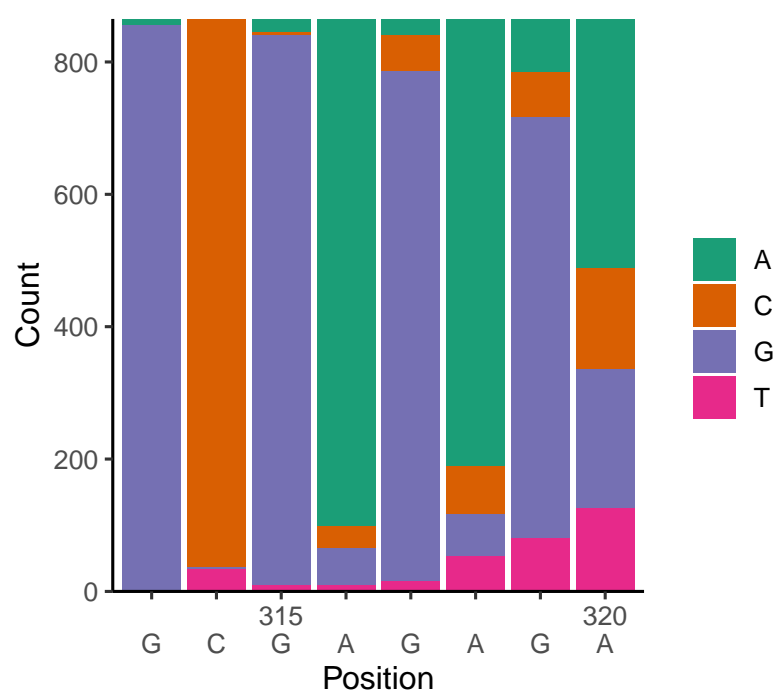
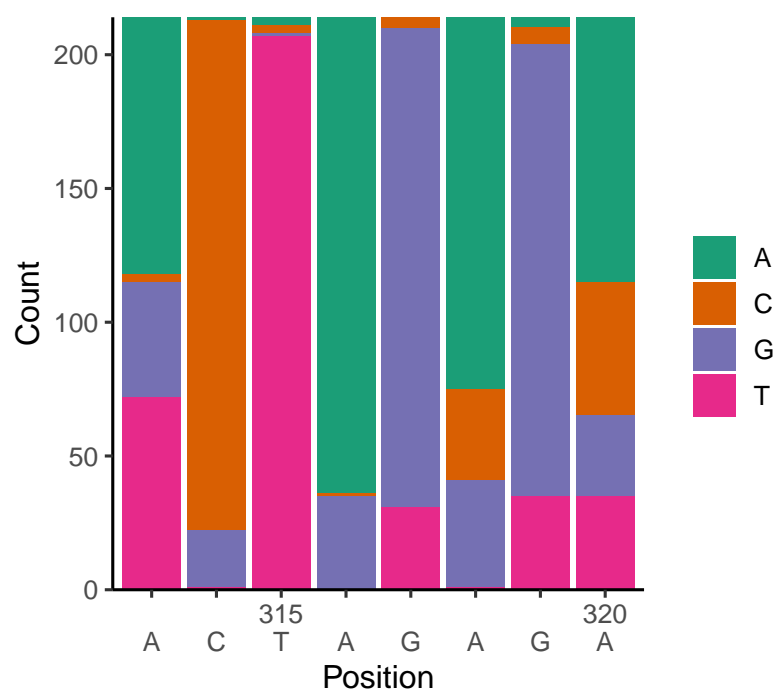


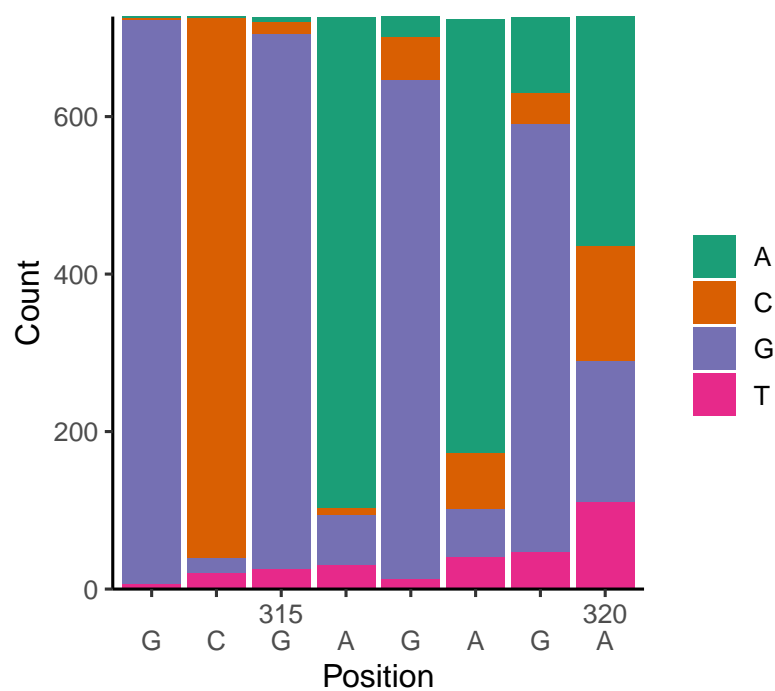
Gene IGHV3-21*01_C34T_A40C_C90T_A112T_C114G_A119G_A210C



