

(A) NGS TCR sequ

NEB Name

Forward

i501
i502
i503
i504
i505
i506
i507
i508

Alpha Reverse

i701-A
i702-A
i703-A
i704-A
i705-A
i706-A
i707-A
i704-A
i709-A
i710-A
i711-A
i712-A

Beta Reverse

i701-B
i702-B
i703-B
i704-B
i705-B
i706-B
i707-B
i708-B
i709-B
i710-B
i711-B
i712-B

ecing primers

Sequence

AATGATACGGCGACCACCGAGATCTACACTATAGCCTACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACATAGAGGCACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACCCTATCCTACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACGGCTCTGAACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACAGGCGAAGACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACTAATCTTAACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACCAGGACGTACACTCTTTCCCTACACGACGCTC
AATGATACGGCGACCACCGAGATCTACACGTAAGTACACTCTTTCCCTACACGACGCTC

CAAGCAGAAGACGGCATAACGAGATCGAGTAATGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTCCGGAGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATAATGAGCGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGGAATCTCGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTTCTGAATGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATACGAATTCGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATAGCTTCAGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGCGCATTAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATCATAGCCGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTTTCGCGGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGCGCGAGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATCTATCGCTGTGACTGGAGTTCAGACGTGTGCTCTTCC

CAAGCAGAAGACGGCATAACGAGATCGAGTAATGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTCCGGAGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATAATGAGCGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGGAATCTCGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTTCTGAATGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATACGAATTCGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATAGCTTCAGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGCGCATTAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATCATAGCCGGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATTTTCGCGGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATGCGCGAGAGTGACTGGAGTTCAGACGTGTGCTCTTCC
CAAGCAGAAGACGGCATAACGAGATCTATCGCTGTGACTGGAGTTCAGACGTGTGCTCTTCC

(C) 9mer and 10mer CPL characteristics with fixed (bold) and degenerate (X) ami

Sublibrary number	Position 1	Position 3	Position 5
1	A XXXXXXXXX	XX A XXXXXXXXX	XXXX A XXXXX
2	C XXXXXXXXX	XX C XXXXXXXXX	XXXX C XXXXX
3	D XXXXXXXXX	XX D XXXXXXXXX	XXXX D XXXXX
4	E XXXXXXXXX	XX E XXXXXXXXX	XXXX E XXXXX
5	F XXXXXXXXX	XX F XXXXXXXXX	XXXX F XXXXX
6	G XXXXXXXXX	XX G XXXXXXXXX	XXXX G XXXXX
7	H XXXXXXXXX	XX H XXXXXXXXX	XXXX H XXXXX
8	I XXXXXXXXX	XX I XXXXXXXXX	XXXX I XXXXX
9	K XXXXXXXXX	XX K XXXXXXXXX	XXXX K XXXXX
10	L XXXXXXXXX	XX L XXXXXXXXX	XXXX L XXXXX
11	M XXXXXXXXX	XX M XXXXXXXXX	XXXX M XXXXX
12	N XXXXXXXXX	XX N XXXXXXXXX	XXXX N XXXXX
13	P XXXXXXXXX	XX P XXXXXXXXX	XXXX P XXXXX
14	Q XXXXXXXXX	XX Q XXXXXXXXX	XXXX Q XXXXX
15	R XXXXXXXXX	XX R XXXXXXXXX	XXXX R XXXXX
16	S XXXXXXXXX	XX S XXXXXXXXX	XXXX S XXXXX
17	T XXXXXXXXX	XX T XXXXXXXXX	XXXX T XXXXX
18	V XXXXXXXXX	XX V XXXXXXXXX	XXXX V XXXXX
19	W XXXXXXXXX	XX W XXXXXXXXX	XXXX W XXXXX
20	Y XXXXXXXXX	XX Y XXXXXXXXX	XXXX Y XXXXX

