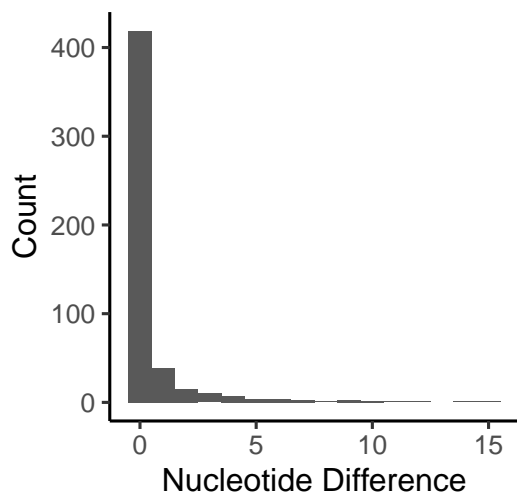


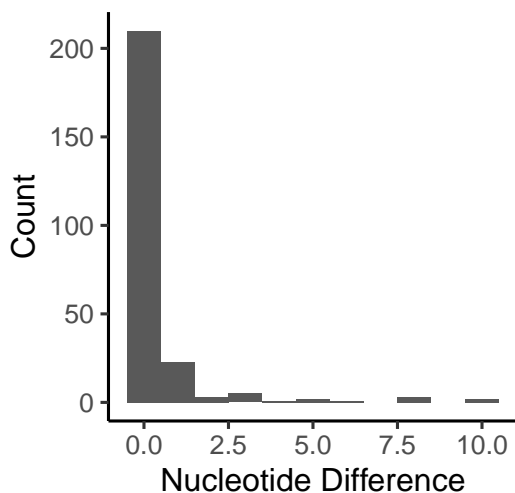
### IGHV1-2\*02

513 sequences assigned  
419 (81.7%) exact matches, in which:  
406 unique CDR3  
6 unique J