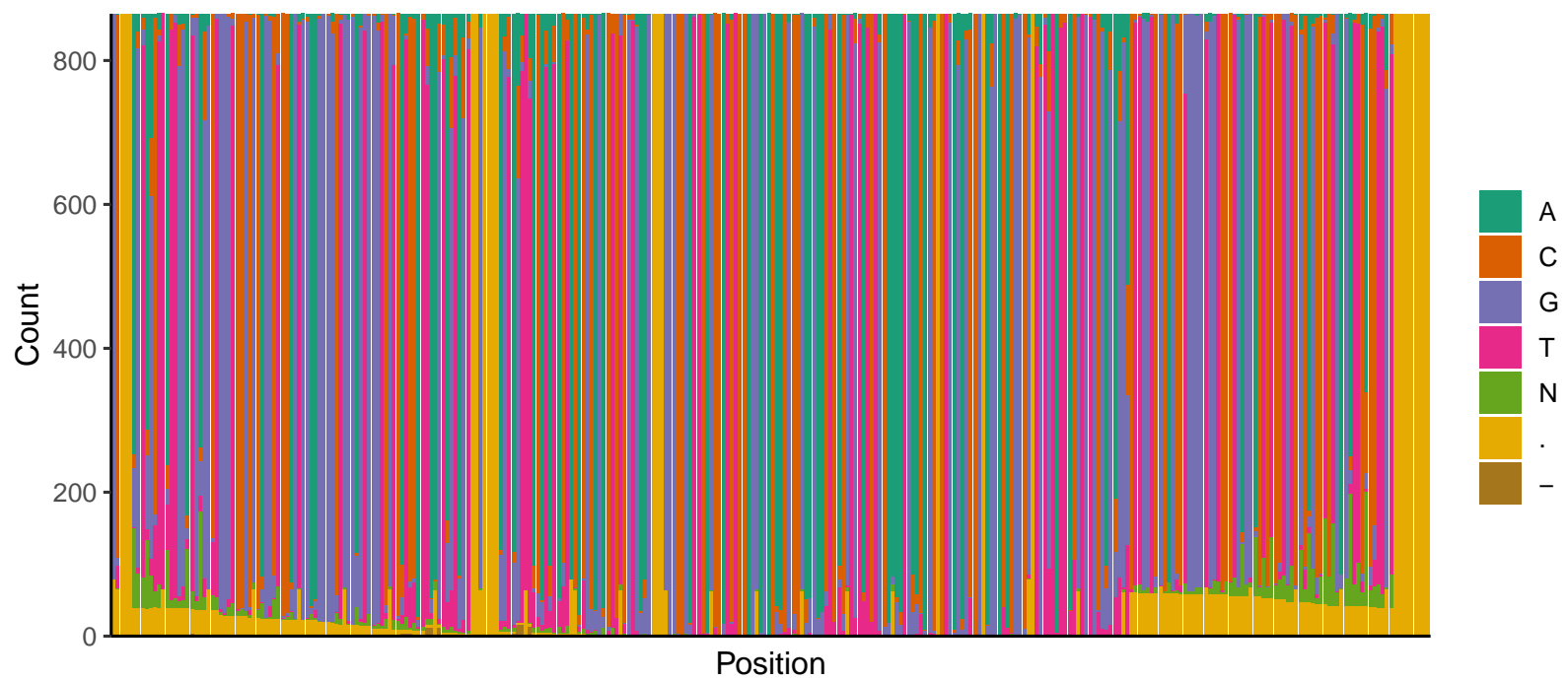
Gene IGHV3-49*03_T262C



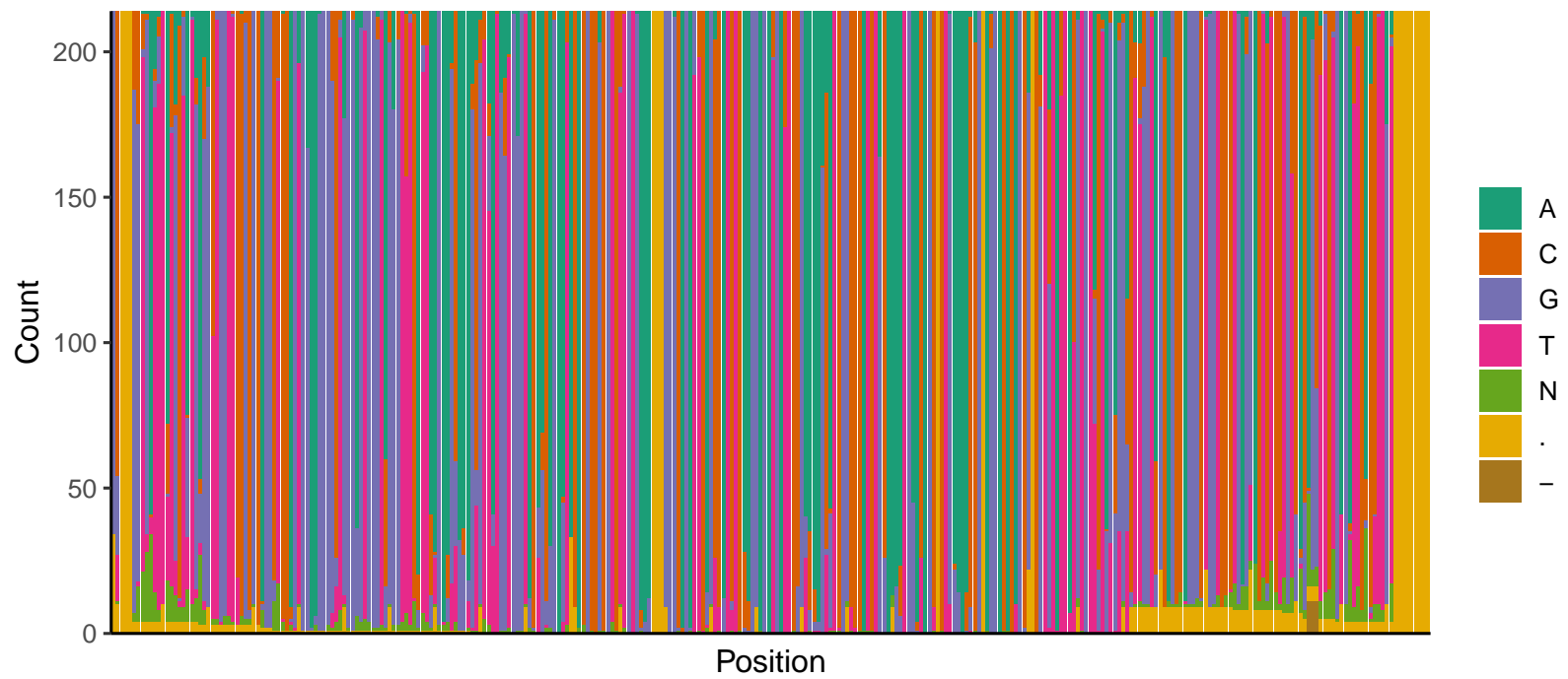
Gene IGHV1-69*08_C191T



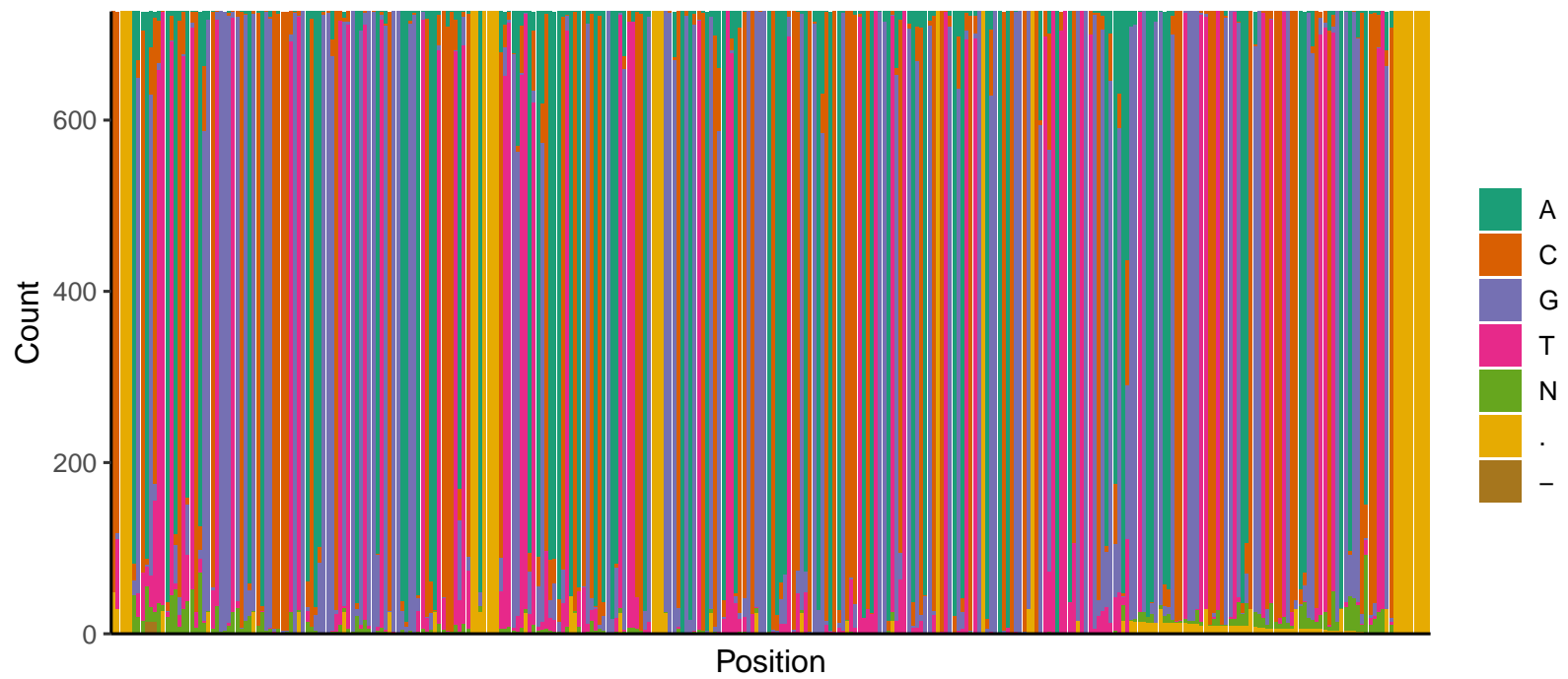
Gene IGHV3-21*01_C34T_A40C_C90T_A112T_C114G_A119G_A210C



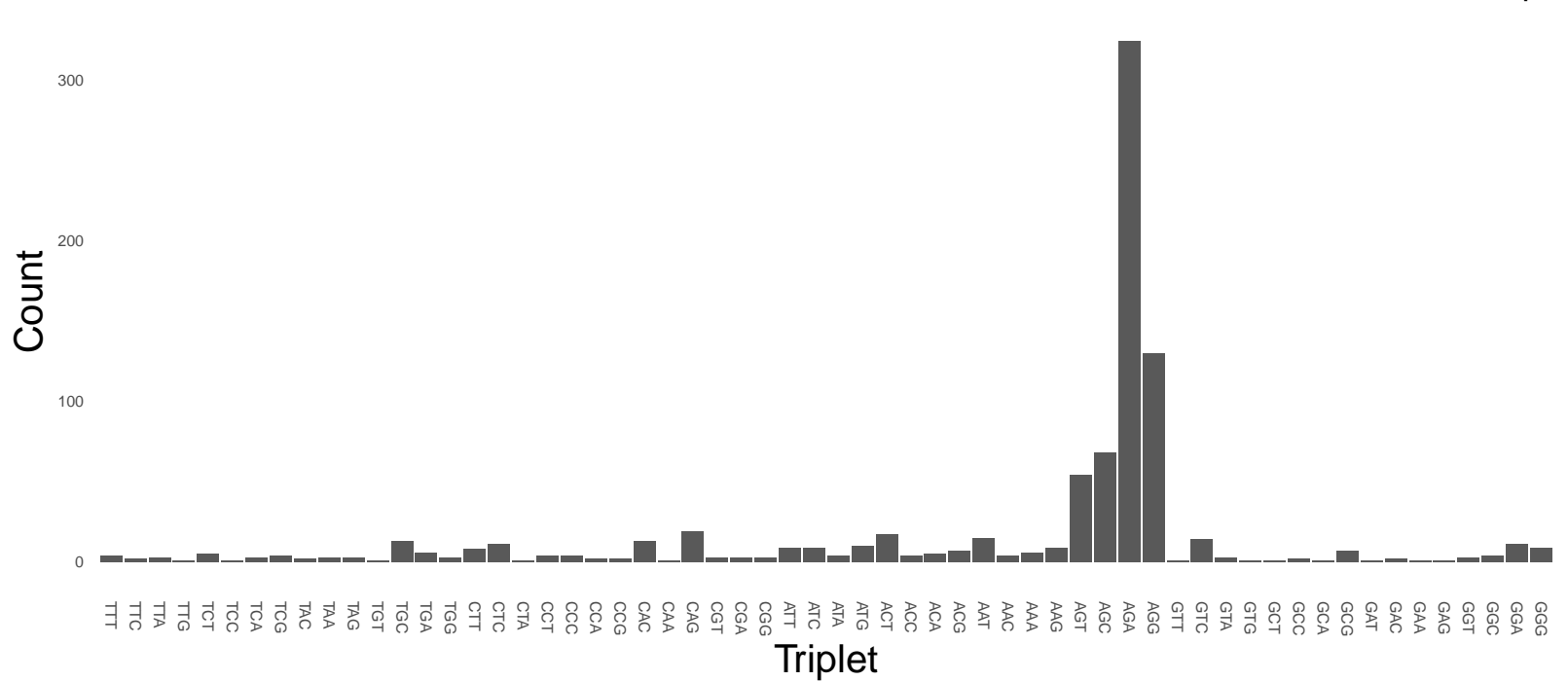
Gene IGHV3-49*03_T262C



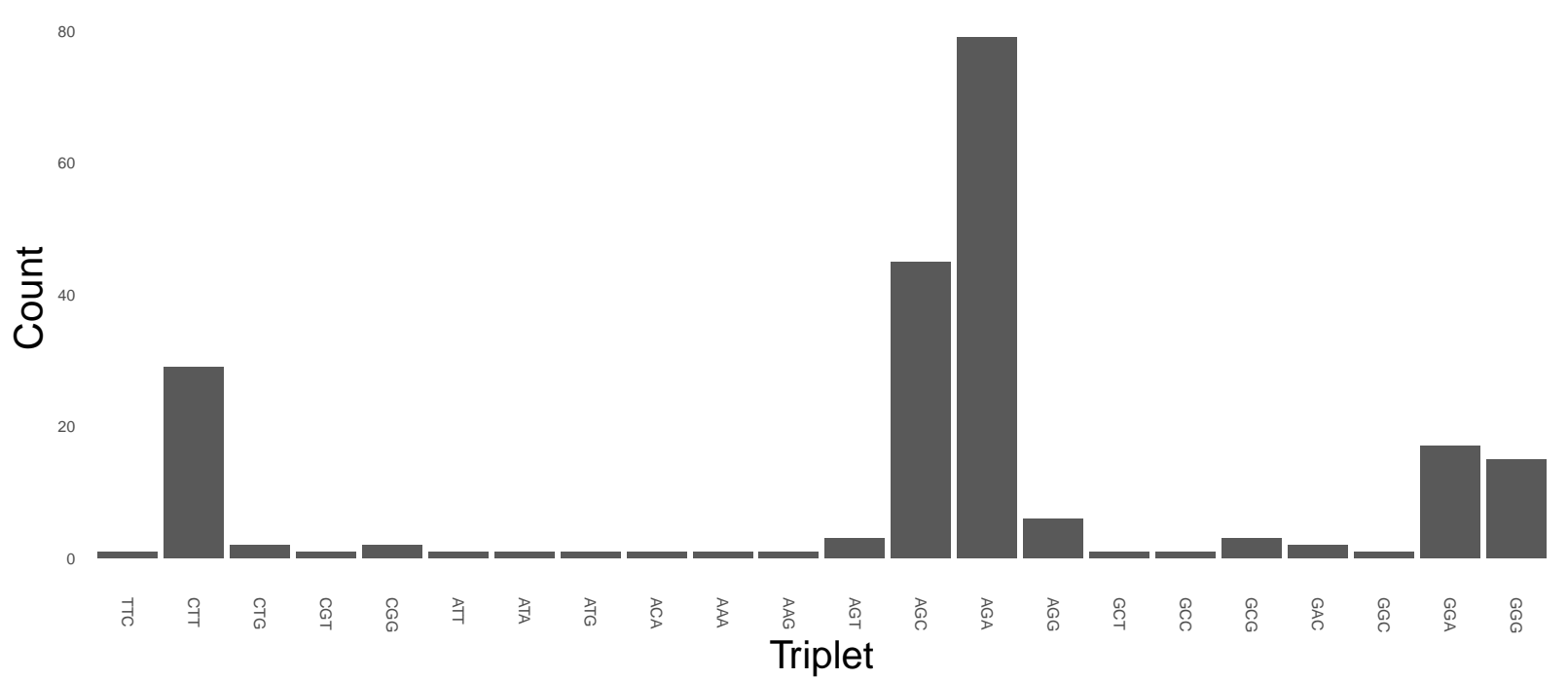
Gene IGHV1-69*08_C191T



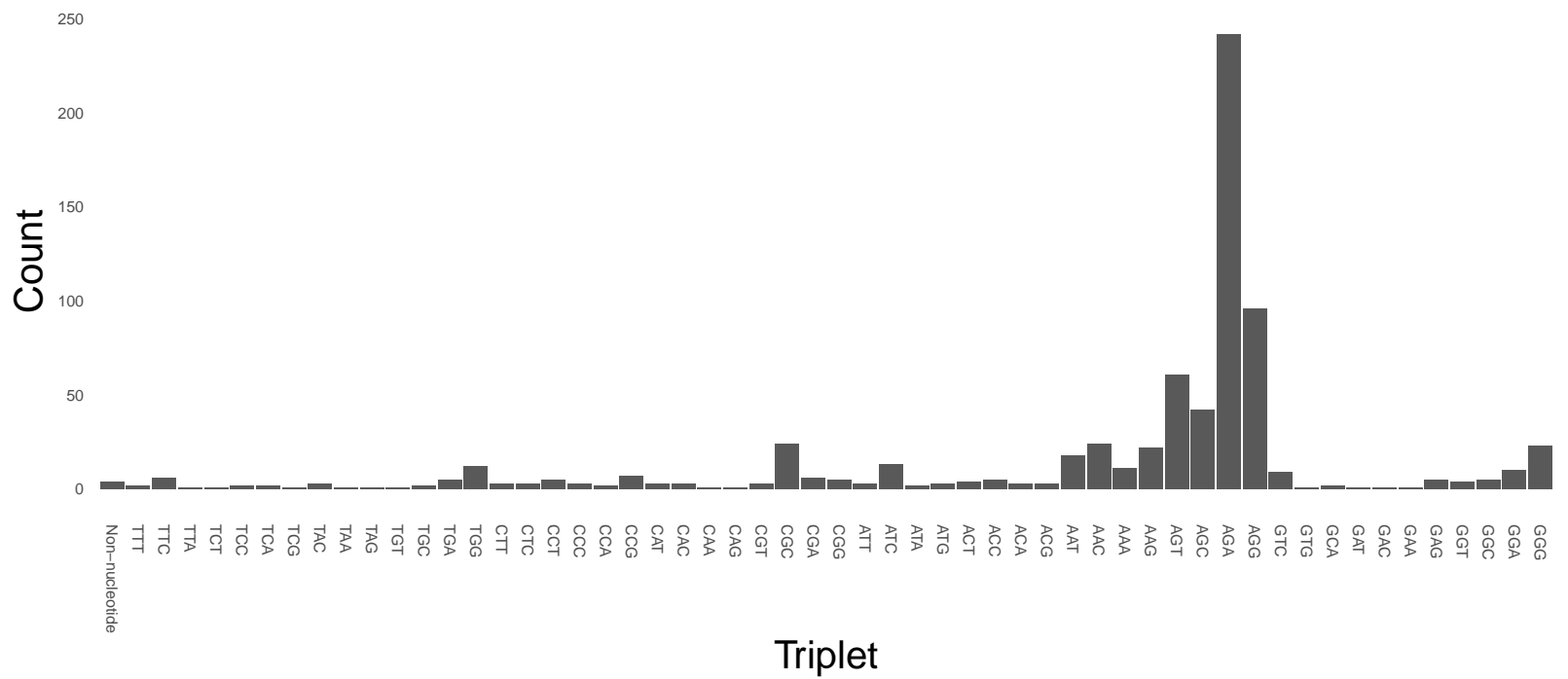
IGHV3–21*01_C34T_A40C_C90T_A112T_C114G_A119G_A210C– Final 3 nucleotides as a triplet



