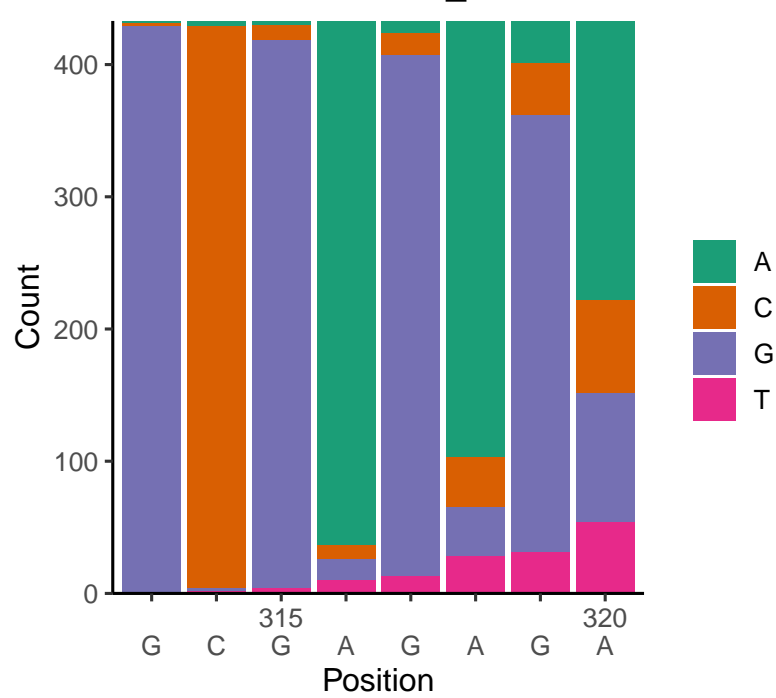
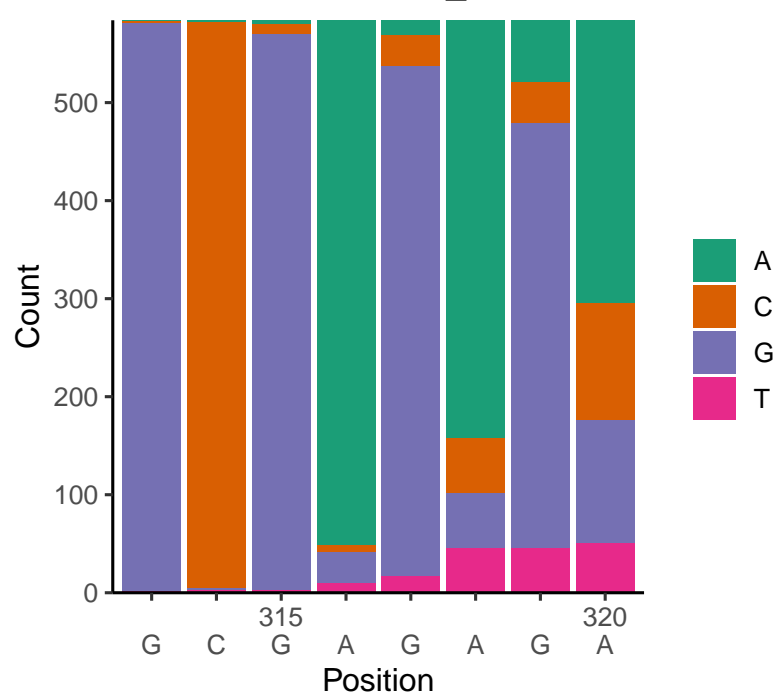


