

Supplementary Table III: Trinucleotide-containing oligonucleotide libraries synthesized in this study

κ3A	5' -GCCCTGCAAGCGGAAGACTTTGCG (Tk1) TATTATTGC (Tk2) CAG (Tk3) (Tk4) (Tk5) (Tk6) (Tk7) (Tk6) ACCTTTGGCCATTCGAAAGCC-3'
κ3B	5' -GCCCTGCAAGCGGAAGACGTGGGCGTGTATTATTGC (Tk2) CAG (Tk3) (Tk4) (Tk5) (Tk6) (Tk7) (Tk6) ACCTTTGGCCATTCGAAAGCC-3'
κ3C	5' -GCCCTGCAAGCGGAAGACGTGGGCGTGTATTATTGC (Tk2) CAG (Tk3) (Tk4) (Tk5) (Tk6) (Tk7) (Tk6) ACCTTTGGCCATTCGAAAGCC-3'
λ3	5' -CCTGCAAGCGGAAGACGAAGCGGATTATTATTGCCAGAGC (Tλ1) GAC (Tλ2) ₃ [Tλ2] ₃ (Tλ3) GTGTTTGGCGGCGGCACGAAGTT-3'
H3A	5' -GTACCCGCGTCGGCCGTGTATTATTGCGCGCGT (TH1) ₄ [TH1] ₂₀ (TH1) (TH2) GAT (TH3) TGGGGCCAAGGCACCCTGGTG-3'
H3B	5' -GTACCCGCGTCGGCCGTGTATTATTGCGCGCGT [TH1] ₁₈ (TH1) (TH2) GAT (TH3) TGGGGCCAAGGCACCCTGGTG-3'

[] Substoichiometric coupling procedure

Tk1:	Mixture of ACT and GTT (both 50%)
Tk2:	Mixture of TTT (5%), CAT (5%), CTT (5%), ATG (5%), and CAG (80%)
Tk3:	Mixture of 18 trinucleotide codons (all except cysteine and proline codon) at 2.7%, except TAT (50%)
Tk4:	Mixture of GAT, GGT, AAT, TCT, and TAT (all 20%)
Tk5:	Mixture of GAT, GGT, AAT, and TCT (all 25%)
Tk6:	Mixture of 19 trinucleotide codons (all except cysteine codon) at 5.3%
Tk7:	Mixture of CCT (80%) and TCT (20%)
Tλ1:	Mixture of CGT (10%), TGG (45%), and TAT (45%)
Tλ2:	Mixture of 18 trinucleotide codons (all except cysteine and tryptophan codon) at 5.6%,
Tλ3:	Mixture of 19 trinucleotide codons (all except cysteine codon) at 5.3%
TH1:	Mixture of all twenty trinucleotides at 4.1% except TGT (1%), GGT (15%) and TAT (15%).
TH2:	Mixture of 30% TTT, 20% ATG, and 4.2% of GCT, GAG, GGT, ATT, CTT, CCT, CAG, TCT, ACT, GTT, and TAT.
TH3:	Mixture of 30% GTT, 30% TAT, and 5.7% of TTT, CAT, ATT, CTT, AAT, CCT, and TCT.

The oligonucleotides synthesized for CDR3 library generation are listed. For details see Figure 7 and the Materials & Methods section.