IGHV3–49*03_T262C– Final 3 nucleotides as a triplet

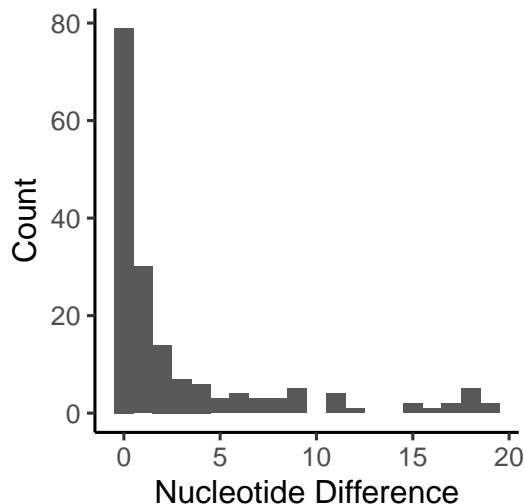


IGHV1–69*08_C191T– Final 3 nucleotides as a triplet



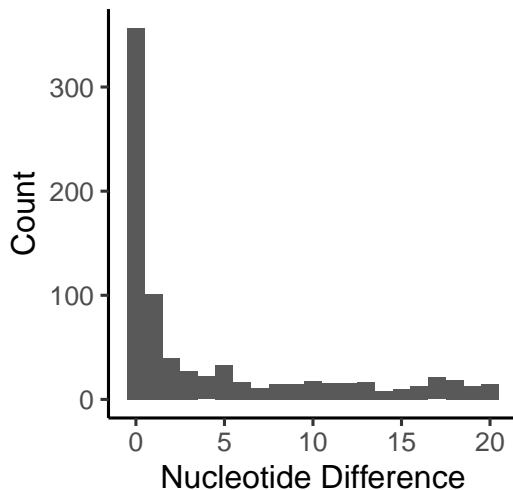
IGHV1-2*04

205 sequences assigned
79 (38.5%) exact matches, in which:
77 unique CDR3
6 unique J



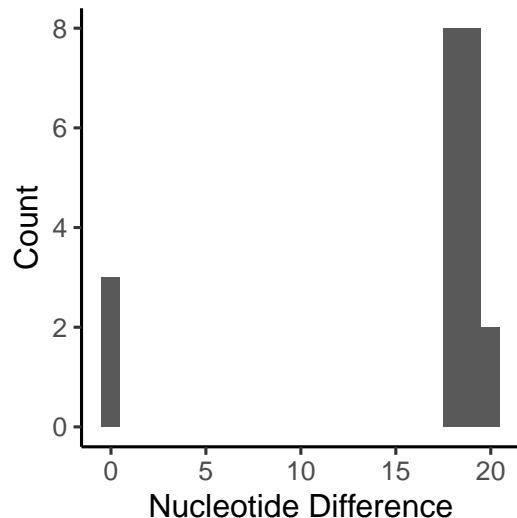
IGHV1-8*01

960 sequences assigned
357 (37.2%) exact matches, in which:
342 unique CDR3
7 unique J



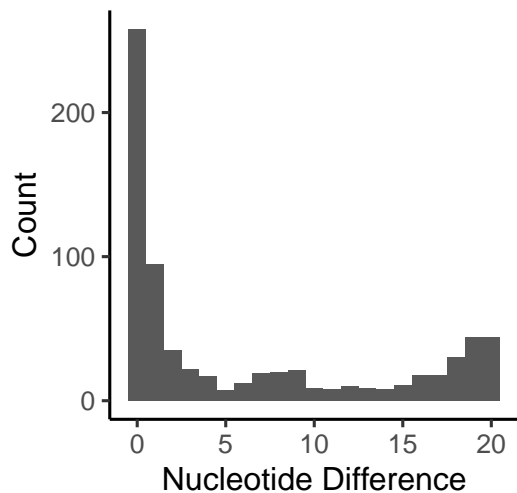
IGHV1-45*02

25 sequences assigned
3 (12%) exact matches, in which:
3 unique CDR3
3 unique J



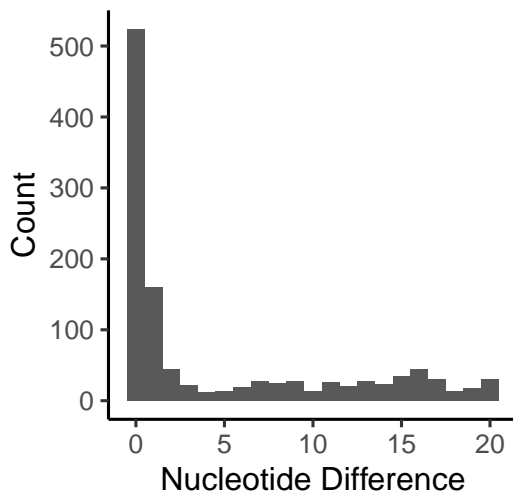
IGHV1-2*06

1016 sequences assigned
258 (25.4%) exact matches, in which:
245 unique CDR3
7 unique J



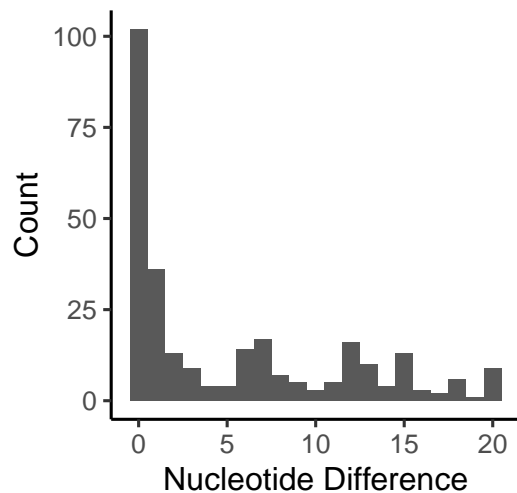
IGHV1-18*01

1645 sequences assigned
524 (31.9%) exact matches, in which:
505 unique CDR3
7 unique J



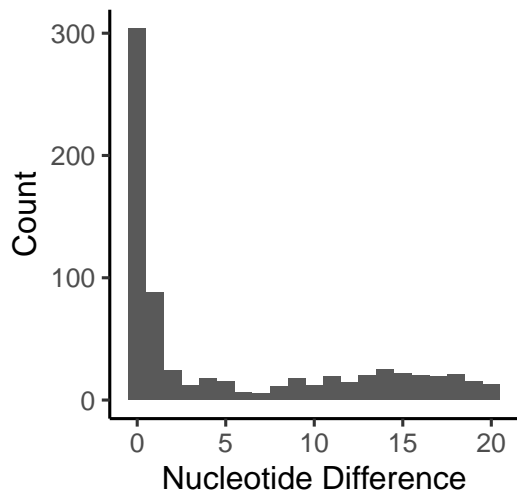
IGHV1-46*01

477 sequences assigned
102 (21.4%) exact matches, in which:
98 unique CDR3
6 unique J



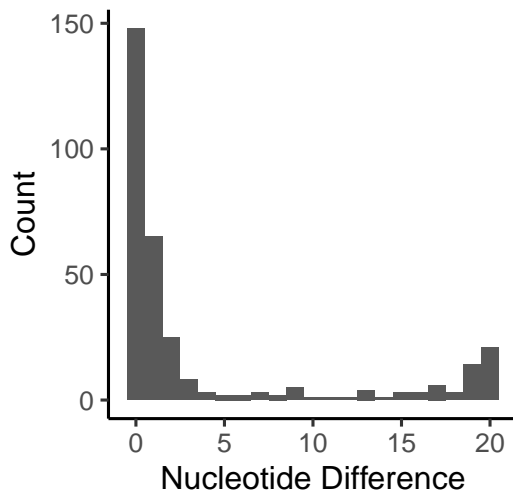
IGHV1-3*01

1020 sequences assigned
304 (29.8%) exact matches, in which:
295 unique CDR3
7 unique J



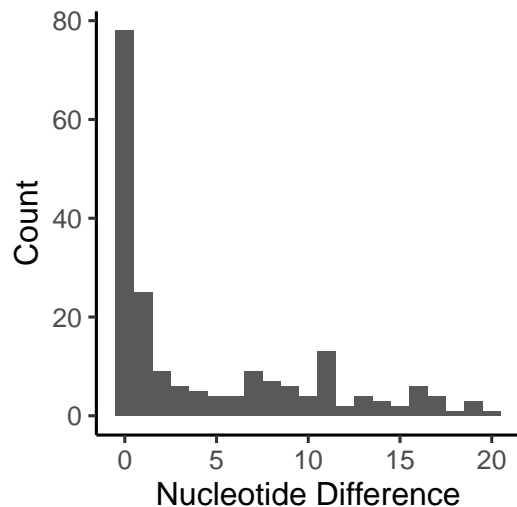
IGHV1-24*01

391 sequences assigned
148 (37.9%) exact matches, in which:
144 unique CDR3
7 unique J



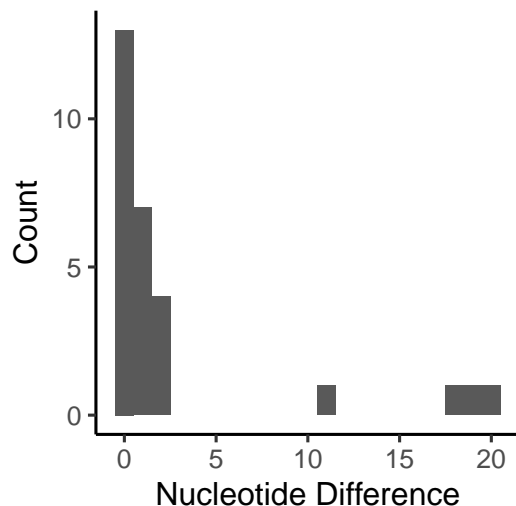
IGHV1-46*03

294 sequences assigned
78 (26.5%) exact matches, in which:
75 unique CDR3
5 unique J



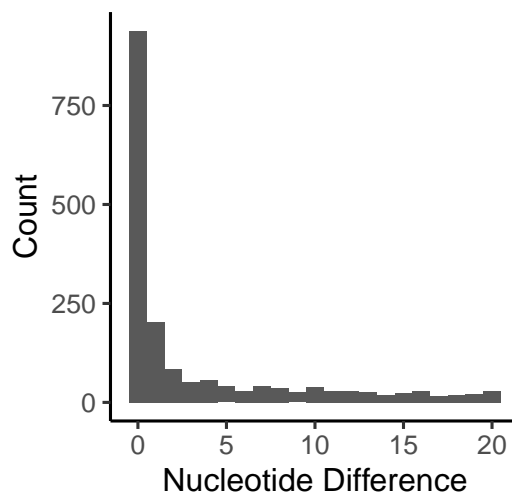
IGHV1–58*02

32 sequences assigned
13 (40.6%) exact matches, in which:
11 unique CDR3
3 unique J



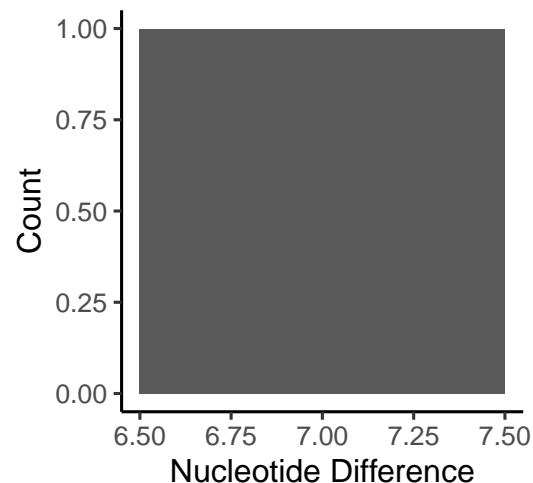
IGHV2–5*02

2014 sequences assigned
939 (46.6%) exact matches, in which:
893 unique CDR3
7 unique J



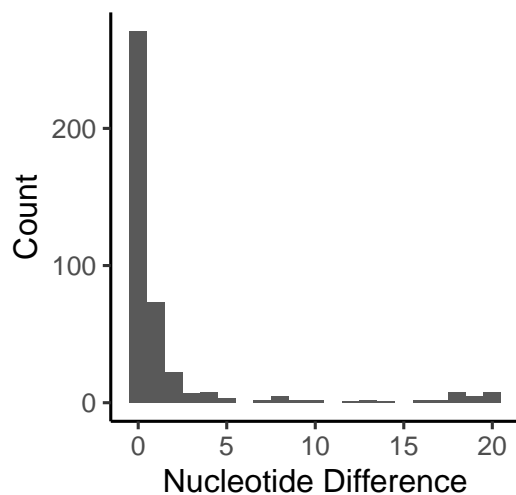
IGHV2–70D*04

1 sequences assigned
No exact matches.