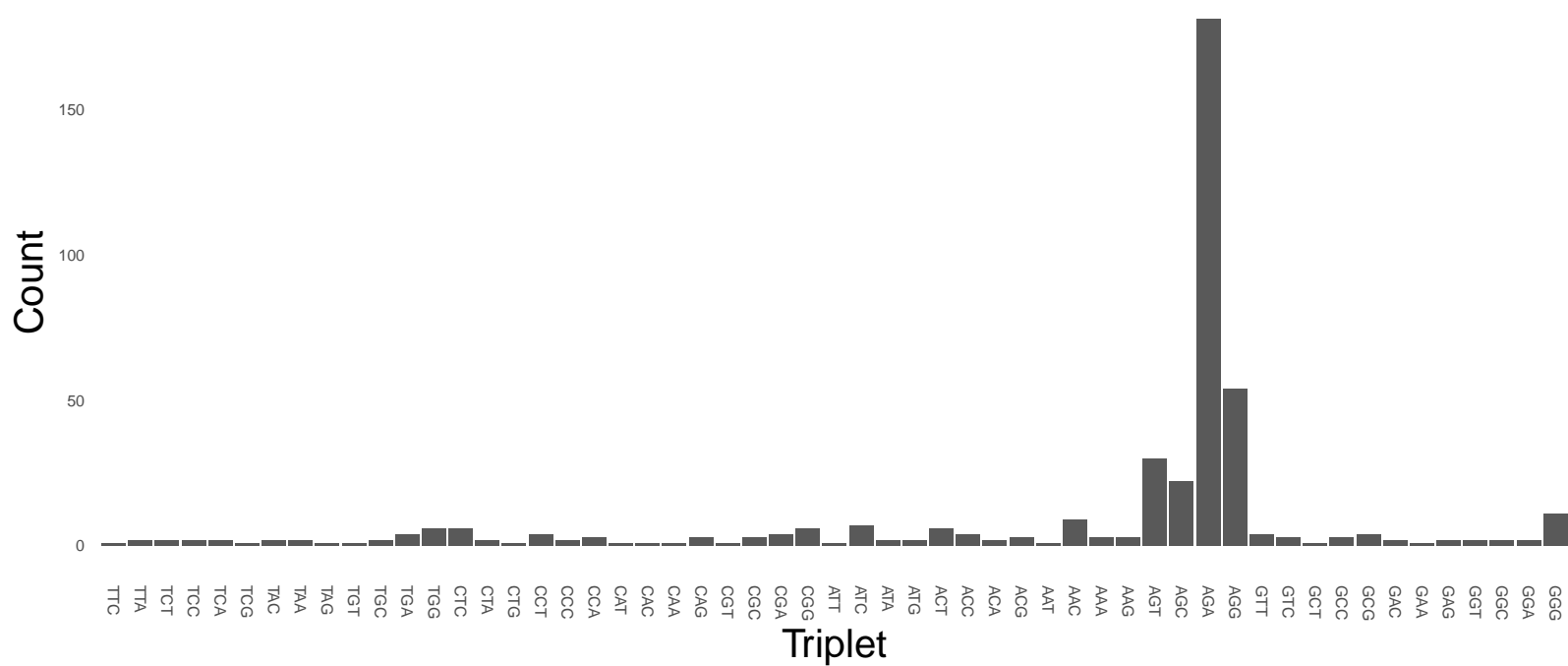
Gene IGHV1-69*04_C184T



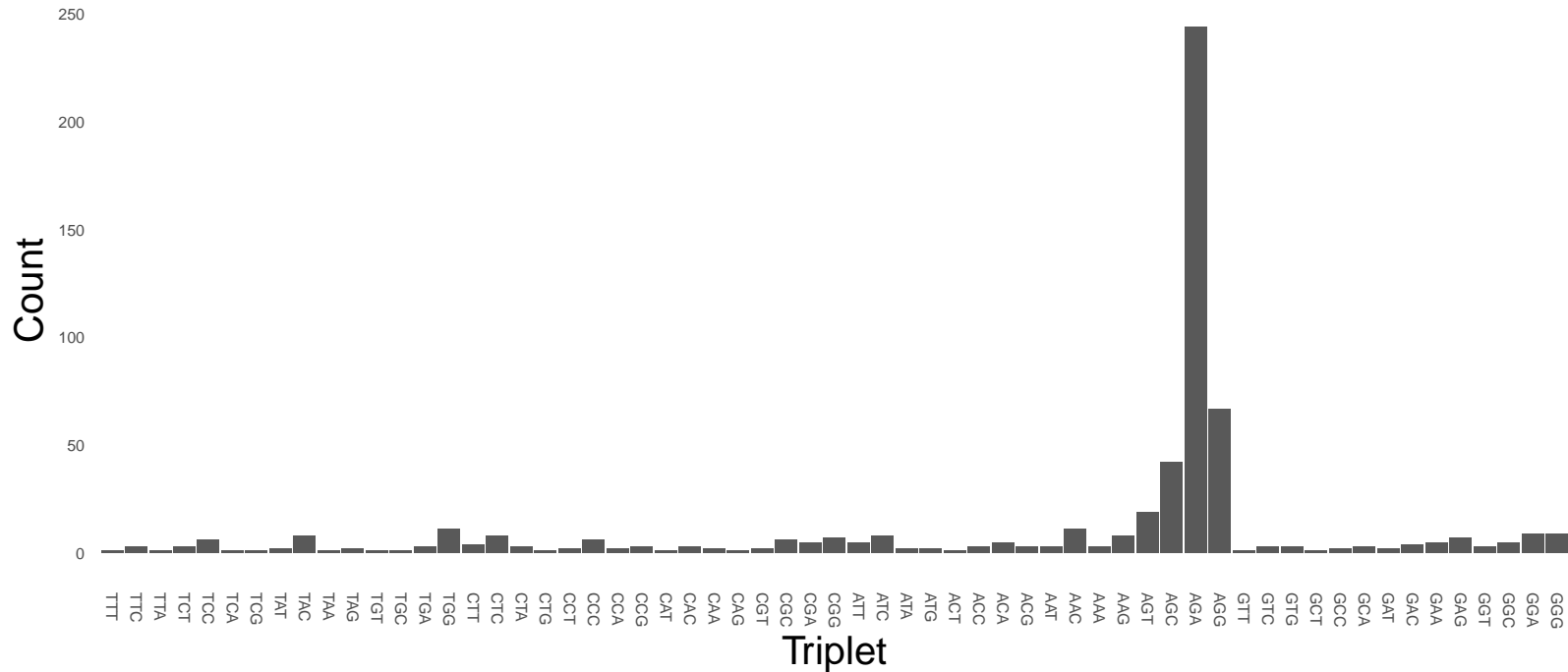
Gene IGHV1-69*08_C191T



IGHV1-69*04_C184T- Final 3 nucleotides as a triplet

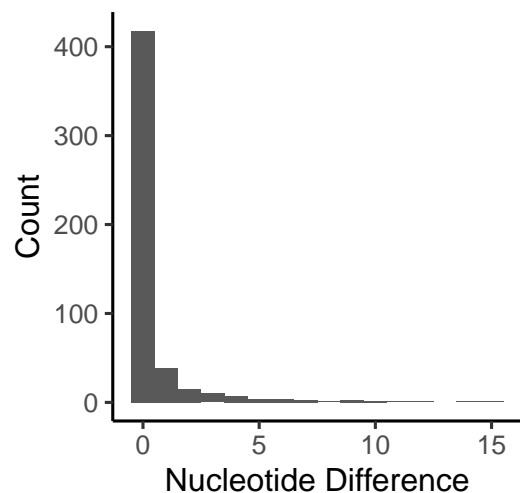


IGHV1-69*08_C191T- Final 3 nucleotides as a triplet



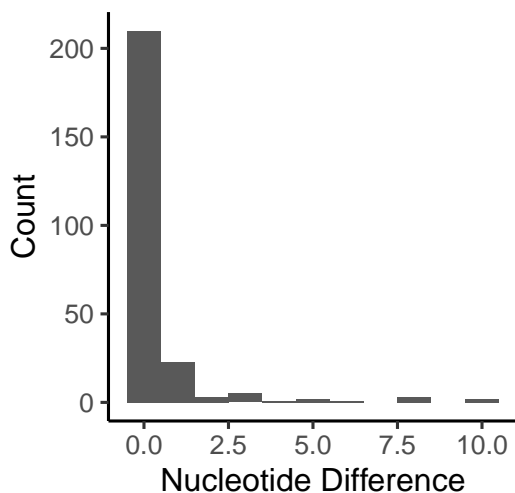
IGHV1-2*02

512 sequences assigned
418 (81.6%) exact matches, in which:
405 unique CDR3
6 unique J



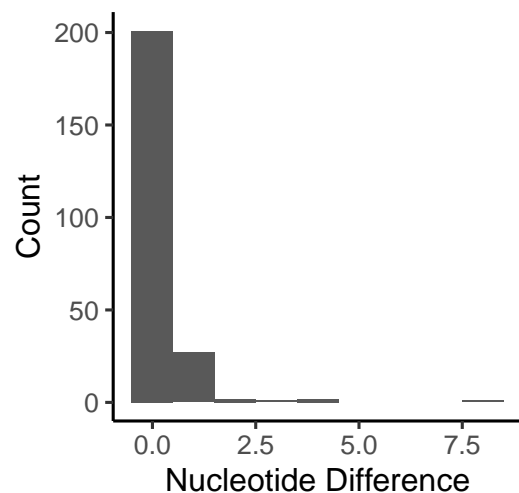
IGHV1-8*01

251 sequences assigned
210 (83.7%) exact matches, in which:
202 unique CDR3
6 unique J



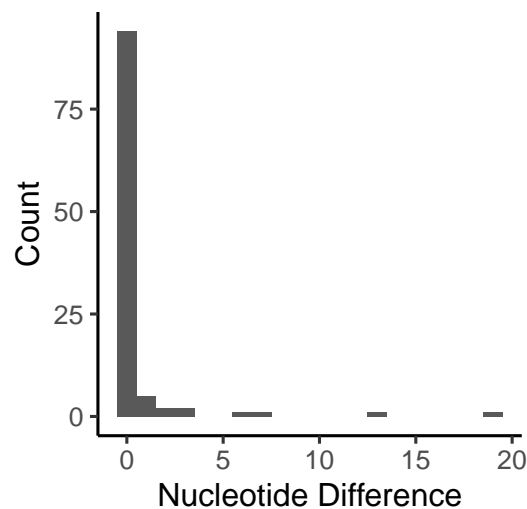
IGHV1-24*01

234 sequences assigned
201 (85.9%) exact matches, in which:
196 unique CDR3
6 unique J



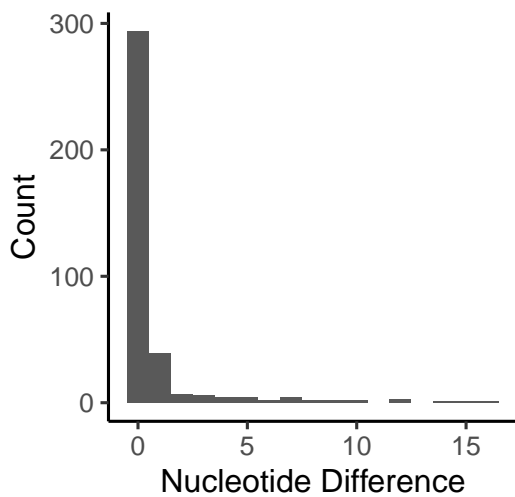
IGHV1-2*04

107 sequences assigned
94 (87.9%) exact matches, in which:
91 unique CDR3
5 unique J



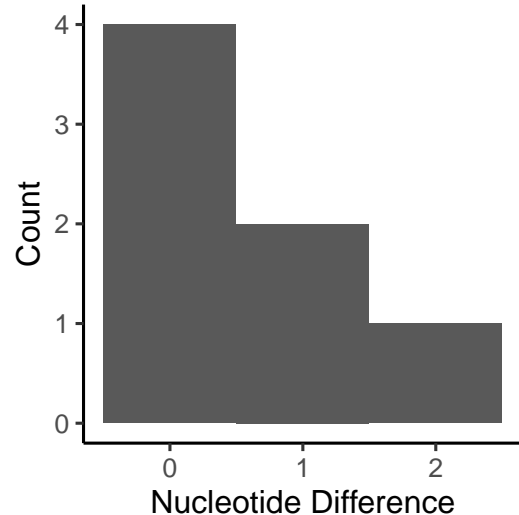
IGHV1-18*01

372 sequences assigned
294 (79%) exact matches, in which:
290 unique CDR3
5 unique J



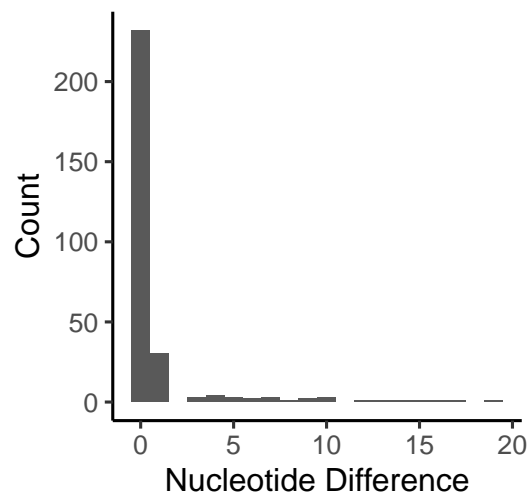
IGHV1-45*02

7 sequences assigned
4 (57.1%) exact matches, in which:
4 unique CDR3
3 unique J



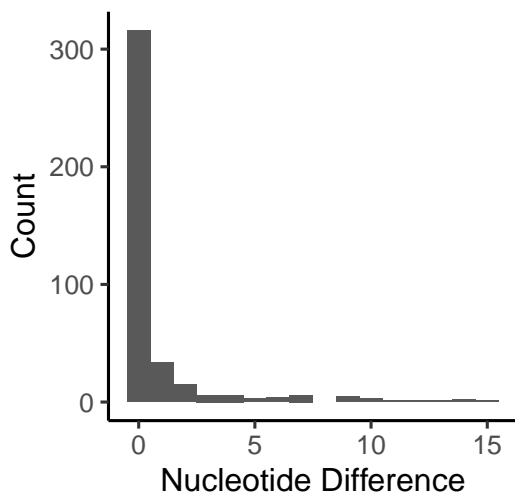
IGHV1-3*01

290 sequences assigned
232 (80%) exact matches, in which:
232 unique CDR3
6 unique J



