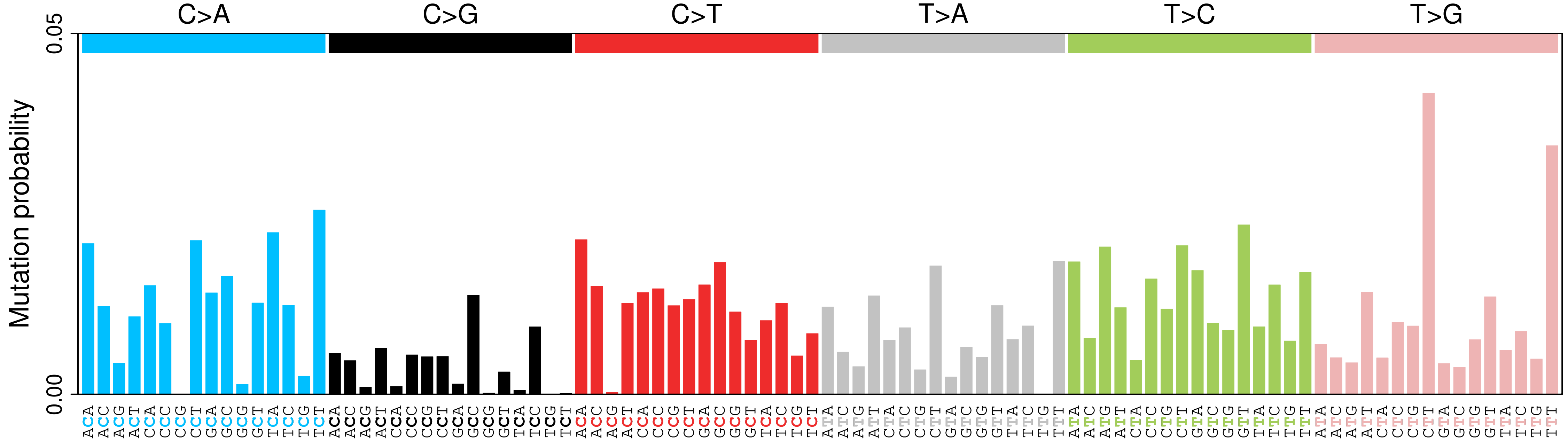
T>G

0.05

0.00



SBS167



SBS168

$C > A$

C > G

$C > T$

T>A

 $T > C$

T>G

Mutation probability

0.05

0.00



SBS169

$C > A$

C > G

$$C > T$$

$T > A$

$T > C$

$T > G$

Mutation probability

0.10

0.05

0.00