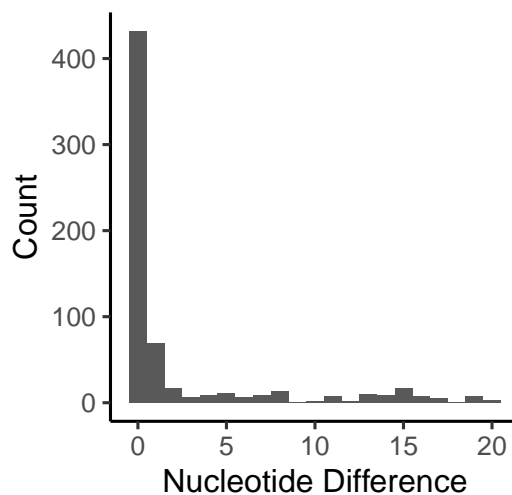
IGHV1–69*09

491 sequences assigned
271 (55.2%) exact matches, in which:
265 unique CDR3
6 unique J



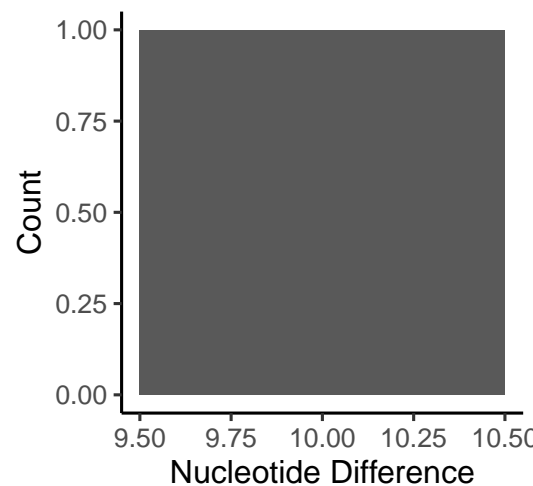
IGHV2–26*01

712 sequences assigned
432 (60.7%) exact matches, in which:
410 unique CDR3
6 unique J



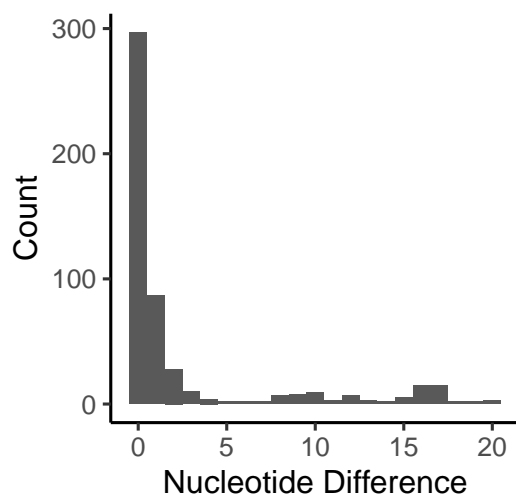
IGHV2–70D*14

1 sequences assigned
No exact matches.



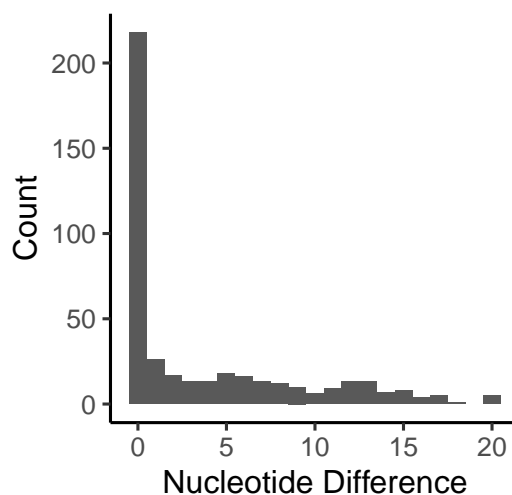
IGHV1–69*08_C191T

727 sequences assigned
297 (40.9%) exact matches, in which:
286 unique CDR3
6 unique J



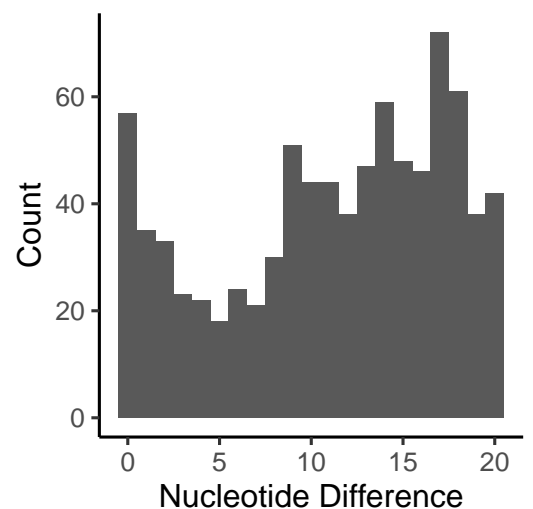
IGHV2–70*15

473 sequences assigned
218 (46.1%) exact matches, in which:
214 unique CDR3
7 unique J



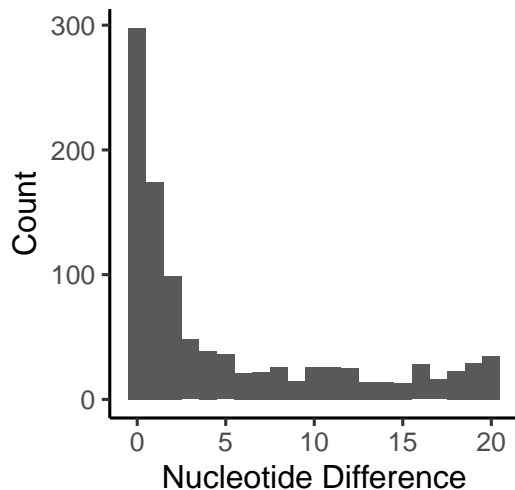
IGHV3–7*01

1051 sequences assigned
57 (5.4%) exact matches, in which:
55 unique CDR3
6 unique J



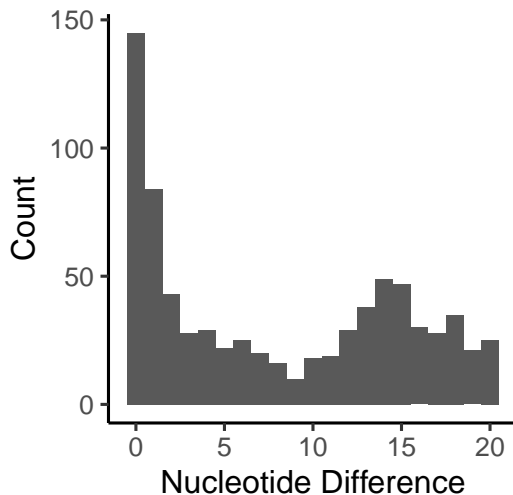
IGHV3-9*01

1505 sequences assigned
298 (19.8%) exact matches, in which:
280 unique CDR3
7 unique J



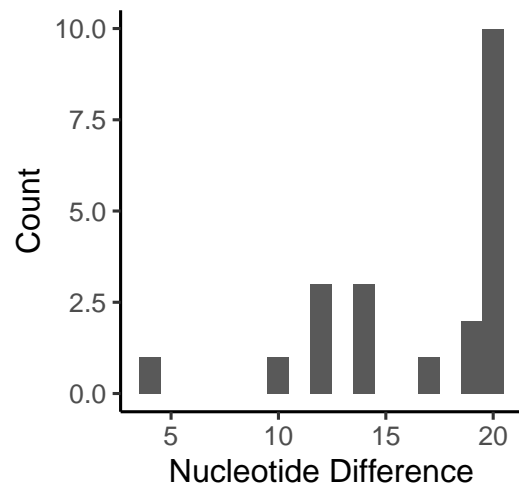
IGHV3-15*01

1126 sequences assigned
145 (12.9%) exact matches, in which:
138 unique CDR3
7 unique J



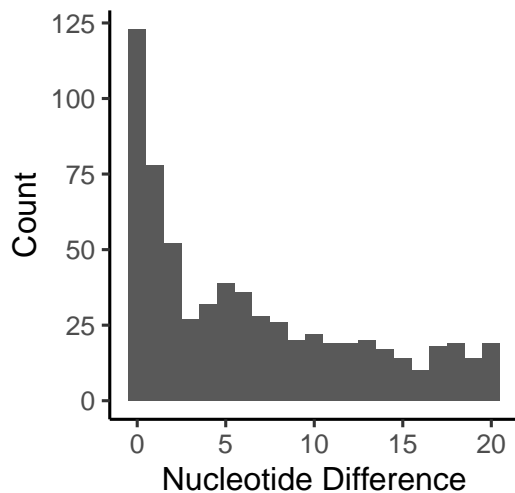
IGHV3-20*04

47 sequences assigned
No exact matches.



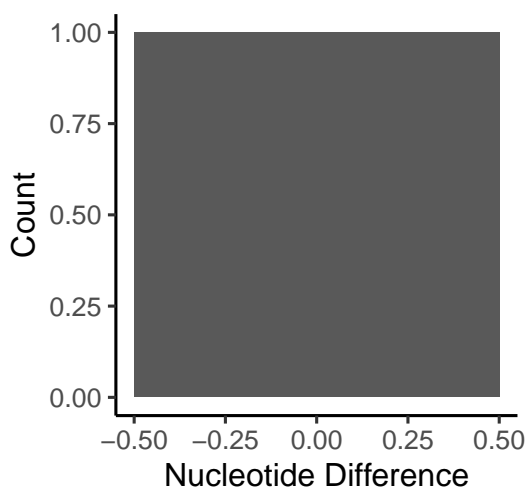
IGHV3-11*01

970 sequences assigned
123 (12.7%) exact matches, in which:
118 unique CDR3
7 unique J



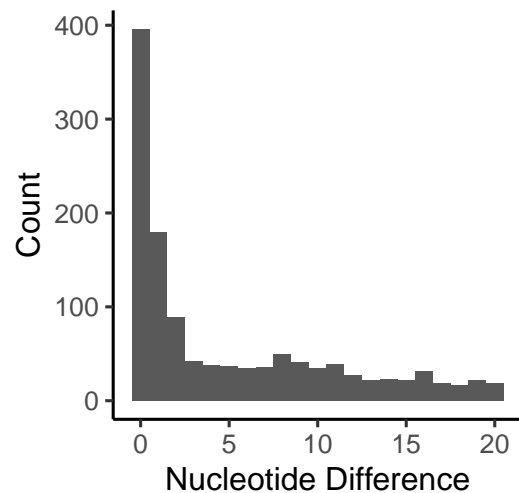
IGHV3-19*01

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



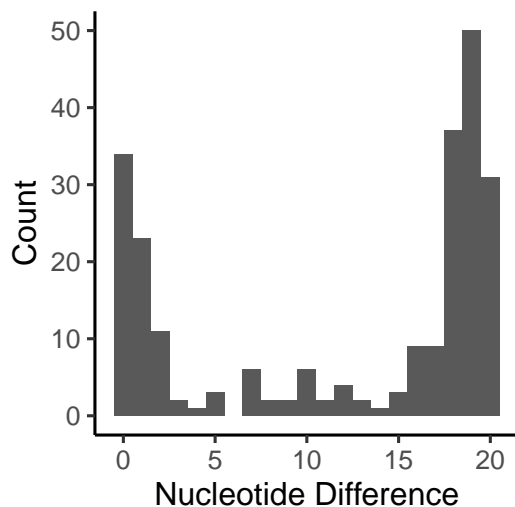
IGHV3-21*01

1616 sequences assigned
396 (24.5%) exact matches, in which:
387 unique CDR3
7 unique J