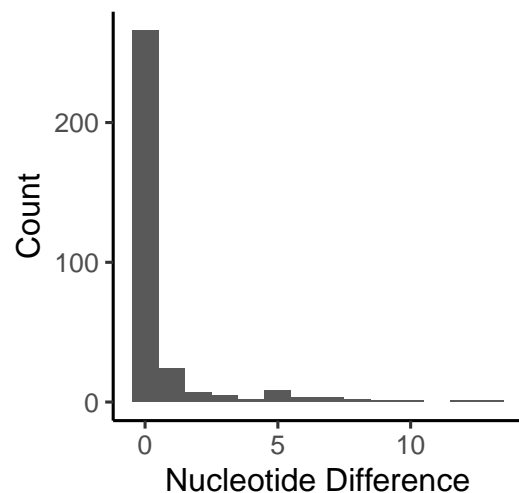
IGHV1-18*04

405 sequences assigned
316 (78%) exact matches, in which:
312 unique CDR3
6 unique J



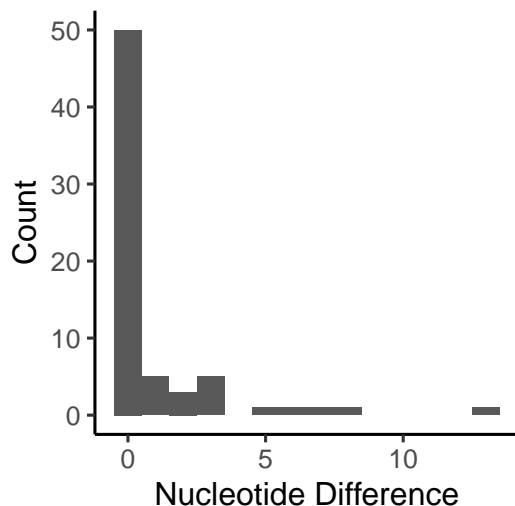
IGHV1-46*03

326 sequences assigned
266 (81.6%) exact matches, in which:
260 unique CDR3
6 unique J



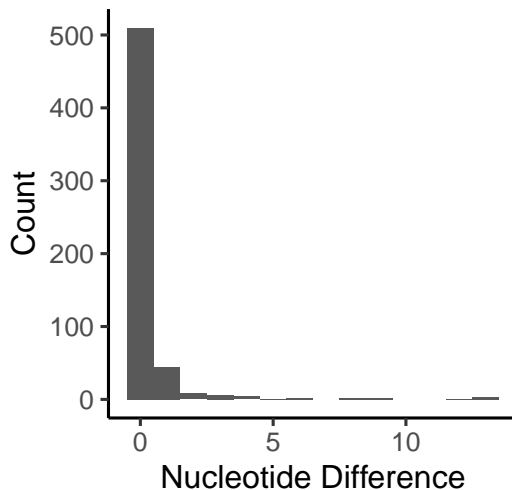
IGHV1-58*02

68 sequences assigned
50 (73.5%) exact matches, in which:
48 unique CDR3
4 unique J



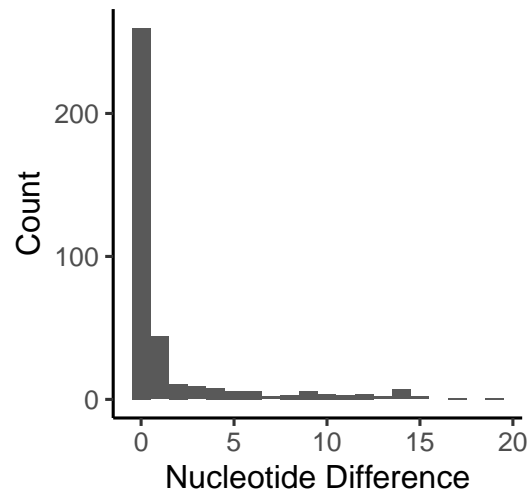
IGHV1-69*08_C191T

584 sequences assigned
510 (87.3%) exact matches, in which:
498 unique CDR3
6 unique J



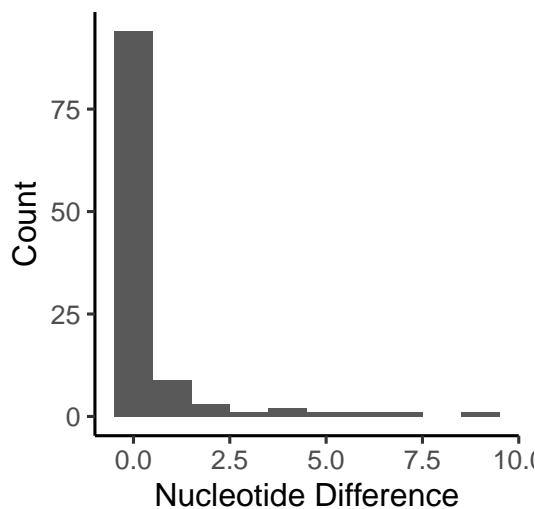
IGHV3-7*01

386 sequences assigned
260 (67.4%) exact matches, in which:
248 unique CDR3
6 unique J



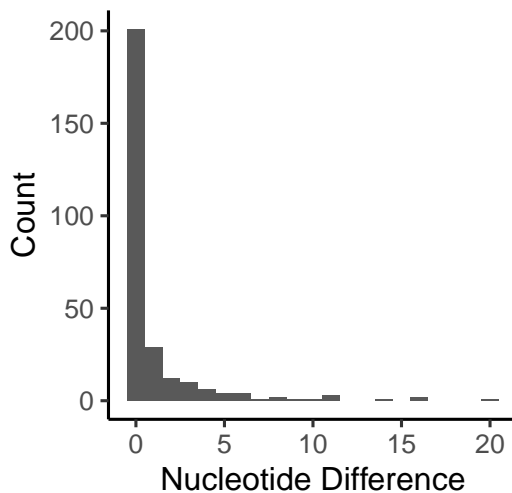
IGHV1-69-2*01

113 sequences assigned
94 (83.2%) exact matches, in which:
91 unique CDR3
5 unique J



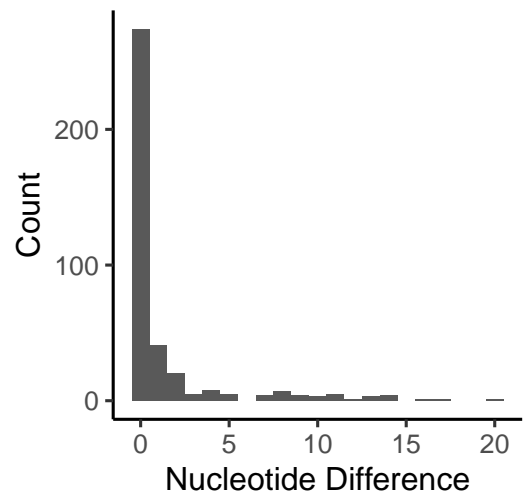
IGHV2-5*02

279 sequences assigned
201 (72%) exact matches, in which:
198 unique CDR3
6 unique J



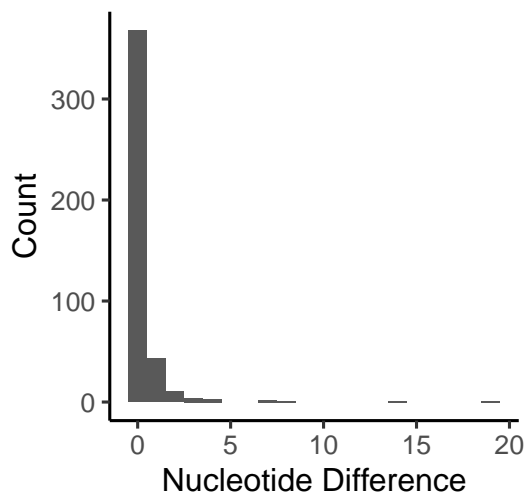
IGHV3-7*03

395 sequences assigned
274 (69.4%) exact matches, in which:
268 unique CDR3
6 unique J