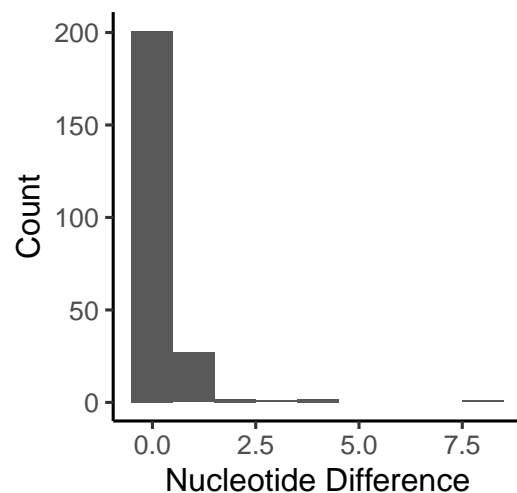
### IGHV1-8\*01

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



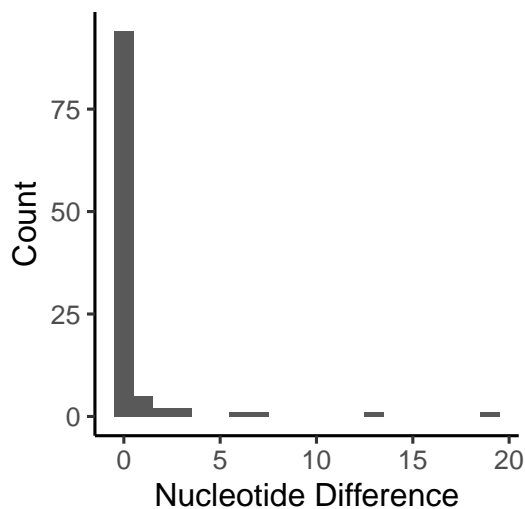
### IGHV1-24\*01

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



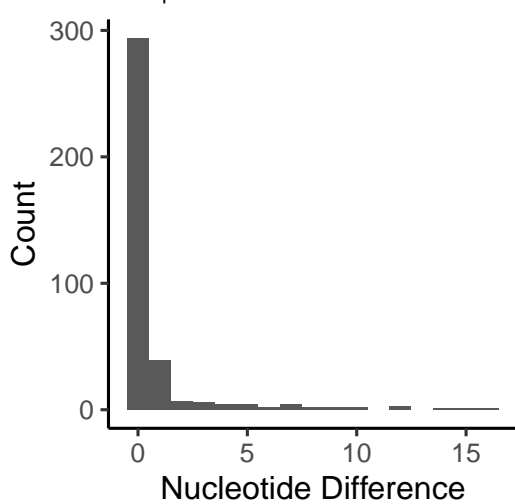
### IGHV1-2\*04

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



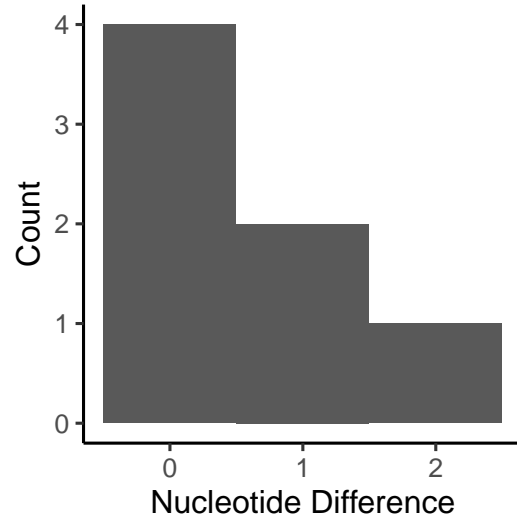
### IGHV1-18\*01

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



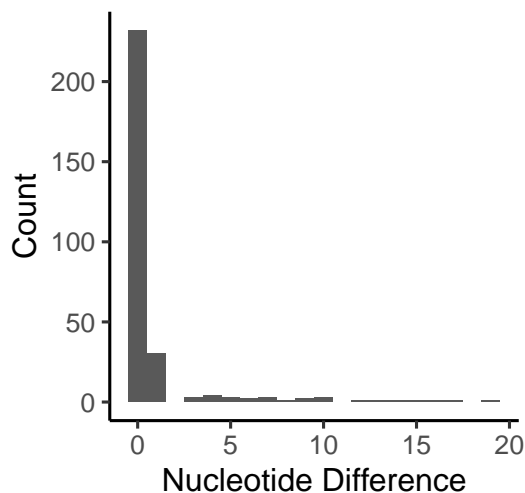
### IGHV1-45\*02

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



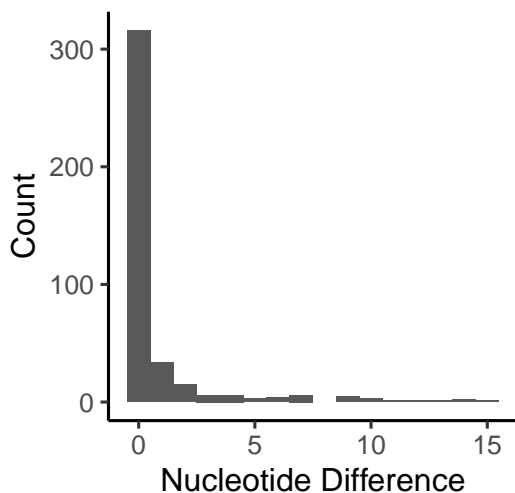