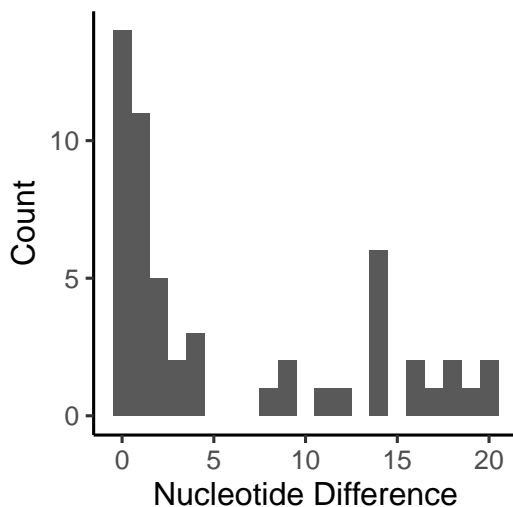
IGHV3-13*01

292 sequences assigned
34 (11.6%) exact matches, in which:
34 unique CDR3
5 unique J



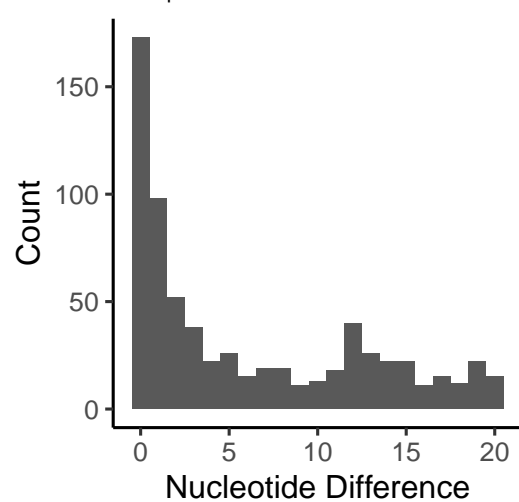
IGHV3-20*01

65 sequences assigned
14 (21.5%) exact matches, in which:
14 unique CDR3
4 unique J



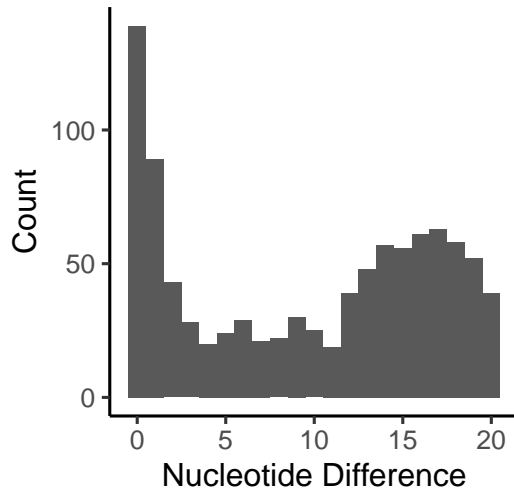
IGHV3-21*01_C34T_A40G

865 sequences assigned
173 (20%) exact matches, in which:
169 unique CDR3
6 unique J



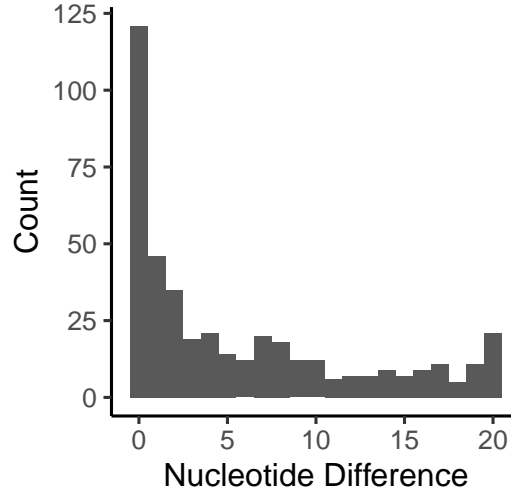
IGHV3-23*04

1369 sequences assigned
139 (10.2%) exact matches, in which:
138 unique CDR3
6 unique J



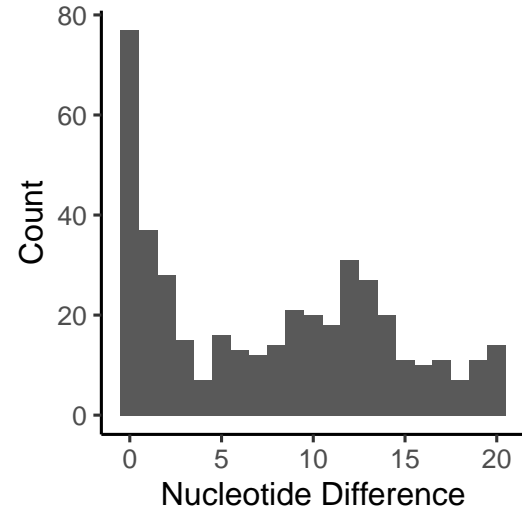
IGHV3-33*01

656 sequences assigned
121 (18.4%) exact matches, in which:
120 unique CDR3
6 unique J



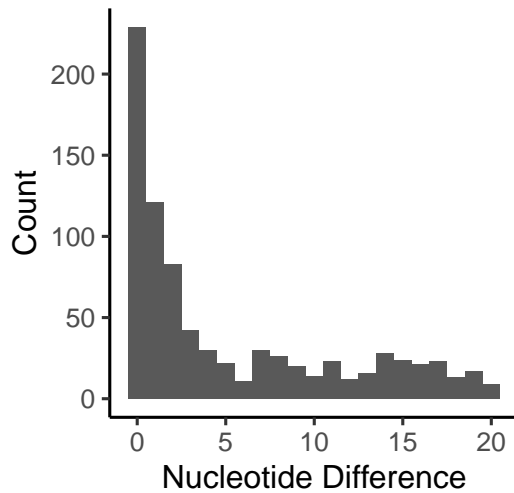
IGHV3-48*02

599 sequences assigned
77 (12.9%) exact matches, in which:
75 unique CDR3
5 unique J



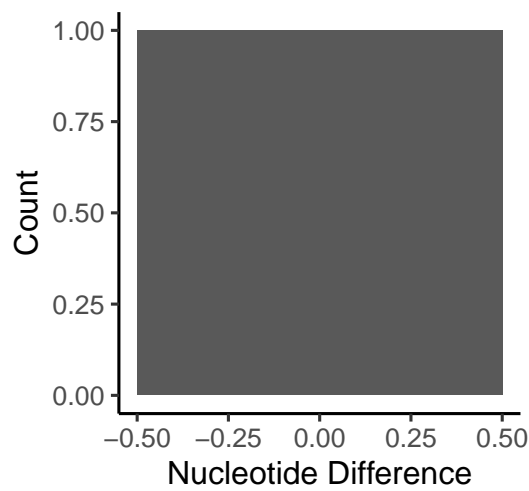
IGHV3-30-3*01

1176 sequences assigned
229 (19.5%) exact matches, in which:
227 unique CDR3
6 unique J



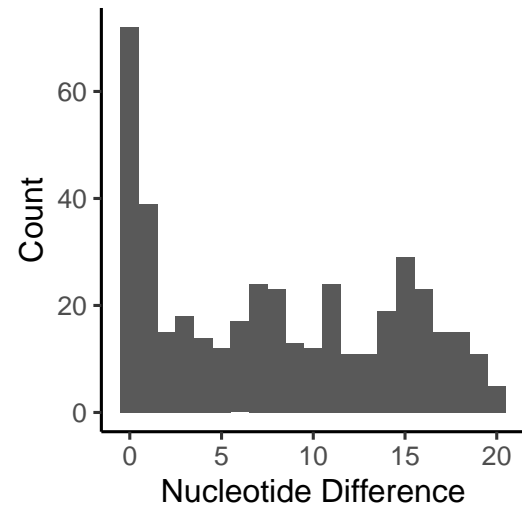
IGHV3-38-3*01

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



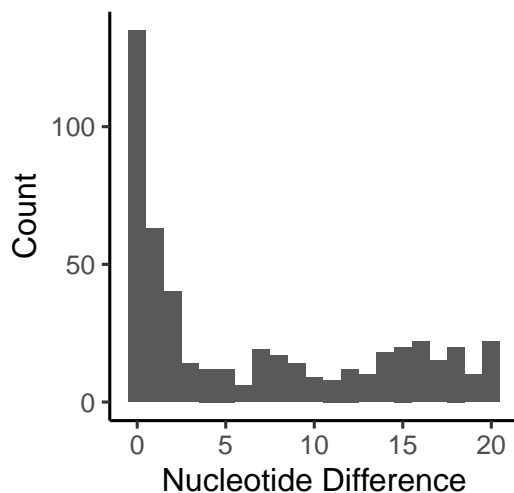
IGHV3-48*04

526 sequences assigned
72 (13.7%) exact matches, in which:
67 unique CDR3
5 unique J



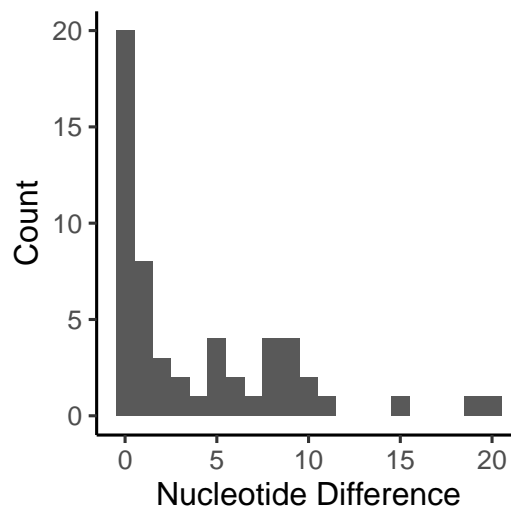
IGHV3-30*01

710 sequences assigned
135 (19%) exact matches, in which:
135 unique CDR3
5 unique J



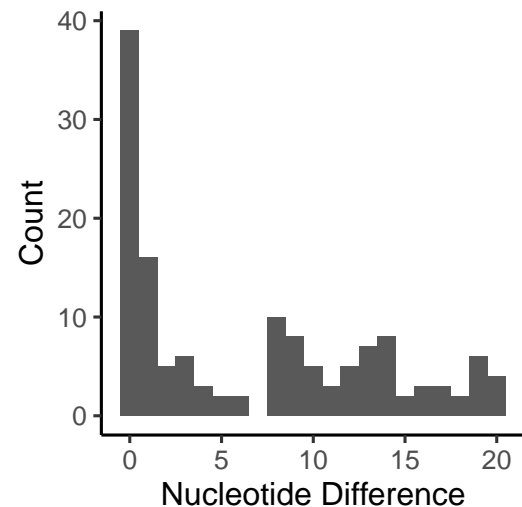
IGHV3-43*01

108 sequences assigned
20 (18.5%) exact matches, in which:
20 unique CDR3
3 unique J



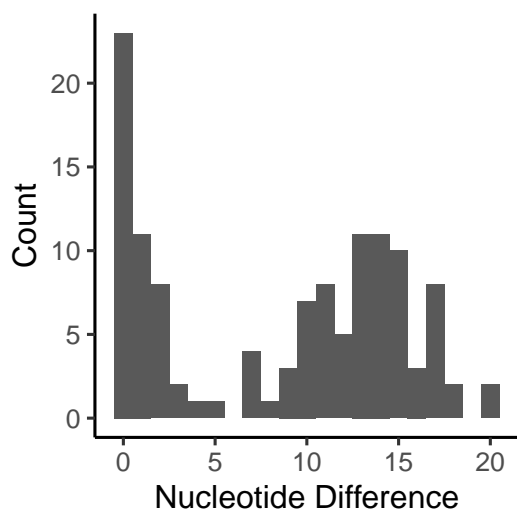
IGHV3-49*04

203 sequences assigned
39 (19.2%) exact matches, in which:
36 unique CDR3
4 unique J



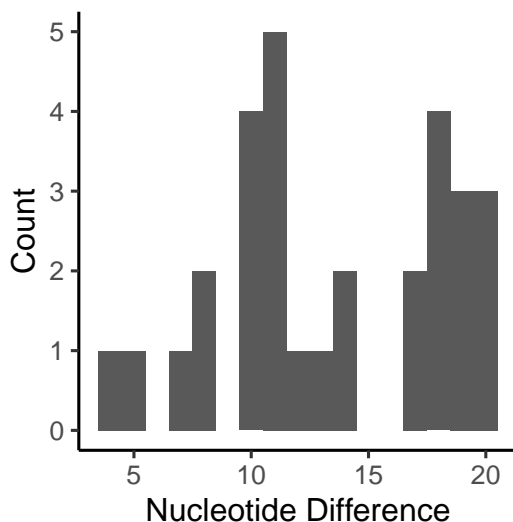
IGHV3-49*03_T262C

214 sequences assigned
23 (10.7%) exact matches, in which:
21 unique CDR3
4 unique J



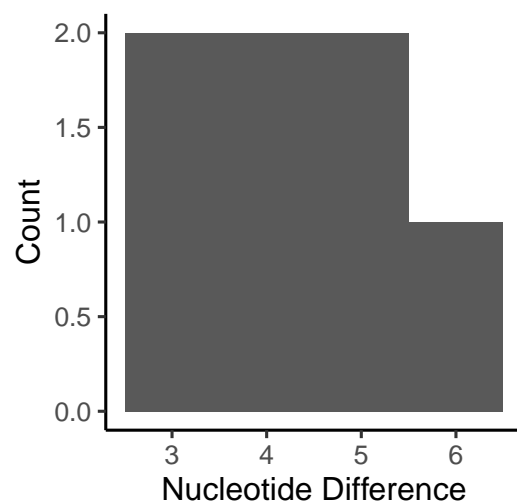
IGHV3-64*07

51 sequences assigned
No exact matches.