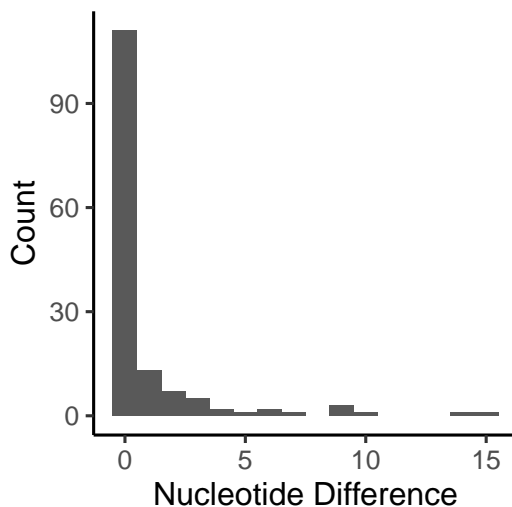
IGHV1-69*04_C184T

433 sequences assigned
368 (85%) exact matches, in which:
355 unique CDR3
6 unique J



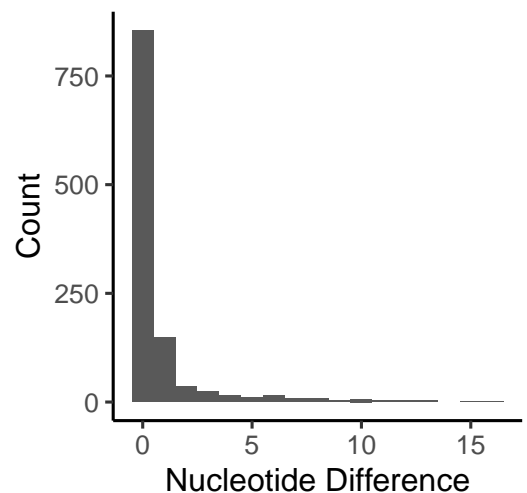
IGHV2-26*01

148 sequences assigned
111 (75%) exact matches, in which:
110 unique CDR3
5 unique J



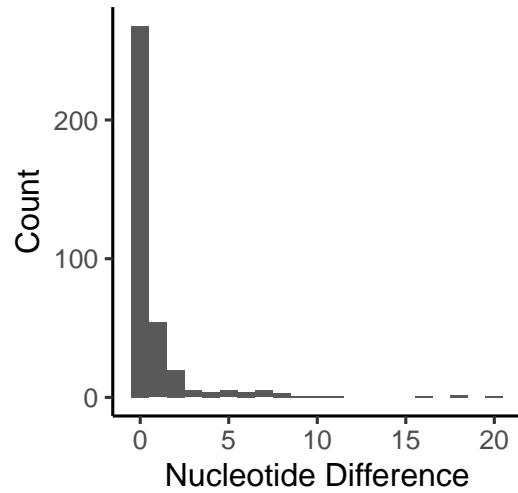
IGHV3-9*01

1151 sequences assigned
855 (74.3%) exact matches, in which:
812 unique CDR3
6 unique J



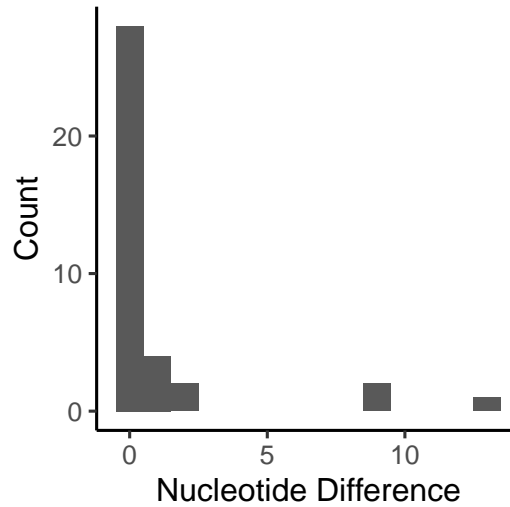
IGHV3-11*01

377 sequences assigned
268 (71.1%) exact matches, in which:
261 unique CDR3
6 unique J



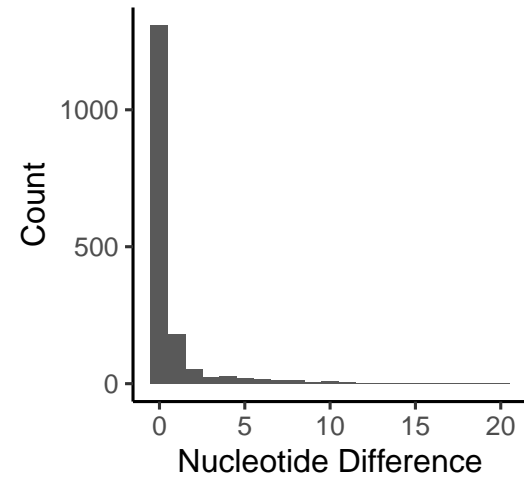
IGHV3-13*05

37 sequences assigned
28 (75.7%) exact matches, in which:
26 unique CDR3
5 unique J



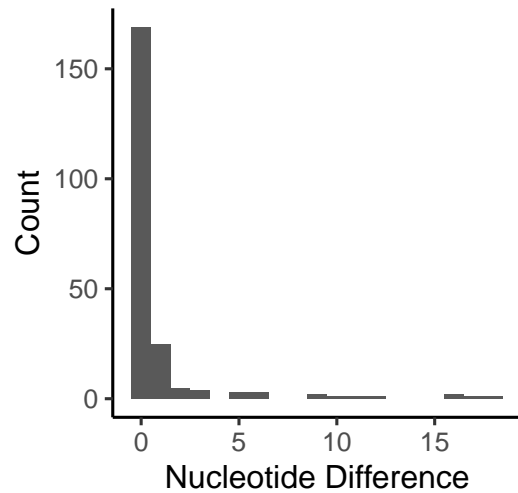
IGHV3-21*01

1701 sequences assigned
1308 (76.9%) exact matches, in which:
1261 unique CDR3
6 unique J



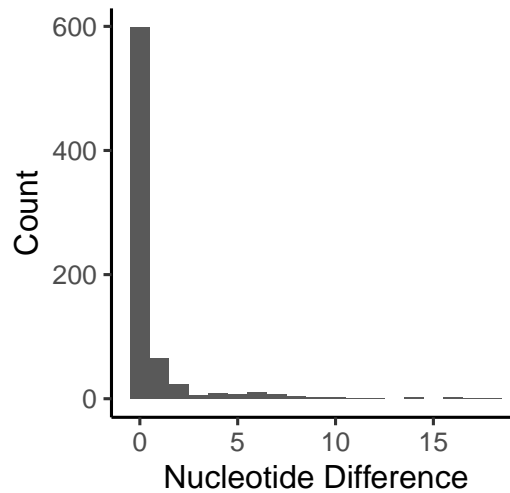
IGHV3-11*06

219 sequences assigned
169 (77.2%) exact matches, in which:
166 unique CDR3
6 unique J



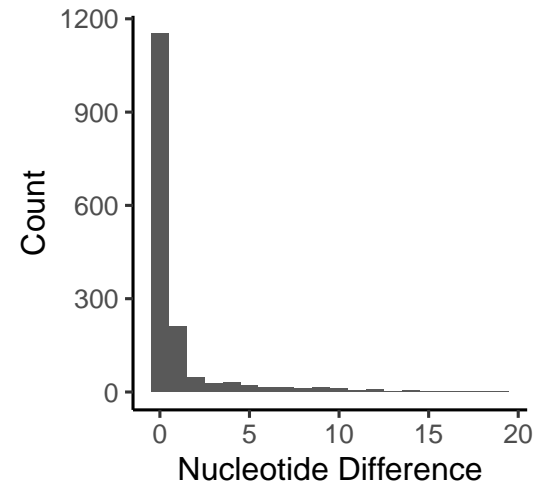
IGHV3-15*01

752 sequences assigned
599 (79.7%) exact matches, in which:
584 unique CDR3
6 unique J



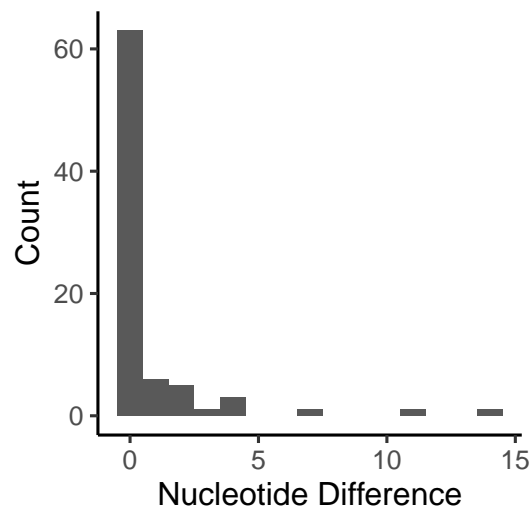
IGHV3-30-3*01

1585 sequences assigned
1152 (72.7%) exact matches, in which:
1118 unique CDR3
6 unique J