Sublibrary number	Position 2	Position 4	Position 6
21	X A XXXXXXXXX	XXX A XXXXXXXXX	XXXXX A XXXXX
22	X C XXXXXXXXX	XXX C XXXXXXXXX	XXXXX C XXXXX
23	X D XXXXXXXXX	XXX D XXXXXXXXX	XXXXX D XXXXX
24	X E XXXXXXXXX	XXX E XXXXXXXXX	XXXXX E XXXXX
25	X F XXXXXXXXX	XXX F XXXXXXXXX	XXXXX F XXXXX
26	X G XXXXXXXXX	XXX G XXXXXXXXX	XXXXX G XXXXX
27	X H XXXXXXXXX	XXX H XXXXXXXXX	XXXXX H XXXXX
28	X I XXXXXXXXX	XXX I XXXXXXXXX	XXXXX I XXXXX
29	X K XXXXXXXXX	XXX K XXXXXXXXX	XXXXX K XXXXX
30	X L XXXXXXXXX	XXX L XXXXXXXXX	XXXXX L XXXXX
31	X M XXXXXXXXX	XXX M XXXXXXXXX	XXXXX M XXXXX
32	X N XXXXXXXXX	XXX N XXXXXXXXX	XXXXX N XXXXX
33	X P XXXXXXXXX	XXX P XXXXXXXXX	XXXXX P XXXXX
34	X Q XXXXXXXXX	XXX Q XXXXXXXXX	XXXXX Q XXXXX
35	X R XXXXXXXXX	XXX R XXXXXXXXX	XXXXX R XXXXX
36	X S XXXXXXXXX	XXX S XXXXXXXXX	XXXXX S XXXXX
37	X T XXXXXXXXX	XXX T XXXXXXXXX	XXXXX T XXXXX
38	X V XXXXXXXXX	XXX V XXXXXXXXX	XXXXX V XXXXX
39	X W XXXXXXXXX	XXX W XXXXXXXXX	XXXXX W XXXXX
40	X Y XXXXXXXXX	XXX Y XXXXXXXXX	XXXXX Y XXXXX

X = random mixture of proteogenic amino acids excluding cysteine 9mer
 Red text = 10mer CPL characteristics 10me

no acid residues

Position 7	Position 9
XXXXXXXX A XX	161 XXXXXXXXXXX A X
XXXXXXXX C XX	162 XXXXXXXXXXX C X
XXXXXXXX D XX	163 XXXXXXXXXXX D X
XXXXXXXX E XX	164 XXXXXXXXXXX E X
XXXXXXXX F XX	165 XXXXXXXXXXX F X
XXXXXXXX G XX	166 XXXXXXXXXXX G X
XXXXXXXX H XX	167 XXXXXXXXXXX H X
XXXXXXXX I XX	168 XXXXXXXXXXX I X
XXXXXXXX K XX	169 XXXXXXXXXXX K X
XXXXXXXX L XX	170 XXXXXXXXXXX L X
XXXXXXXX M XX	171 XXXXXXXXXXX M X
XXXXXXXX N XX	172 XXXXXXXXXXX N X
XXXXXXXX P XX	173 XXXXXXXXXXX P X
XXXXXXXX Q XX	174 XXXXXXXXXXX Q X
XXXXXXXX R XX	175 XXXXXXXXXXX R X
XXXXXXXX S XX	176 XXXXXXXXXXX S X
XXXXXXXX T XX	177 XXXXXXXXXXX T X
XXXXXXXX V XX	178 XXXXXXXXXXX V X
XXXXXXXX W XX	179 XXXXXXXXXXX W X
XXXXXXXX Y XX	180 XXXXXXXXXXX Y X

Position 8	Position 10
XXXXXXXX A XX	181 XXXXXXXXXXX A
XXXXXXXX C XX	182 XXXXXXXXXXX C
XXXXXXXX D XX	183 XXXXXXXXXXX D
XXXXXXXX E XX	184 XXXXXXXXXXX E
XXXXXXXX F XX	185 XXXXXXXXXXX F
XXXXXXXX G XX	186 XXXXXXXXXXX G
XXXXXXXX H XX	187 XXXXXXXXXXX H
XXXXXXXX I XX	188 XXXXXXXXXXX I
XXXXXXXX K XX	189 XXXXXXXXXXX K
XXXXXXXX L XX	190 XXXXXXXXXXX L
XXXXXXXX M XX	191 XXXXXXXXXXX M
XXXXXXXX N XX	192 XXXXXXXXXXX N
XXXXXXXX P XX	193 XXXXXXXXXXX P
XXXXXXXX Q XX	194 XXXXXXXXXXX Q
XXXXXXXX R XX	195 XXXXXXXXXXX R
XXXXXXXX S XX	196 XXXXXXXXXXX S
XXXXXXXX T XX	197 XXXXXXXXXXX T
XXXXXXXX V XX	198 XXXXXXXXXXX V
XXXXXXXX W XX	199 XXXXXXXXXXX W
XXXXXXXX Y XX	200 XXXXXXXXXXX Y

CPL = 180 sublibraries
 r CPL = 200 sublibraries