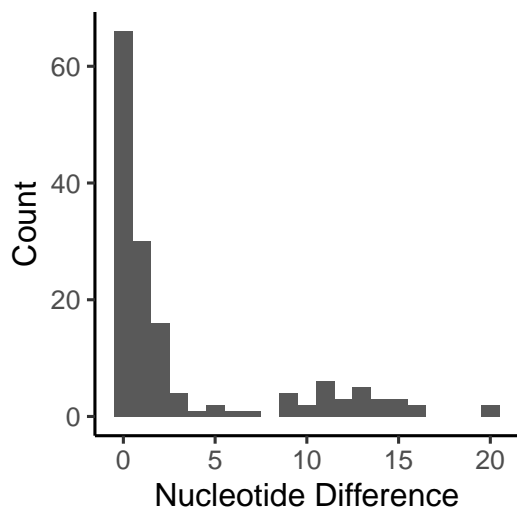
IGHV3-69-1*02

7 sequences assigned
No exact matches.



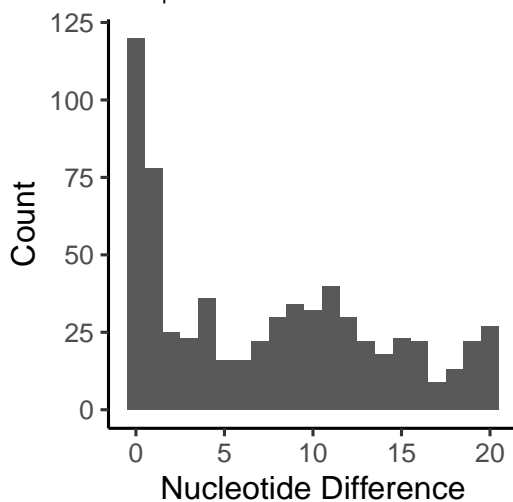
IGHV3-53*04

199 sequences assigned
66 (33.2%) exact matches, in which:
62 unique CDR3
6 unique J



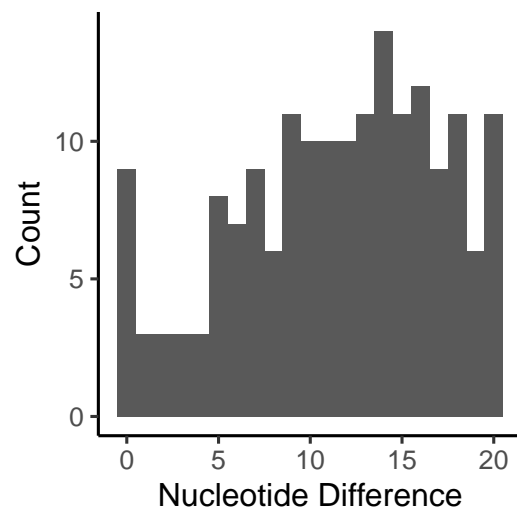
IGHV3-66*01

955 sequences assigned
120 (12.6%) exact matches, in which:
116 unique CDR3
7 unique J



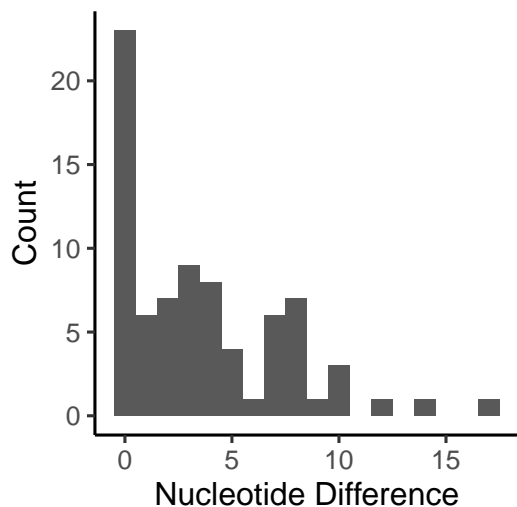
IGHV3-72*01

252 sequences assigned
9 (3.6%) exact matches, in which:
9 unique CDR3
4 unique J



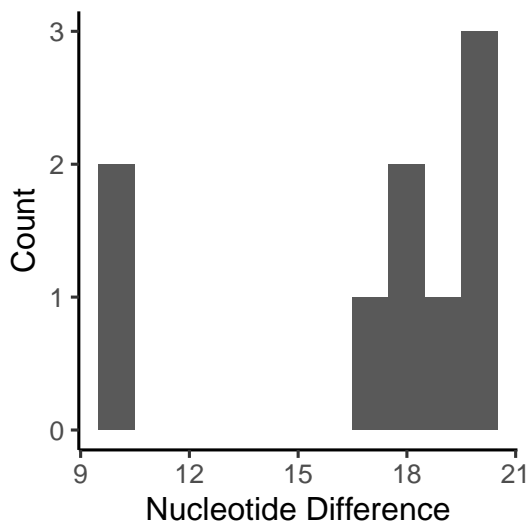
IGHV3-64*01

130 sequences assigned
23 (17.7%) exact matches, in which:
23 unique CDR3
5 unique J



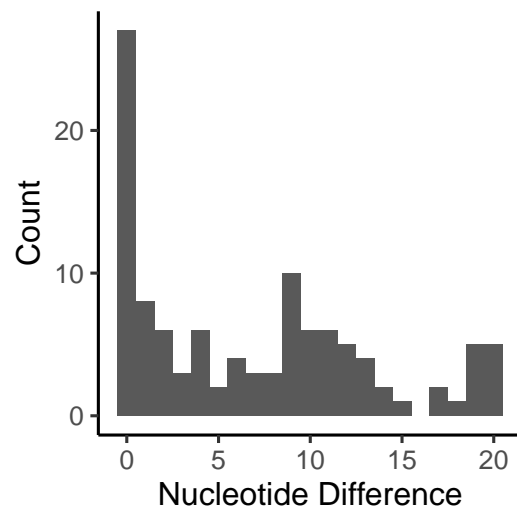
IGHV3-69-1*01

16 sequences assigned
No exact matches.



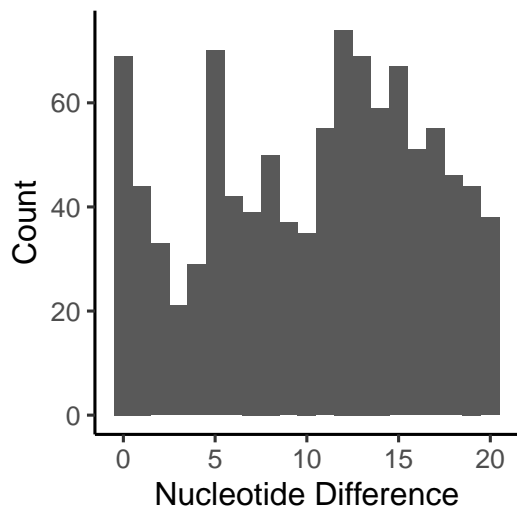
IGHV3-73*01

125 sequences assigned
27 (21.6%) exact matches, in which:
24 unique CDR3
6 unique J



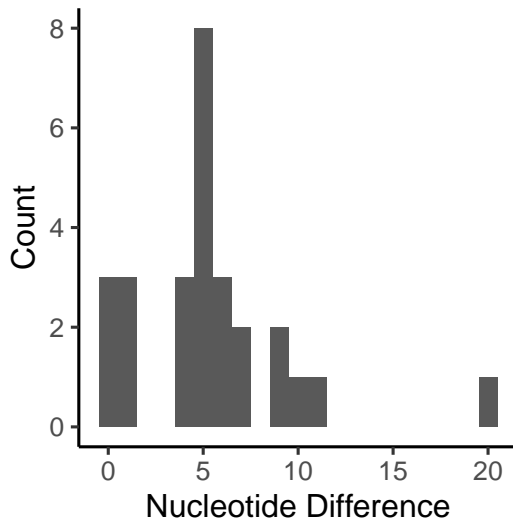
IGHV3-74*01

1301 sequences assigned
69 (5.3%) exact matches, in which:
61 unique CDR3
6 unique J



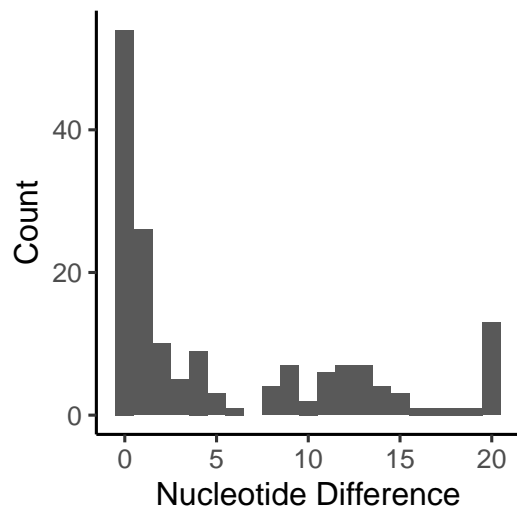
IGHV4-28*02

31 sequences assigned
3 (9.7%) exact matches, in which:
3 unique CDR3
2 unique J



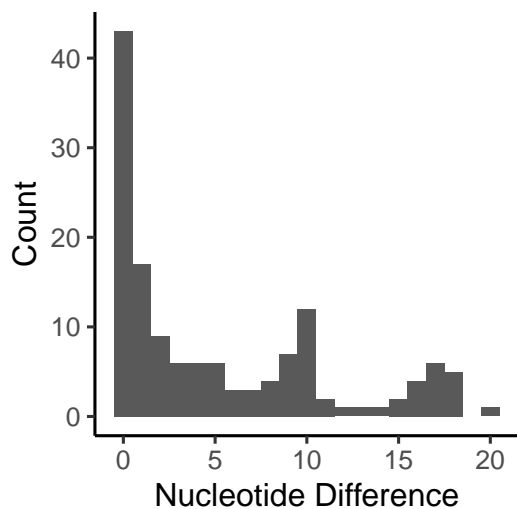
IGHV4-31*01

217 sequences assigned
54 (24.9%) exact matches, in which:
51 unique CDR3
6 unique J



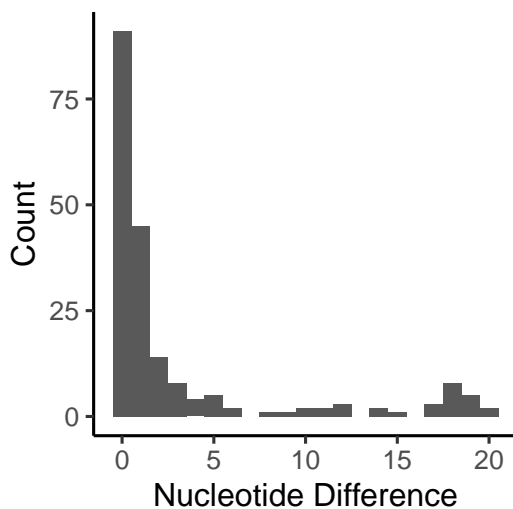
IGHV3-43D*03

205 sequences assigned
43 (21%) exact matches, in which:
41 unique CDR3
5 unique J