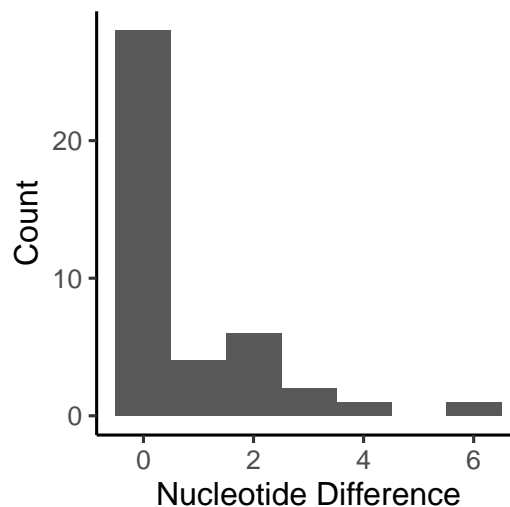
IGHV3-13*01

81 sequences assigned
63 (77.8%) exact matches, in which:
60 unique CDR3
5 unique J



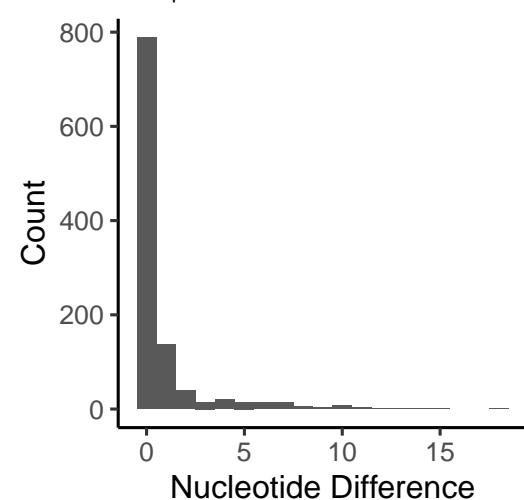
IGHV3-20*01

42 sequences assigned
28 (66.7%) exact matches, in which:
28 unique CDR3
4 unique J



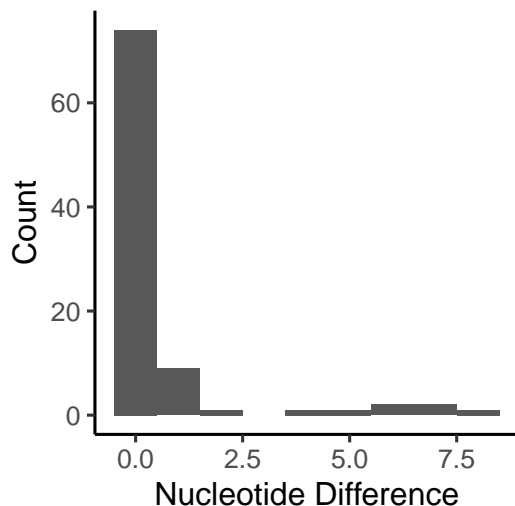
IGHV3-33*01

1073 sequences assigned
789 (73.5%) exact matches, in which:
755 unique CDR3
6 unique J



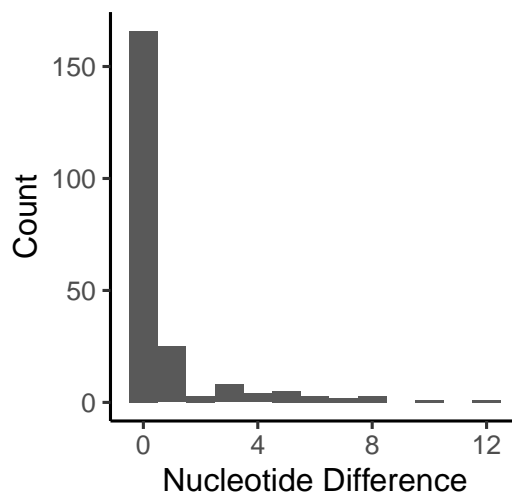
IGHV3-43*01

91 sequences assigned
74 (81.3%) exact matches, in which:
72 unique CDR3
6 unique J



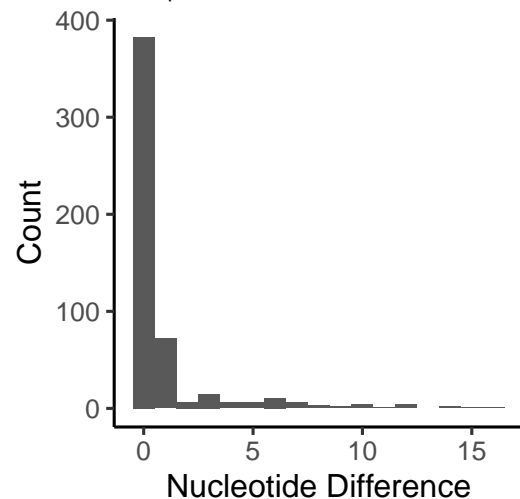
IGHV3-53*01

221 sequences assigned
166 (75.1%) exact matches, in which:
163 unique CDR3
6 unique J



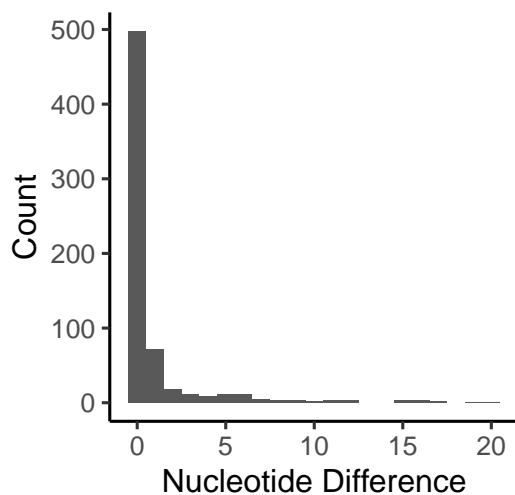
IGHV3-66*02

525 sequences assigned
383 (73%) exact matches, in which:
374 unique CDR3
6 unique J



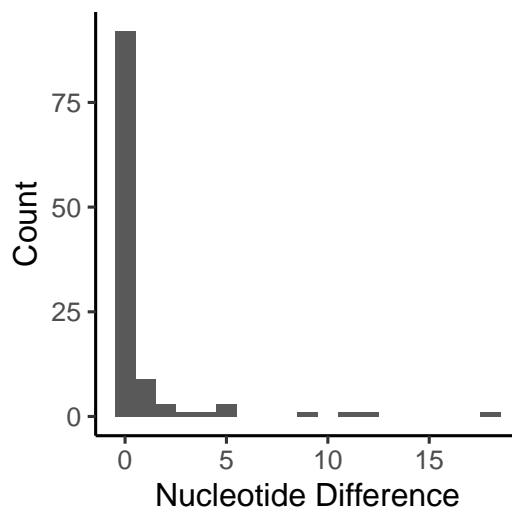
IGHV3-48*01

662 sequences assigned
498 (75.2%) exact matches, in which:
485 unique CDR3
6 unique J



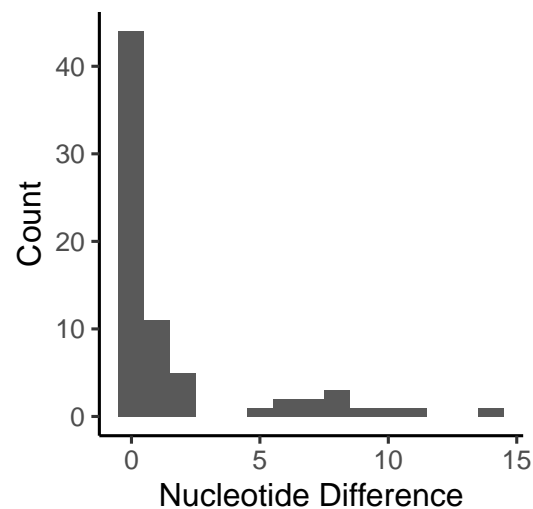
IGHV3-53*02

113 sequences assigned
92 (81.4%) exact matches, in which:
91 unique CDR3
6 unique J