### IGHV1-3\*01

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



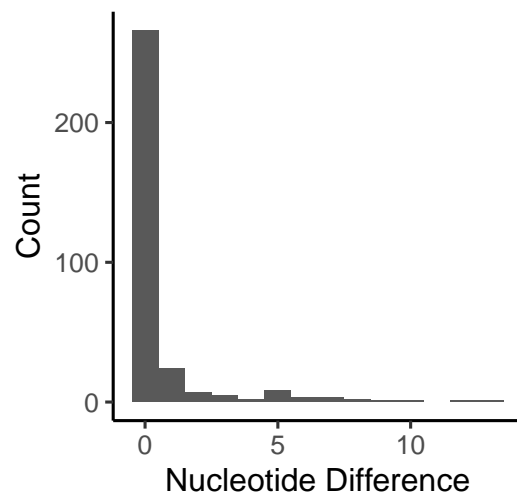
### IGHV1-18\*04

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



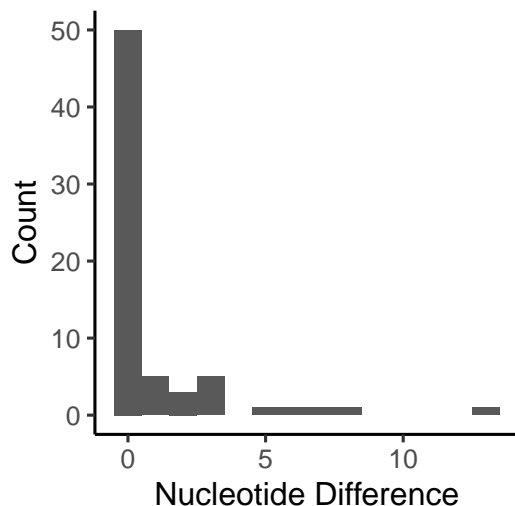
### IGHV1-46\*03

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



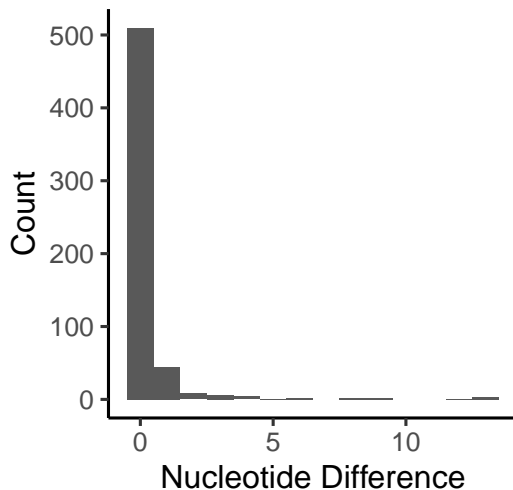
### IGHV1-58\*02

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



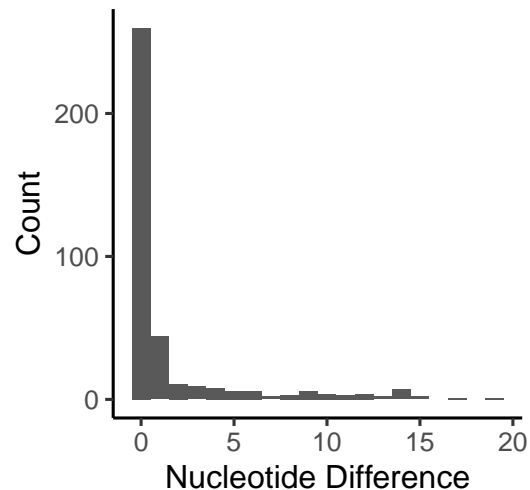
### IGHV1-69\*08\_C191T

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



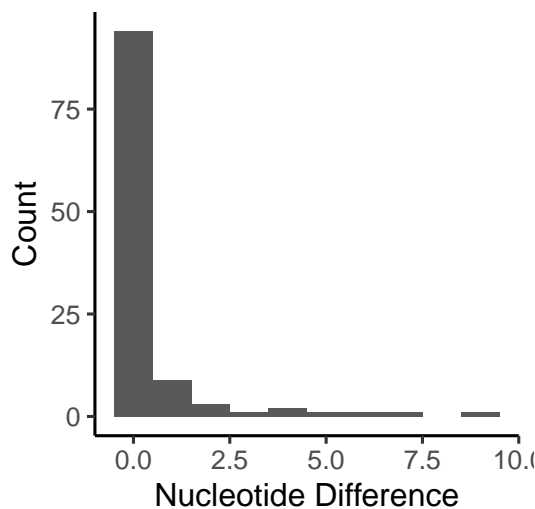