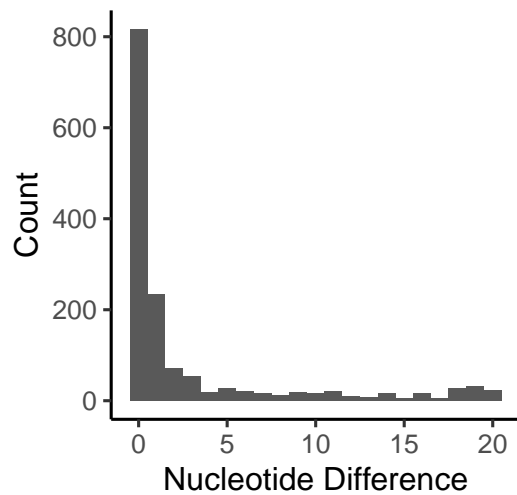
IGHV4-30-2*01

239 sequences assigned
91 (38.1%) exact matches, in which:
87 unique CDR3
7 unique J



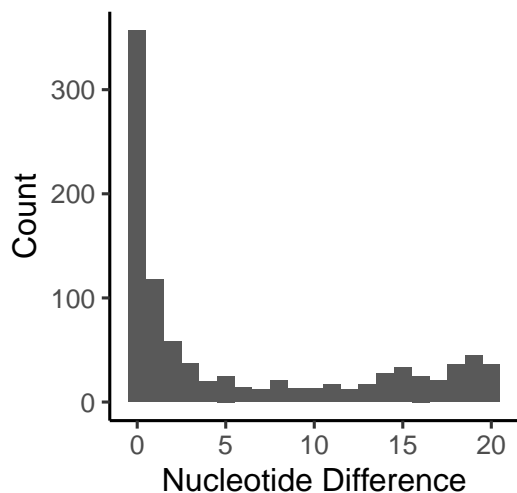
IGHV4-34*01

1747 sequences assigned
817 (46.8%) exact matches, in which:
784 unique CDR3
7 unique J



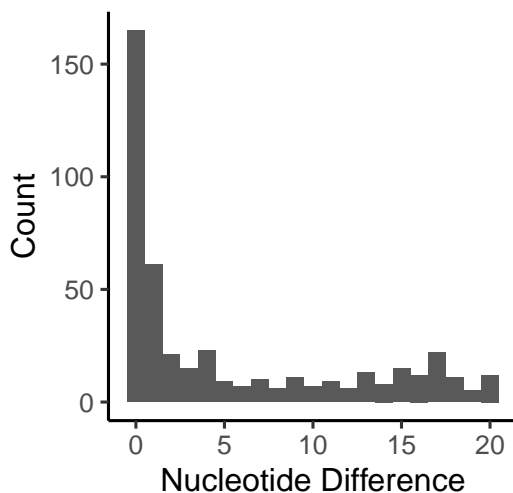
IGHV4-4*02

1241 sequences assigned
357 (28.8%) exact matches, in which:
347 unique CDR3
7 unique J



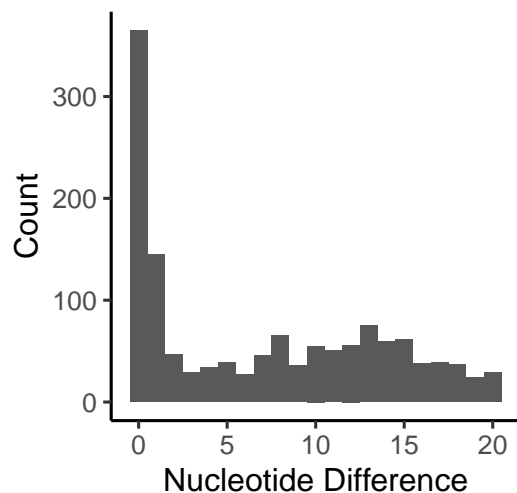
IGHV4-30-4*01

659 sequences assigned
165 (25%) exact matches, in which:
158 unique CDR3
6 unique J



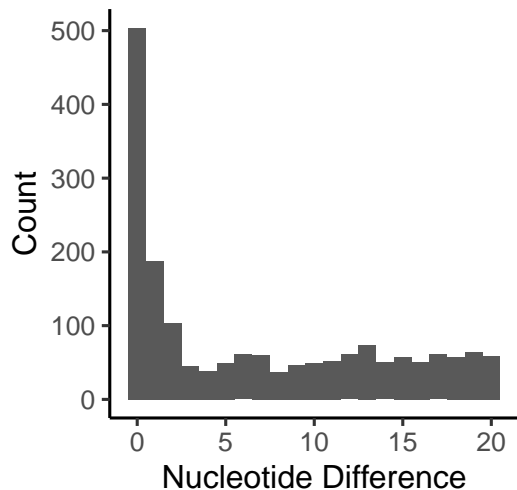
IGHV4-38-2*02

1715 sequences assigned
365 (21.3%) exact matches, in which:
348 unique CDR3
6 unique J



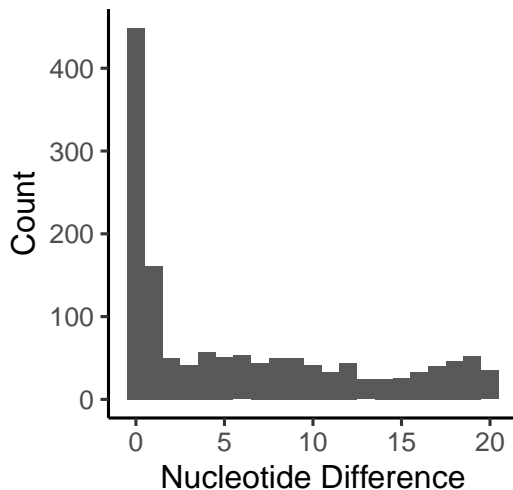
IGHV4–39*01

2454 sequences assigned
504 (20.5%) exact matches, in which:
490 unique CDR3
6 unique J



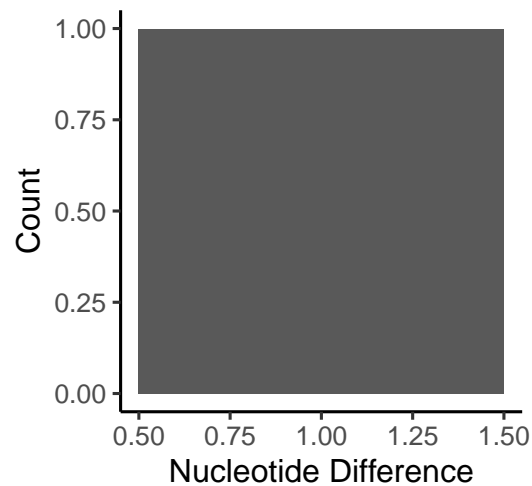
IGHV4–59*01

1786 sequences assigned
449 (25.1%) exact matches, in which:
434 unique CDR3
7 unique J



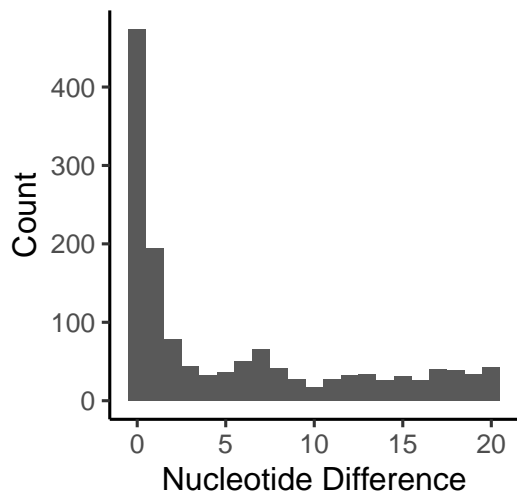
IGHV4–61*03

1 sequences assigned
No exact matches.



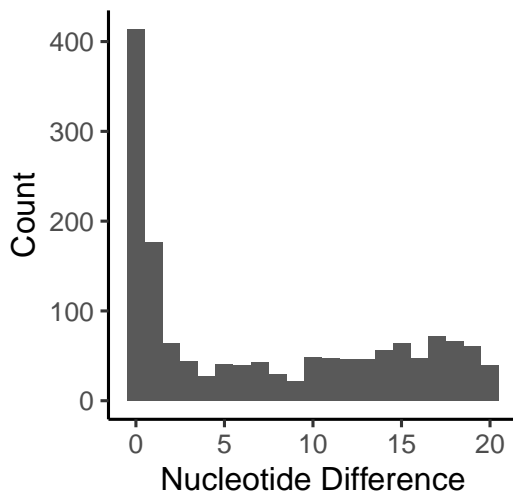
IGHV4–39*07

1967 sequences assigned
474 (24.1%) exact matches, in which:
455 unique CDR3
6 unique J



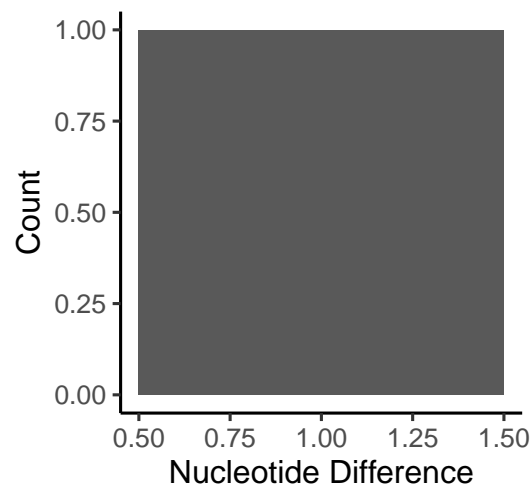
IGHV4–59*08

1920 sequences assigned
414 (21.6%) exact matches, in which:
397 unique CDR3
7 unique J



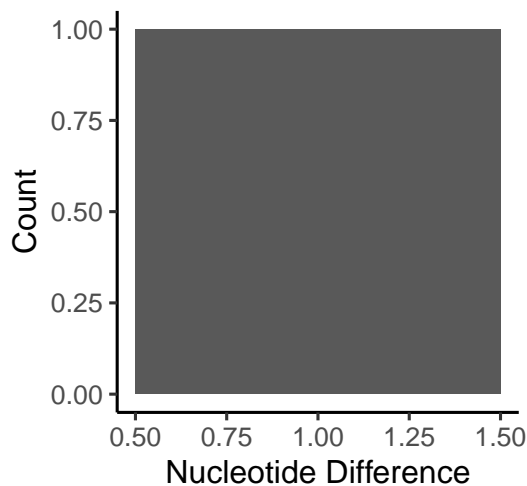
IGHV4–61*08

1 sequences assigned
No exact matches.



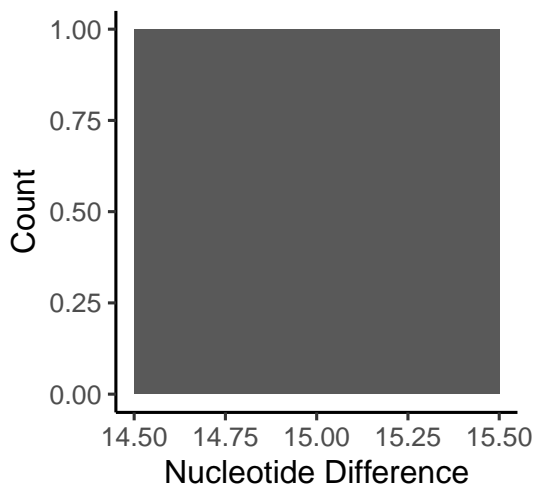
IGHV4–55*02

1 sequences assigned
No exact matches.



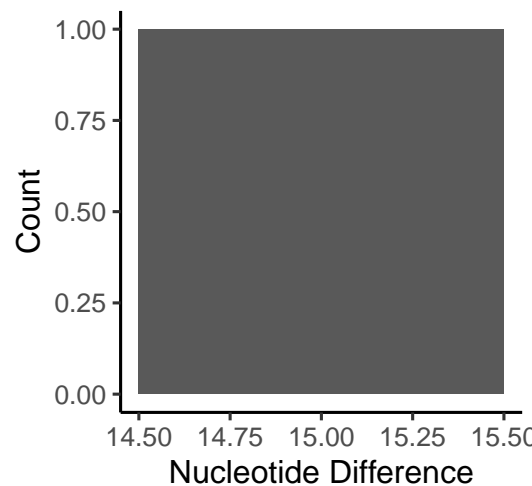
IGHV4–61*01

1 sequences assigned
No exact matches.