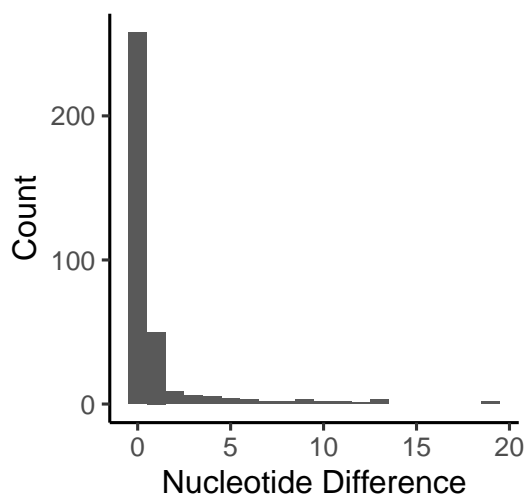
IGHV3-72*01

72 sequences assigned
44 (61.1%) exact matches, in which:
42 unique CDR3
5 unique J



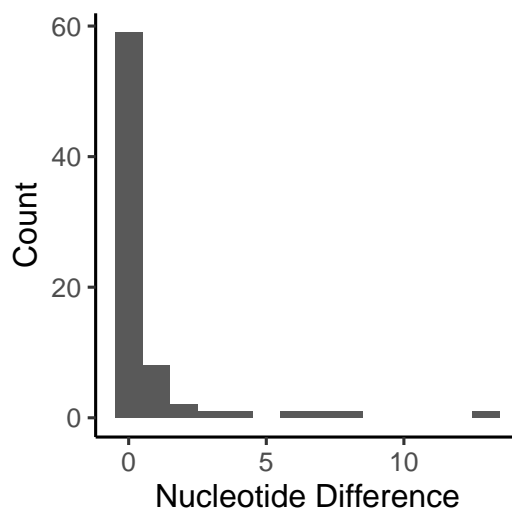
IGHV3-49*03

353 sequences assigned
258 (73.1%) exact matches, in which:
242 unique CDR3
5 unique J



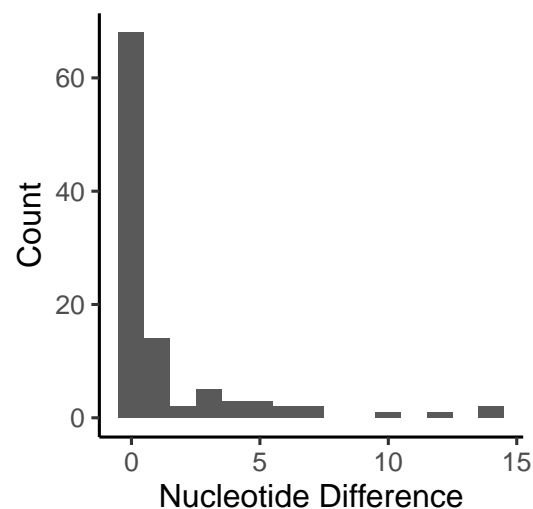
IGHV3-64*01

75 sequences assigned
59 (78.7%) exact matches, in which:
58 unique CDR3
5 unique J



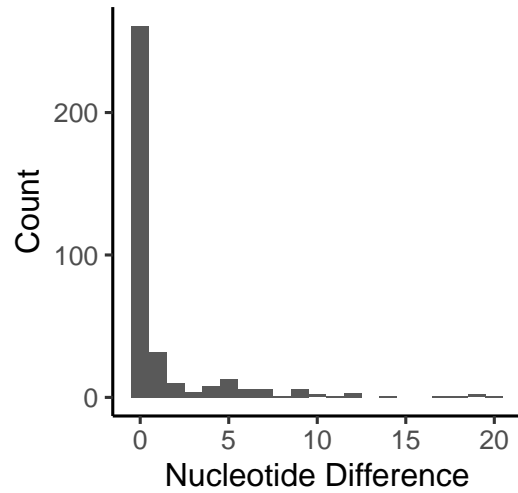
IGHV3-73*01

103 sequences assigned
68 (66%) exact matches, in which:
64 unique CDR3
4 unique J



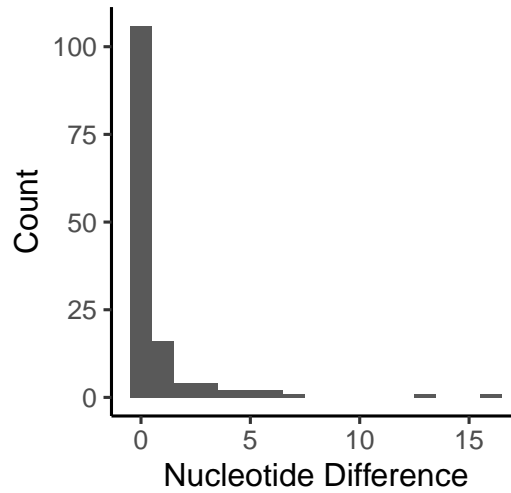
IGHV3-74*01

363 sequences assigned
261 (71.9%) exact matches, in which:
254 unique CDR3
6 unique J



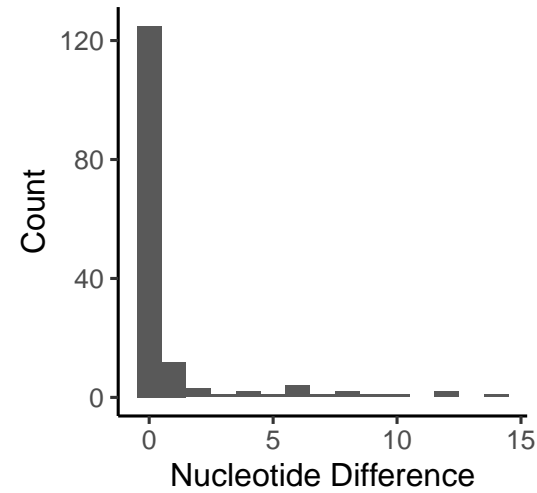
IGHV4-4*07

139 sequences assigned
106 (76.3%) exact matches, in which:
103 unique CDR3
5 unique J



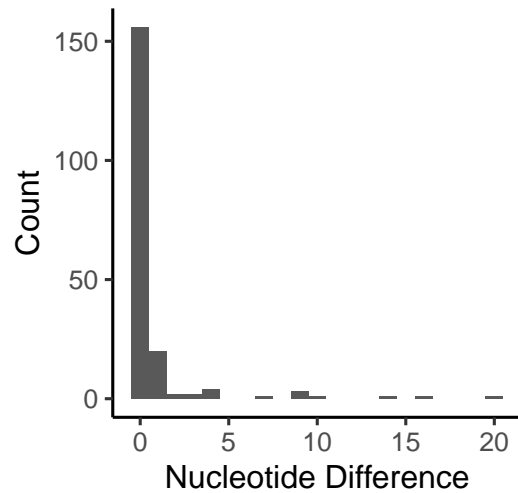
IGHV4-30-2*01

157 sequences assigned
125 (79.6%) exact matches, in which:
125 unique CDR3
6 unique J



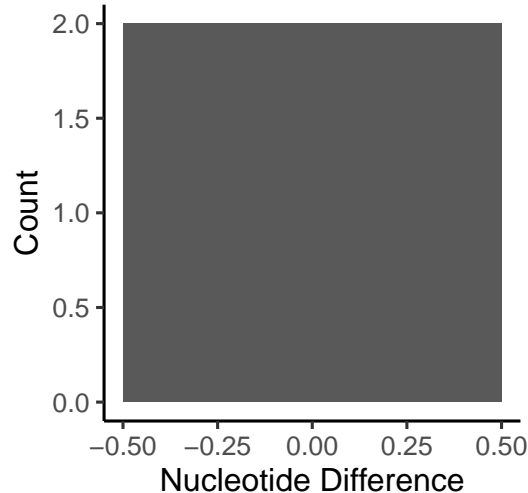
IGHV3-64D*06

193 sequences assigned
156 (80.8%) exact matches, in which:
148 unique CDR3
6 unique J



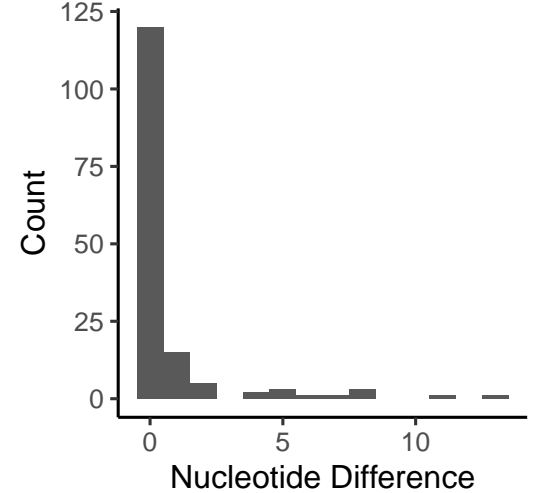
IGHV4-28*01

2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
2 unique J



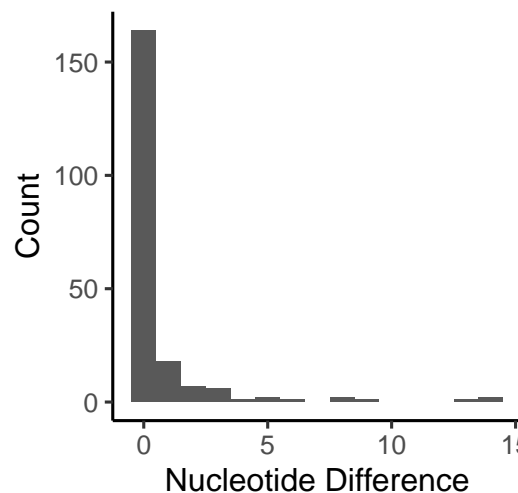
IGHV4-30-4*01

153 sequences assigned
120 (78.4%) exact matches, in which:
114 unique CDR3
6 unique J