### IGHV3-7\*01

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



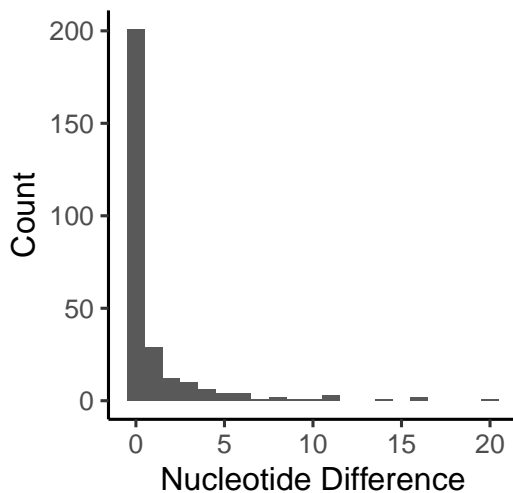
### IGHV1-69-2\*01

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



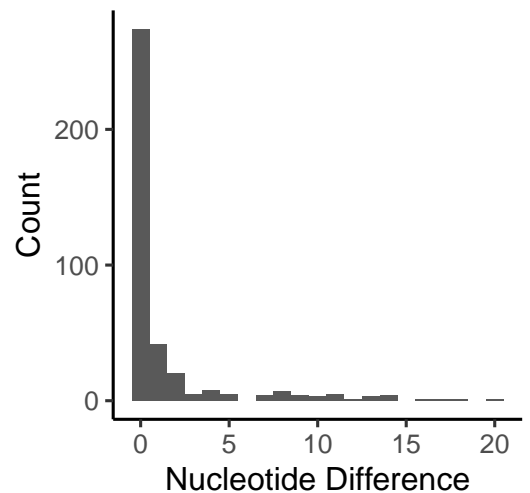
### IGHV2-5\*02

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



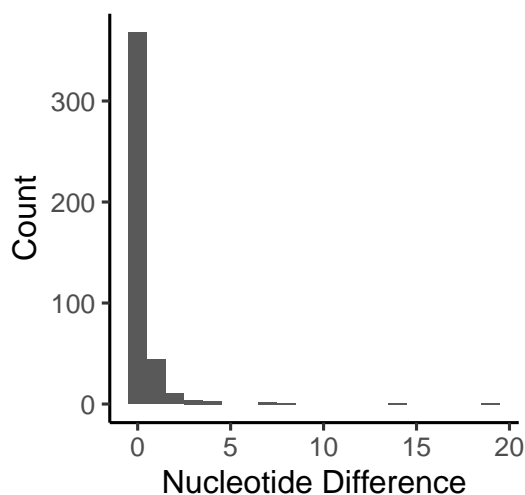
### IGHV3-7\*03

397 sequences assigned  
274 (69%) exact matches, in which:  
268 unique CDR3  
6 unique J



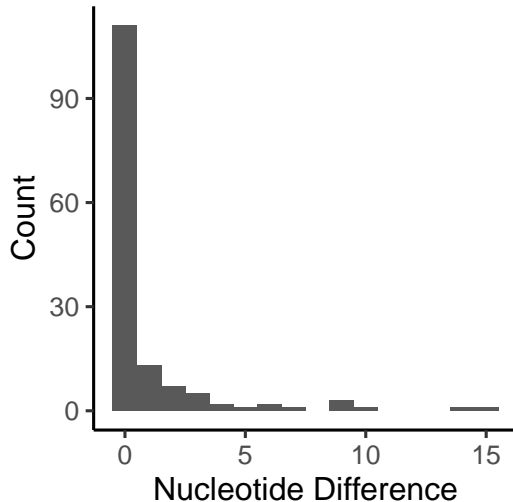
### IGHV1-69\*04\_C184T

434 sequences assigned  
368 (84.8%) exact matches, in which:  
355 unique CDR3  
6 unique J



