

A

|       | 5'flanking 12-RS |              |          |                                                            | 3'flanking 23-RS |                         |           |  |
|-------|------------------|--------------|----------|------------------------------------------------------------|------------------|-------------------------|-----------|--|
| TRBD  | Nonamer          | Spacer       | Heptamer | TRBD gene                                                  | Heptamer         | Spacer                  | Nonamer   |  |
| TRBD1 | CGTTTTTGT        | ATAAAGCTGTAA | CGTTGTG  | GGG ACA GCA GGG C<br>G T A G<br>G Q Q G<br>D S R           | CACGGTG          | ATTCAACCCTATGGGAATCCTTT | ACAAAAACC |  |
| TRBD2 | CATTTTTGT        | ATCACAGTATAA | CATTGTG  | GGG ACT GGG GGG TGG G<br>G T G G W<br>G L G G G<br>D W G V | CACAATG          | ATTCAGTTAGAGGAAGTACTTTT | ACAAAAAGC |  |
| TRBD3 | CATTTTTGT        | ATCACAGTATAA | CATTGTG  | GGA CTT CGG GGG GGG C<br>G L R G G<br>D F G G G<br>T S G G | CACGATG          | ATTCAGTTAGAGGAAGTGCTTTT | ACAAAAAGC |  |

B

| TRBJ    | RS<br>Nonamer | Spacer       | Heptamer       | TRBJ gene                                                                                                                |
|---------|---------------|--------------|----------------|--------------------------------------------------------------------------------------------------------------------------|
| TRBJ1-1 | GCTTTCCTC     | CTTGCTCCGCTT | CACTGTG        | TG AAC ACT GAG GTT TTC TTT GGA AAA GGC ACC AGG CTC ACG GTT GTA G<br>N T E V F F G K G T R L T V V                        |
| TRBJ1-2 | CGTTGTAGG     | GTGGCTGTGTTT | TGATGTG        | T TAT GAC TAT CAC TTC GGC CCA GGG ACC AAG CTG ACG GT(T)† GTA G<br>Y D Y H F G P G T K L T V V                            |
| TRBJ1-3 | GTTTTGAAG     | TGAATCCTGGAG | <u>TCITGGC</u> | T TTG GAG ACT TCT ACT TTT TTT GGG GTG GGG GGC GGG GAG GGA AGA CGG CTC GCT GCG G<br>L E T S T F F G V G G G E G R R L A A |
| TRBJ1-4 | AGTTTCCTC     | ACTAGCTTTTAG | GGTTGTG        | TG ACTAAT GAT AGA CTC TAT TTC GGC AAC GGG ACGAAG CTT TCC GTC TTG G<br>T N D R L Y F G N G T K L S V L                    |
| TRBJ1-5 | GGATTTGCC     | ACACCCGCATTG | TGCTGTG        | G AGC AAC CAG GCA CAG AAC TTT GGA CAC GGG ACC TGG CTC GCC GTC CTG G<br>S N Q A Q N F G H G T W L A V L                   |
| TRBJ1-6 | GGTTTTGCC     | ACAGCCACCTGC | AGCTGTG        | G GCC TAT AAT TCG CCC CTC CAC TTT GGA ATC GGC ACC AGG CTC ATC GTG ACA G<br>A Y N S P L H F G I G T R L I V T             |
| TRBJ2-1 | GAATTCCTG     | CTAGCCCCTTCC | CACTGTG        | C TCC TAT GAG GAG CAG CAC TTC GGG CCA GGG ACC AGG CTC ATT GTG CTA G<br>S Y E E Q H F G P G T R L I V L                   |
| TRBJ2-2 | AGTTTGCGC     | CTGGGTCCCCAG | GGCTGTG        | TG AAC GCC GTG CAG CTG TAC TTT GGA GCT GGT TCC AAG CTG ACT GTG CTG G<br>N A V Q L Y F G A G S K L T V L                  |
| TRBJ2-3 | GGTTTTTGT     | CCTGGGTCCCCG | GGCTGTG        | AGC CAA AGC ACT CAG TAC TTC GGC GCG GGC ACC CGG CTG TCG GTG CTA G<br>S Q S T Q Y F G A G T R L S V L                     |
| TRBJ2-4 | GGTTTTTGC     | GCGGGGCTGGGG | GGCCGTG        | AC TCA GAG ACG CTG TAC TTC GGG CCG GGC ACG CGG CTC CAG GTG CTA G<br>S E T L Y F G P G T R L Q V L                        |
| TRBJ2-5 | GGTTTGCTT     | GCGGGACTGGGA | CTCTGTG        | A GCC AGT GAG CGG TAT TTT GGC GCC GGC ACC AGG CTC ACG GTC ACA G<br>A S E R Y F G A G T R L T V T                         |
| TRBJ3-1 | GAATTCCTG     | CTAGCCCCTTCC | CACTGTG        | C TCC TAT GGG GAG CTG CAC TTC GGG CCA GGG ACC AGG CTC TCT GTG CTA G<br>S Y G E L H F G P G T R L S V L                   |
| TRBJ3-2 | AGTTTGCGC     | CTGGGTCCCCAG | GGCTGTG        | TG AAC ACC CAG CCC CTG TAC TTT GGA GCT GGT TCC AAG CTG ACT GTG CTG G<br>N T Q P L Y F G A G S K L T V L                  |
| TRBJ3-3 | AGTTTTTGT     | CCTGAGCCTCCG | GGCTGTG        | AGC AAC AAC CCT CTG TAT TTT GGA GGG GGC ACT CGG CTG TTG GTA CTA G<br>S N N P L Y F G G G T R L A V L                     |
| TRBJ3-4 | TATTTTTGT     | GCTGAGCCCTGA | GGCTGTG        | AGC ACA GAC ACG CAG TAC TTC GGC GCG GGC ACC CGG CTG ACG GTG CTA G<br>S T D T Q Y F G A G T R L T V L                     |
| TRBJ3-5 | GGTTTTTGC     | GCGAGGCTGGGG | GGCCGTG        | ACT CAG ATC CAG TAC TTC GGG CCG GGC ACG CGG CTC CTG GTG CTA G<br>T Q I Q Y F G P G T R L L V L                           |
| TRBJ3-6 | GATTTTTGT     | GGGGCGCCCCGA | GGCTGTG        | C TTT GCA GGC GCC GCC CTG ACC TTC GGG GCC GGC AGC TGG CTG ACG GTG GTG G<br>F A G A A L T F G A G S W L T V V             |
| TRBJ3-7 | GGTTTGAGT     | GCGGGGCTCTTC | TTCCGTG        | T TCC TAT GAG CAG TAT TTC GGC CCA GGC ACC AAG CTC ACG GTC TTA G<br>S Y E Q Y F G P G T K L T V L                         |