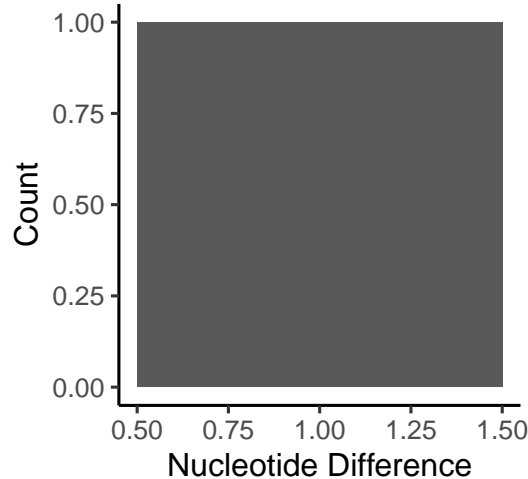
IGHV4-4*02

206 sequences assigned
164 (79.6%) exact matches, in which:
160 unique CDR3
6 unique J



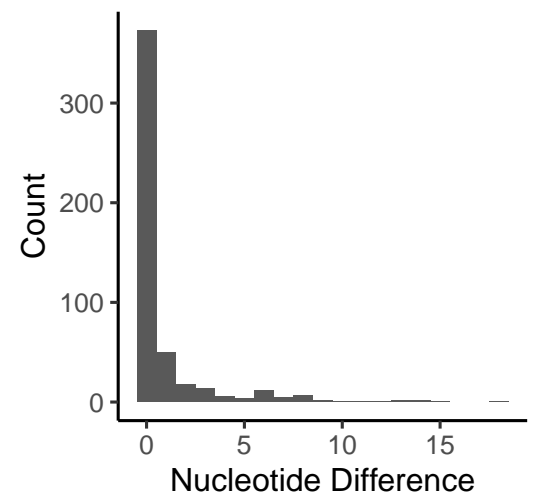
IGHV4-28*04

1 sequences assigned
No exact matches.



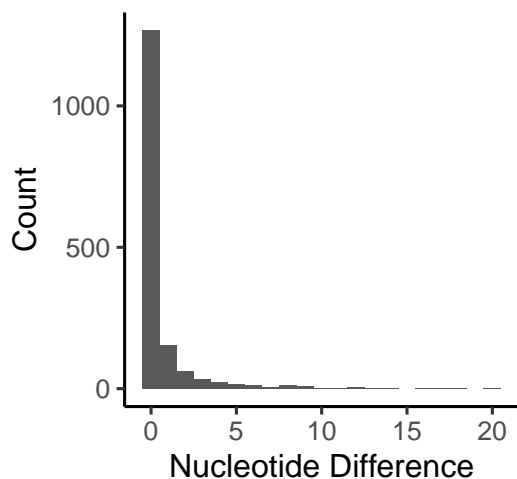
IGHV4-31*03

503 sequences assigned
373 (74.2%) exact matches, in which:
366 unique CDR3
6 unique J



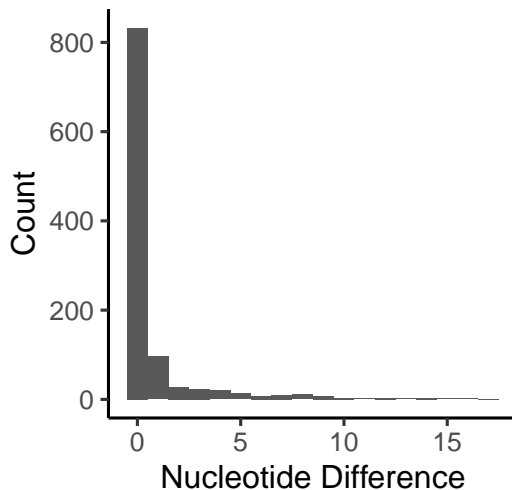
IGHV4-34*01

1621 sequences assigned
1267 (78.2%) exact matches, in which:
1221 unique CDR3
6 unique J



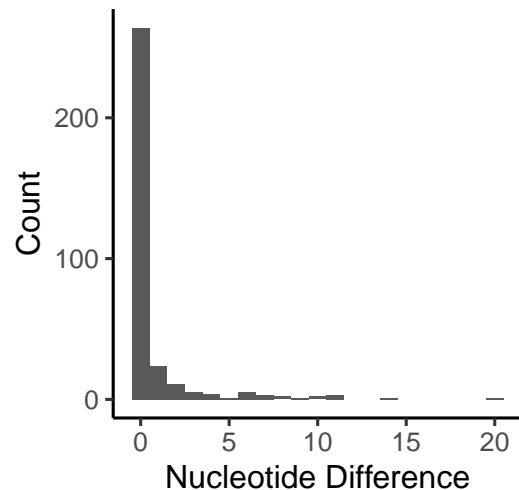
IGHV4-61*02

1073 sequences assigned
833 (77.6%) exact matches, in which:
823 unique CDR3
6 unique J



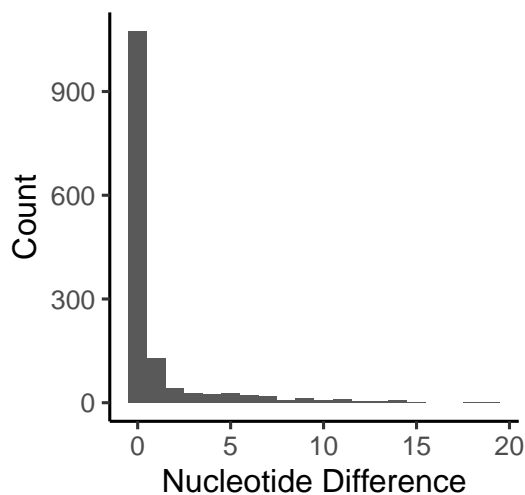
IGHV5-10-1*03

329 sequences assigned
264 (80.2%) exact matches, in which:
260 unique CDR3
6 unique J



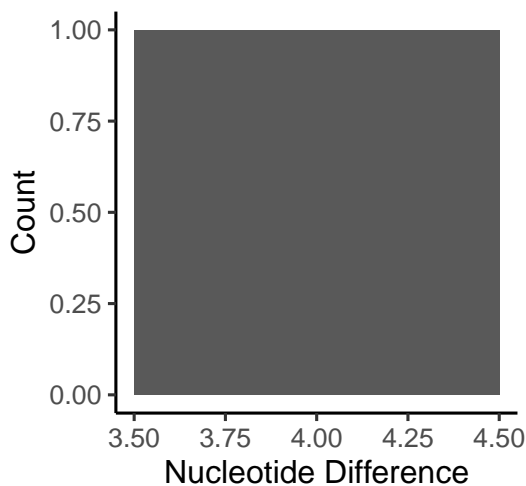
IGHV4-39*01

1430 sequences assigned
1075 (75.2%) exact matches, in which:
1050 unique CDR3
6 unique J



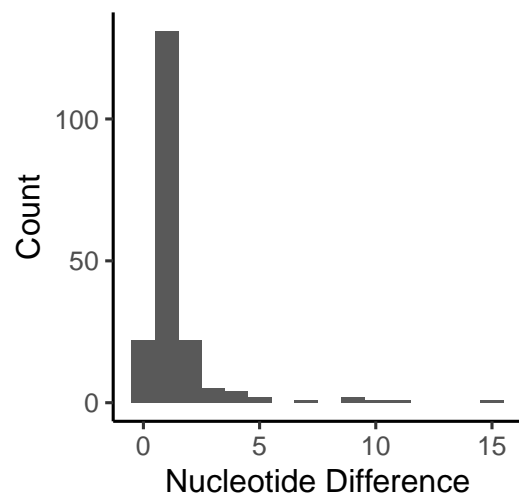
IGHV4/OR15-8*01

1 sequences assigned
No exact matches.