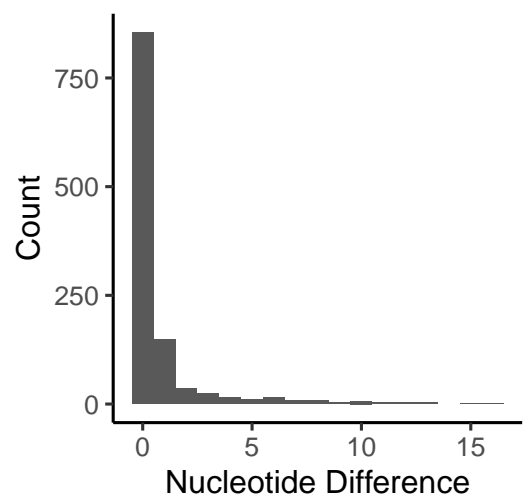
### IGHV2-26\*01

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



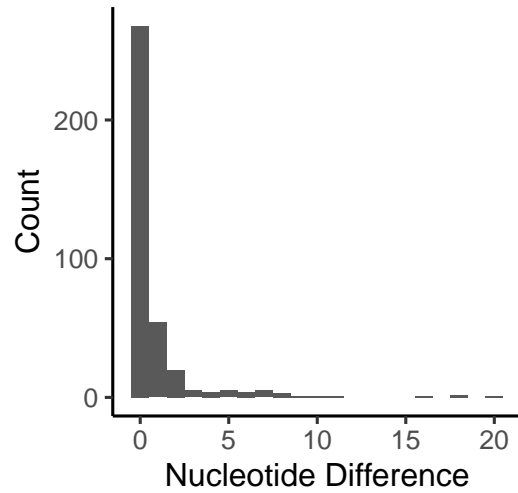
### IGHV3-9\*01

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



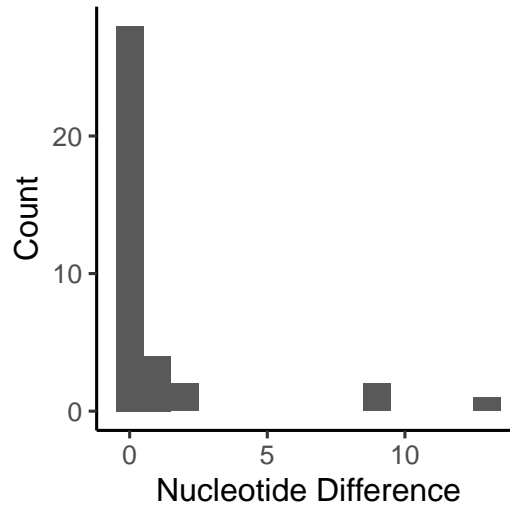
### IGHV3-11\*01

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



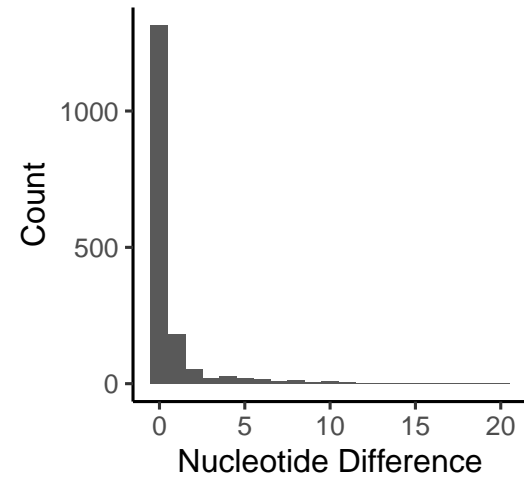
### IGHV3-13\*05

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



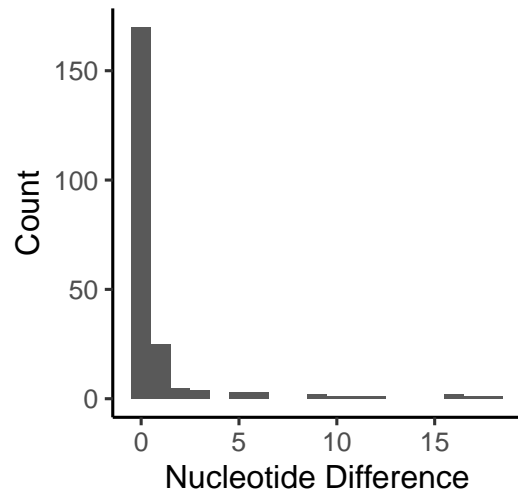
### IGHV3-21\*01

1707 sequences assigned  
1314 (77%) exact matches, in which:  
1267 unique CDR3  
6 unique J



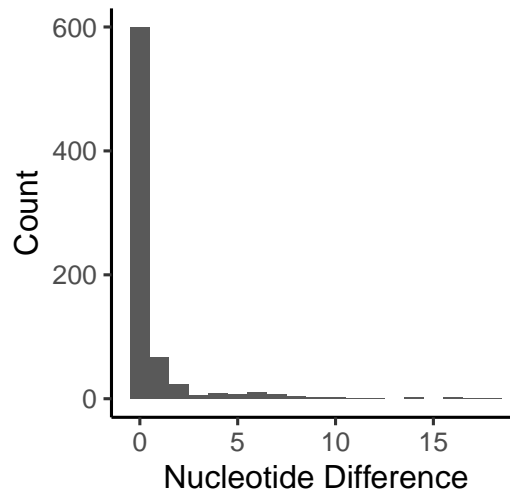
### IGHV3-11\*06

220 sequences assigned  
170 (77.3%) exact matches, in which:  
167 unique CDR3  
6 unique J