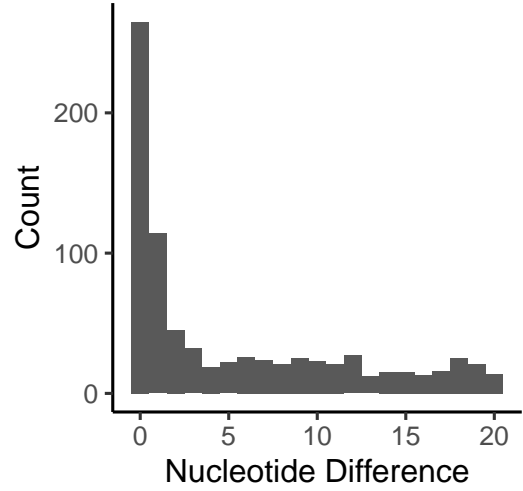
IGHV4/OR15–8*01

1 sequences assigned
No exact matches.



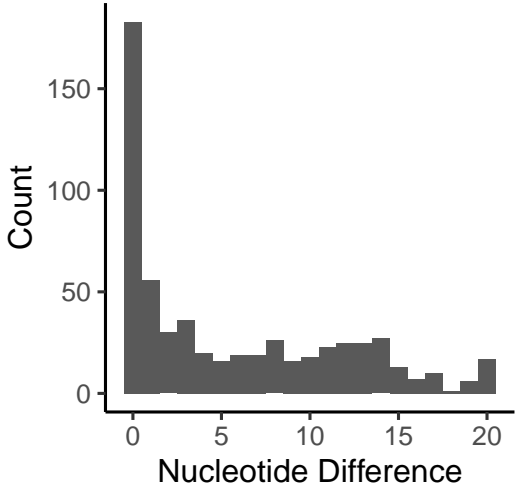
IGHV5–51*01

974 sequences assigned
265 (27.2%) exact matches, in which:
257 unique CDR3
7 unique J



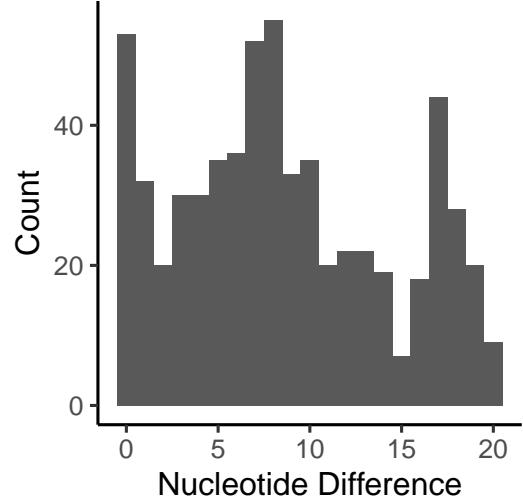
IGHV7–4–1*02

728 sequences assigned
183 (25.1%) exact matches, in which:
179 unique CDR3
6 unique J



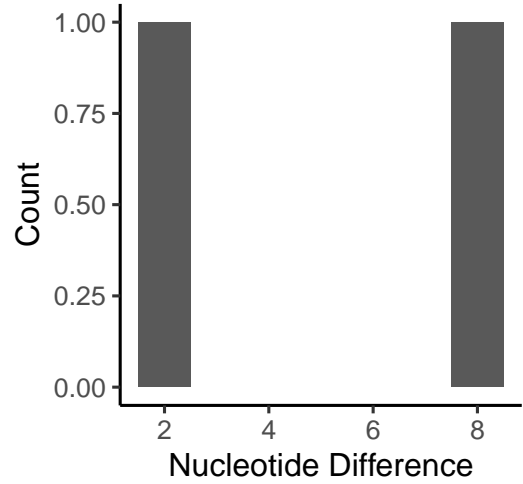
IGHV6–1*01

715 sequences assigned
53 (7.4%) exact matches, in which:
50 unique CDR3
5 unique J

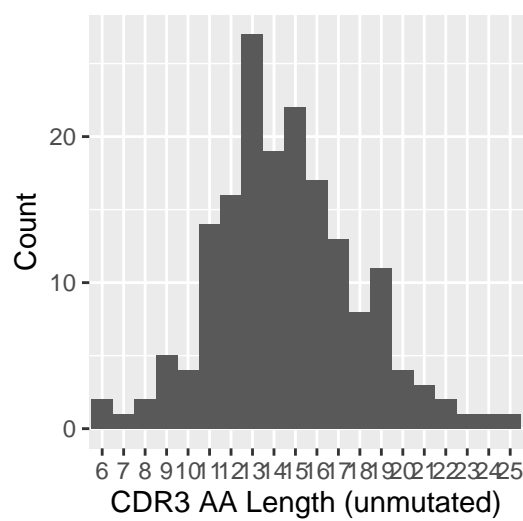


IGHV3/OR16–9*01

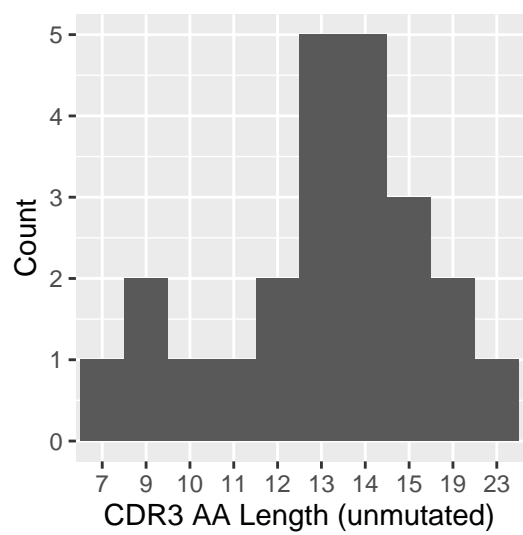
2 sequences assigned
No exact matches.



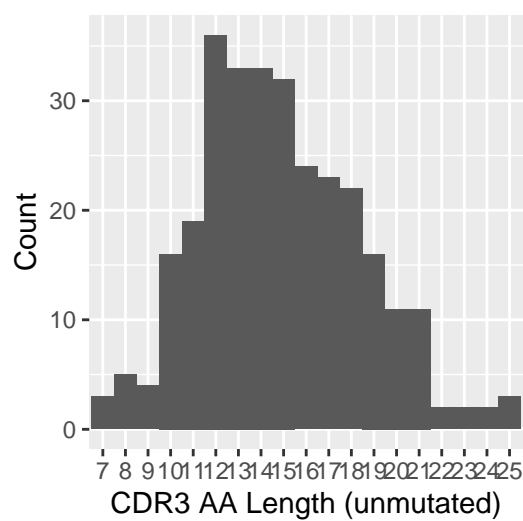
IGHV3-21*01_C34T_A40C_C90T_A112T_C114G_A119G_A210C



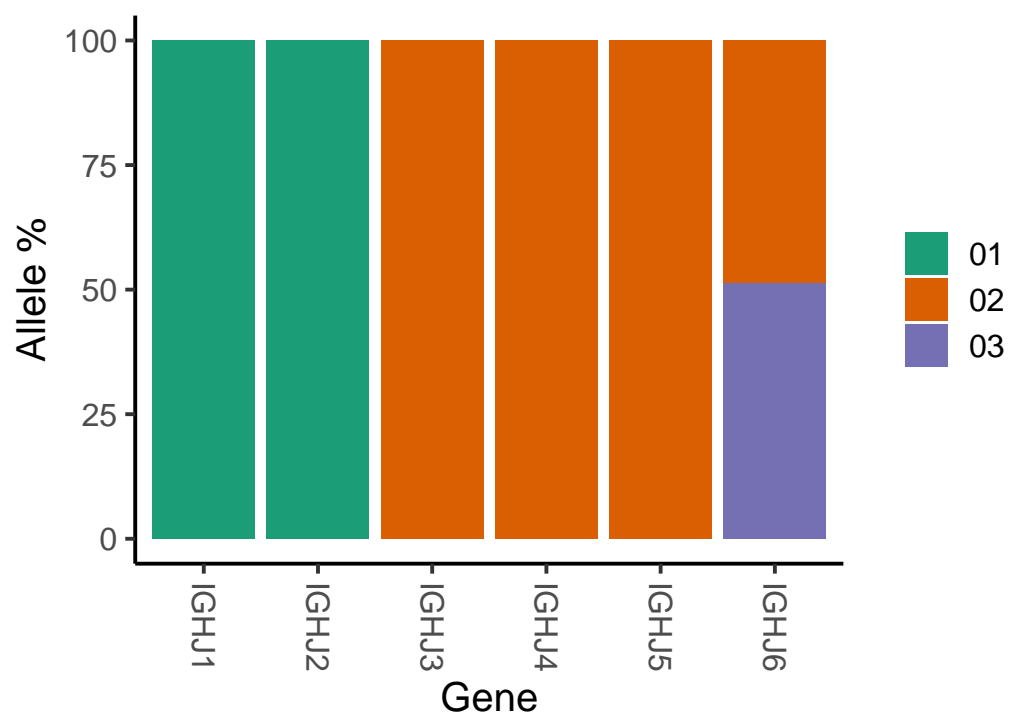
IGHV3-49*03_T262C



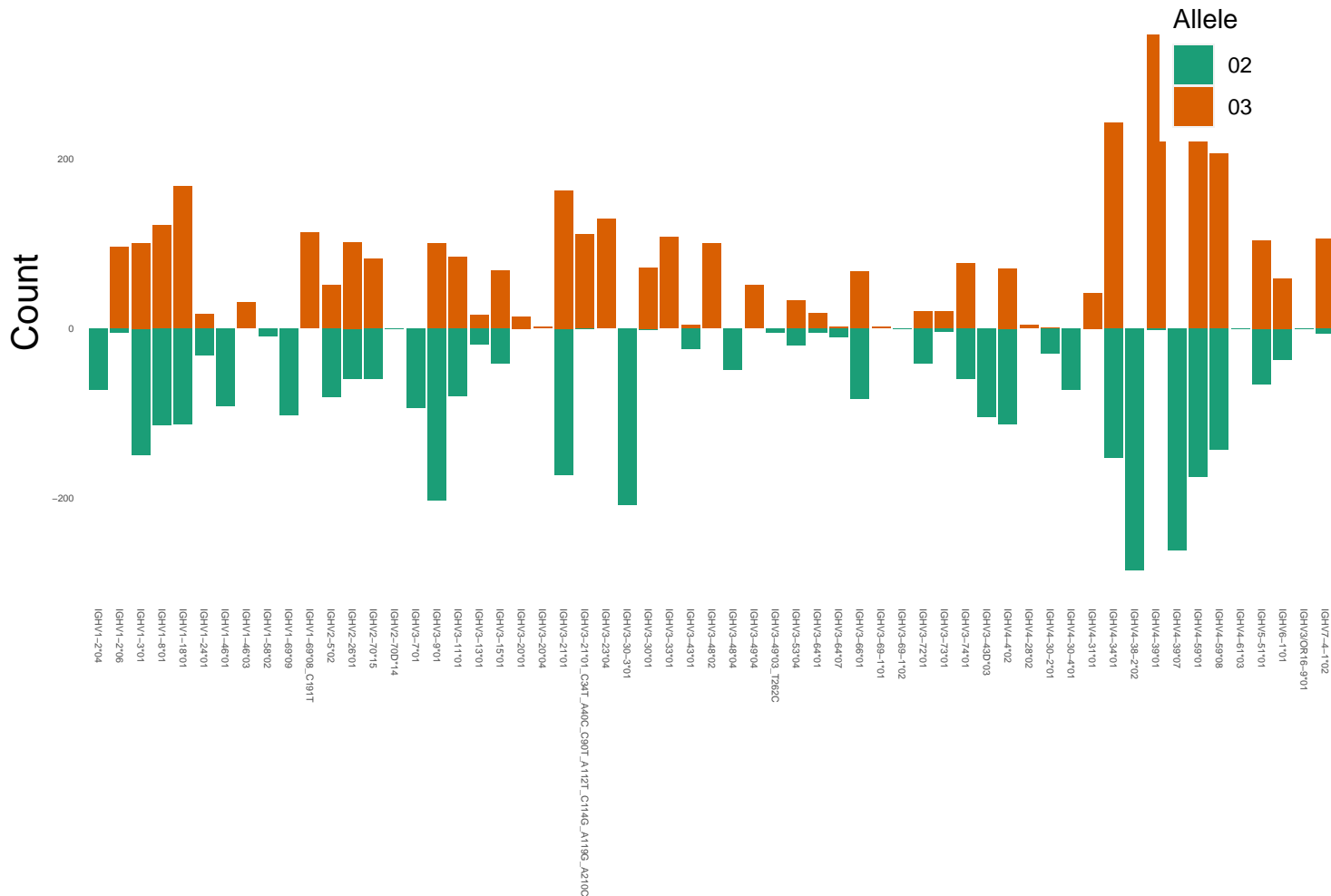
IGHV1-69*08_C191T



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]