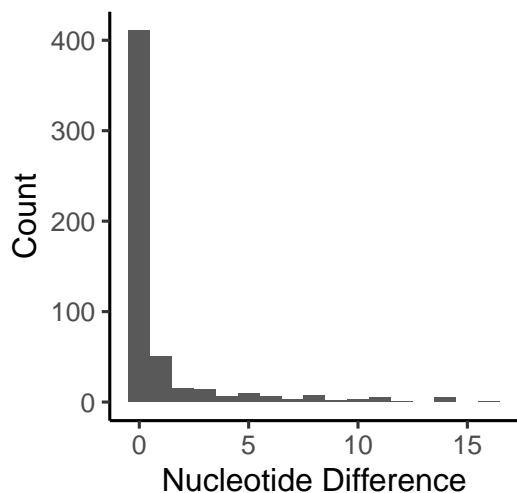
IGHV5-51*01

192 sequences assigned
22 (11.5%) exact matches, in which:
22 unique CDR3
6 unique J



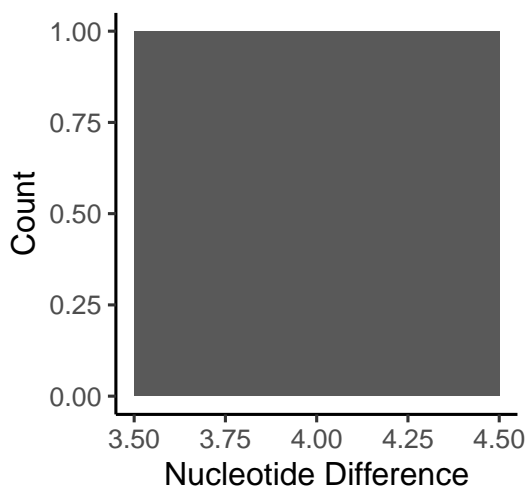
IGHV4-59*01

539 sequences assigned
411 (76.3%) exact matches, in which:
405 unique CDR3
6 unique J



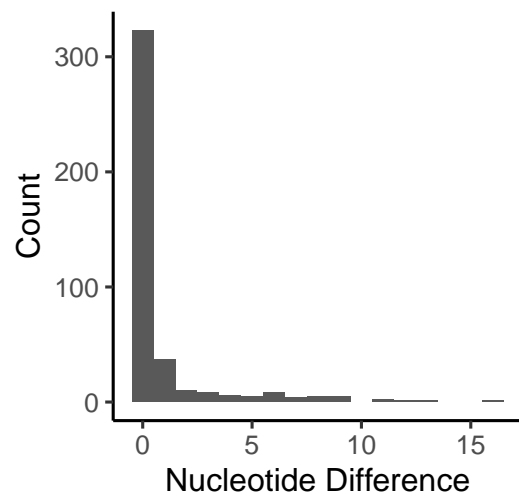
IGHV4/OR15-8*03

1 sequences assigned
No exact matches.



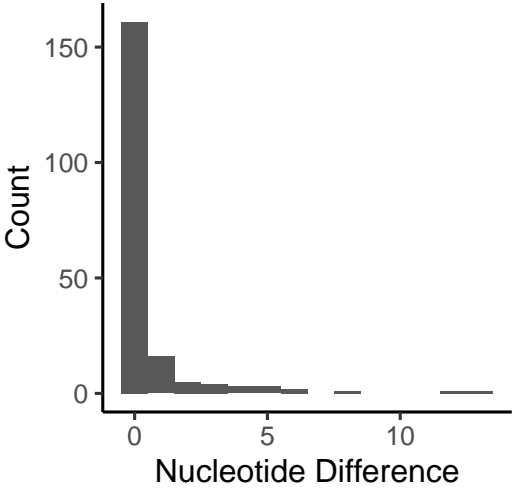
IGHV5-51*03

418 sequences assigned
323 (77.3%) exact matches, in which:
317 unique CDR3
6 unique J



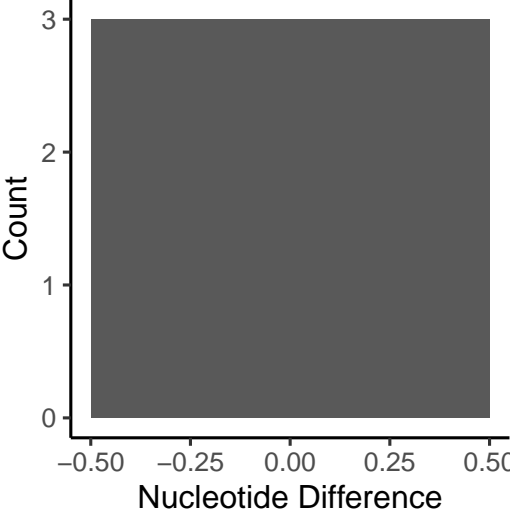
IGHV6-1*01

197 sequences assigned
161 (81.7%) exact matches, in which:
155 unique CDR3
5 unique J



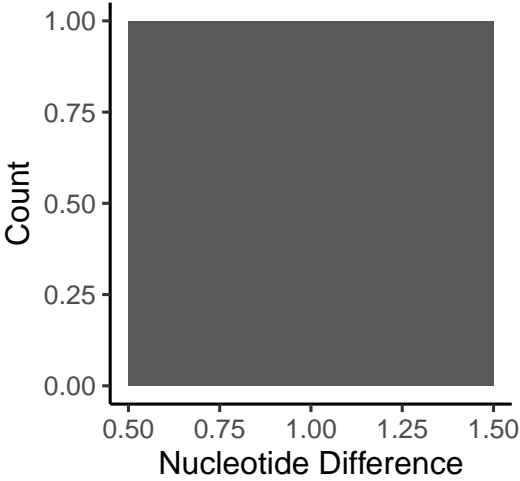
IGHV7-4-1*01

3 sequences assigned
3 (100%) exact matches, in which:
2 unique CDR3
2 unique J



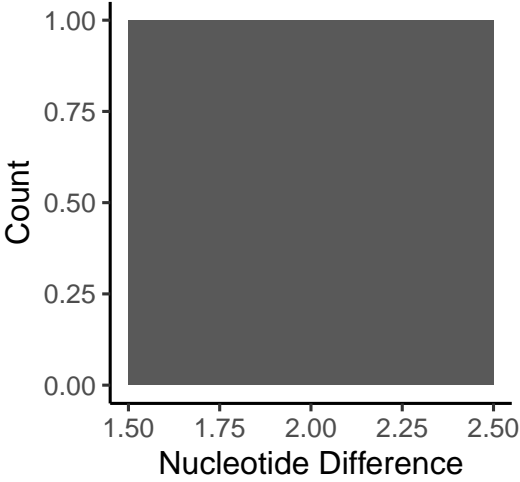
IGHV3/OR16-9*01

1 sequences assigned
No exact matches.

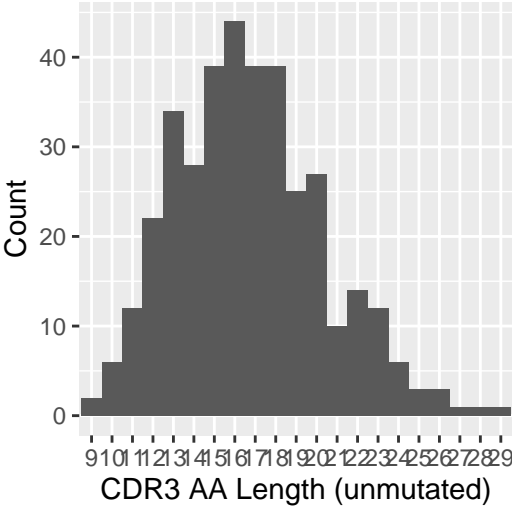


IGHV3/OR16-12*01

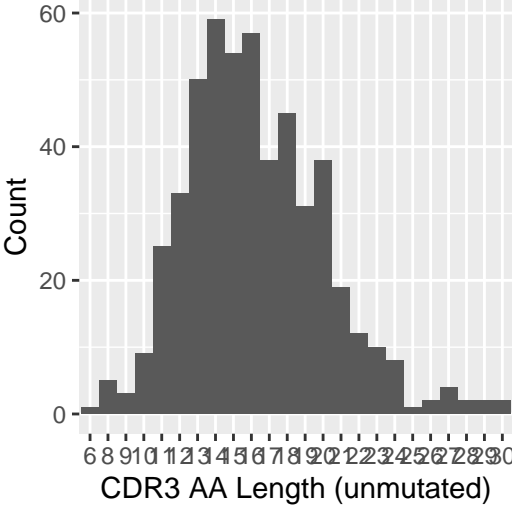
1 sequences assigned
No exact matches.



IGHV1-69*04_C184T



IGHV1-69*08_C191T





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