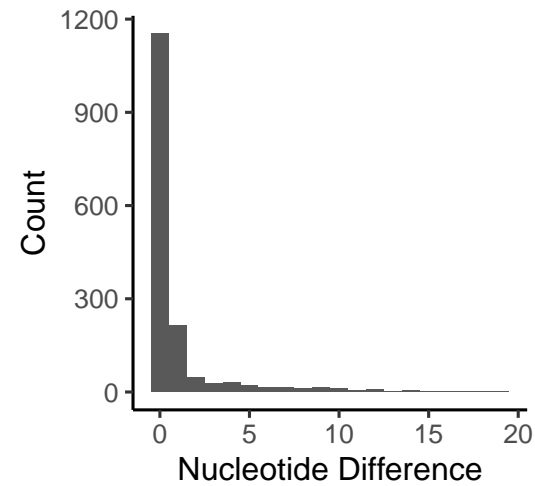
### IGHV3-15\*01

754 sequences assigned  
600 (79.6%) exact matches, in which:  
585 unique CDR3  
6 unique J



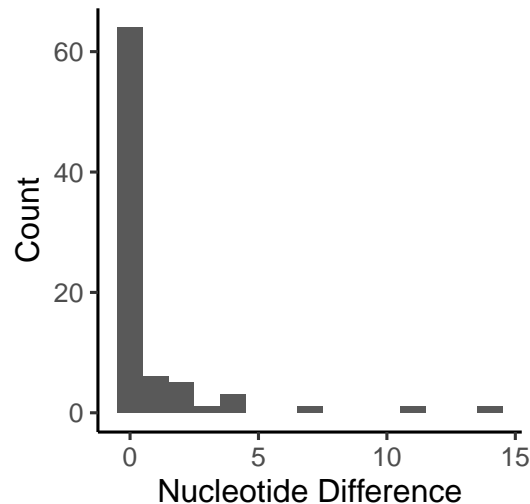
### IGHV3-30-3\*01

1588 sequences assigned  
1153 (72.6%) exact matches, in which:  
1119 unique CDR3  
6 unique J



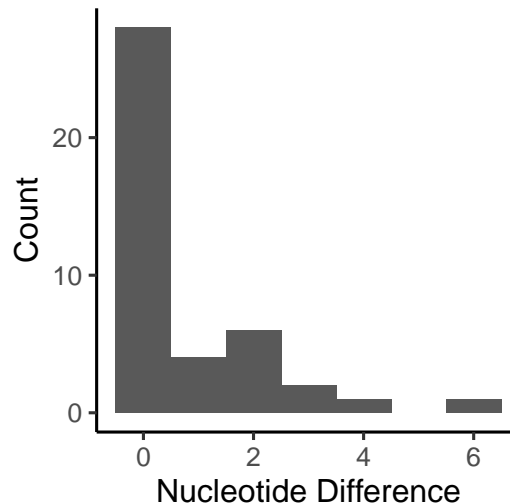
### IGHV3-13\*01

82 sequences assigned  
64 (78%) exact matches, in which:  
61 unique CDR3  
5 unique J



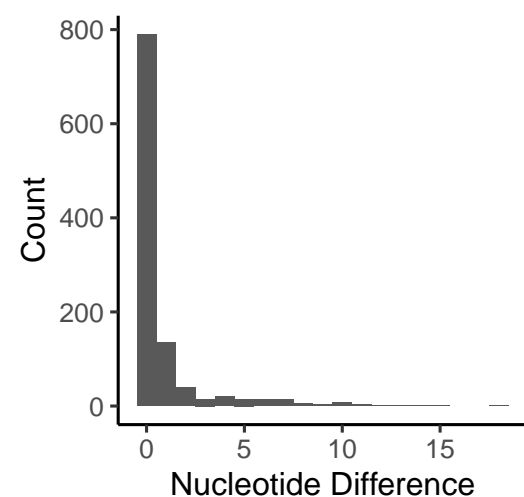
### IGHV3-20\*01

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



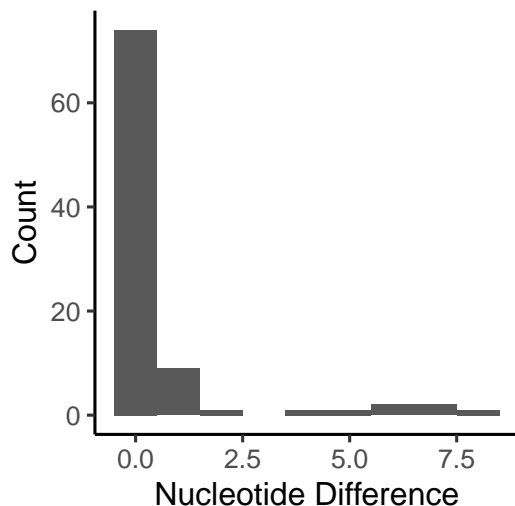
### IGHV3-33\*01

1075 sequences assigned  
790 (73.5%) exact matches, in which:  
756 unique CDR3  
6 unique J



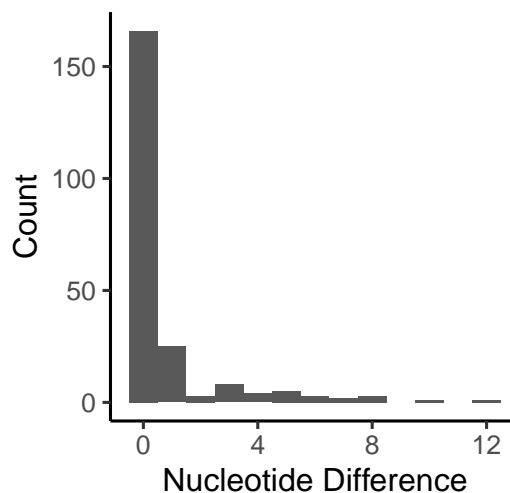
### IGHV3-43\*01

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



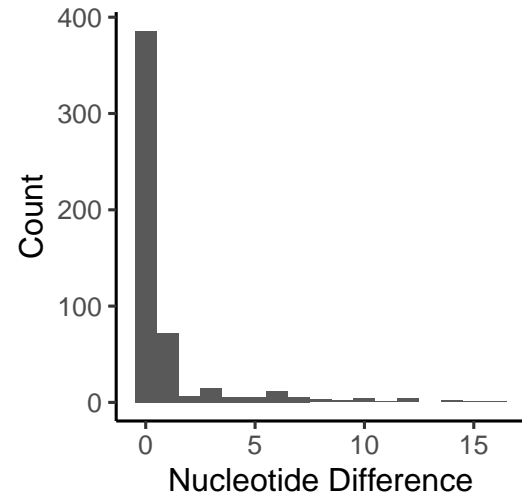
### IGHV3-53\*01

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



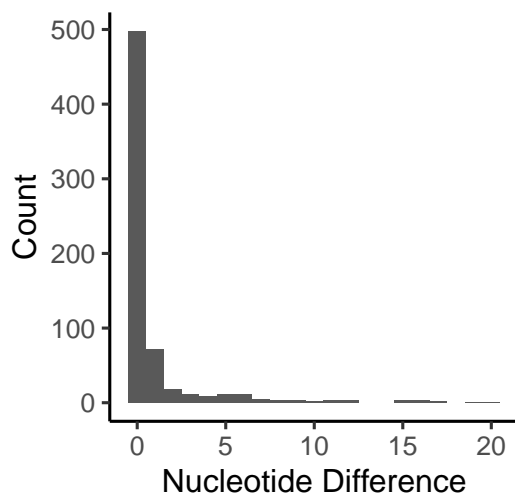
### IGHV3-66\*02

529 sequences assigned  
386 (73%) exact matches, in which:  
377 unique CDR3  
6 unique J



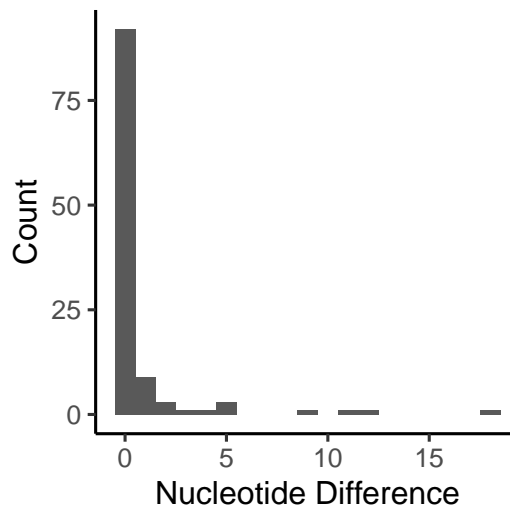
### IGHV3-48\*01

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



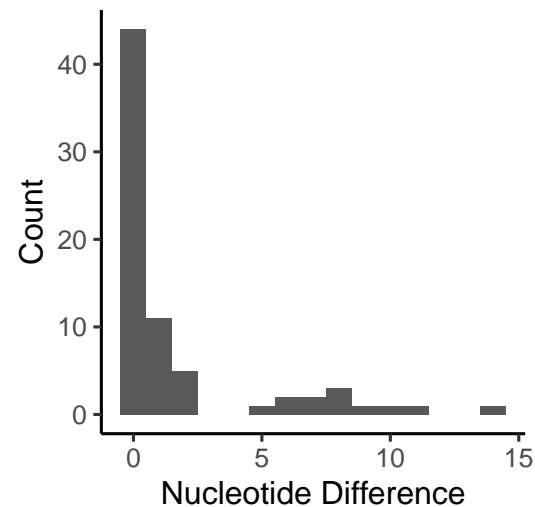
### IGHV3-53\*02

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



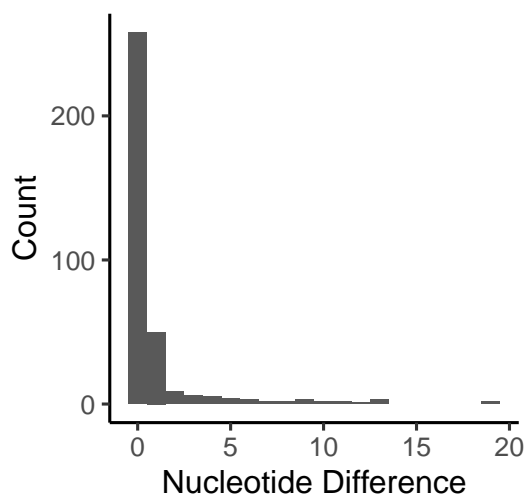
### IGHV3-72\*01

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



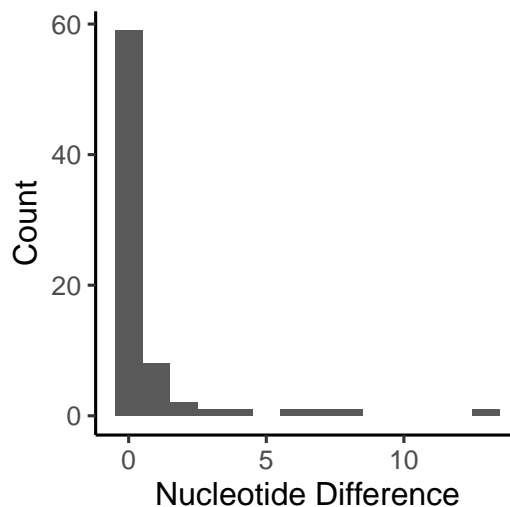
### IGHV3-49\*03

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



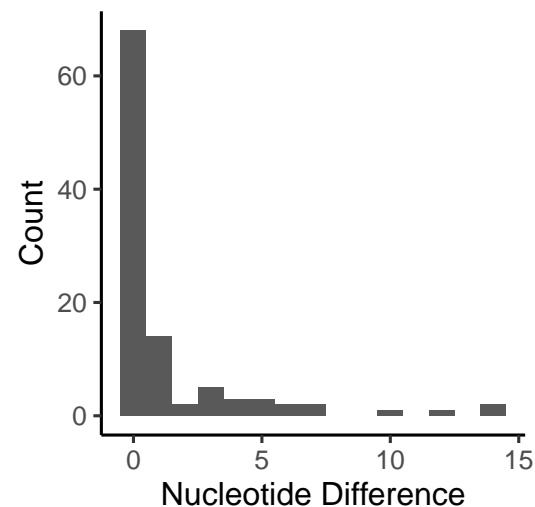
### IGHV3-64\*01

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



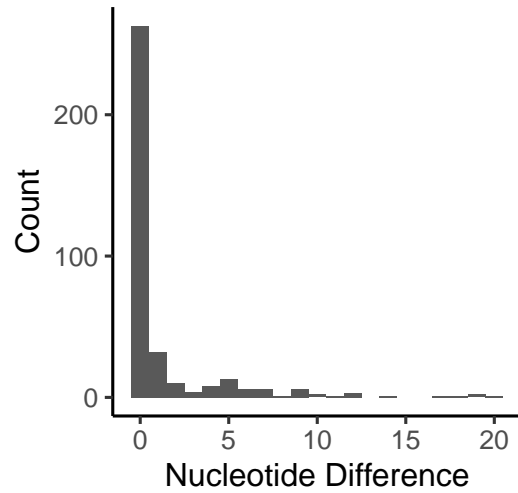
### IGHV3-73\*01

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



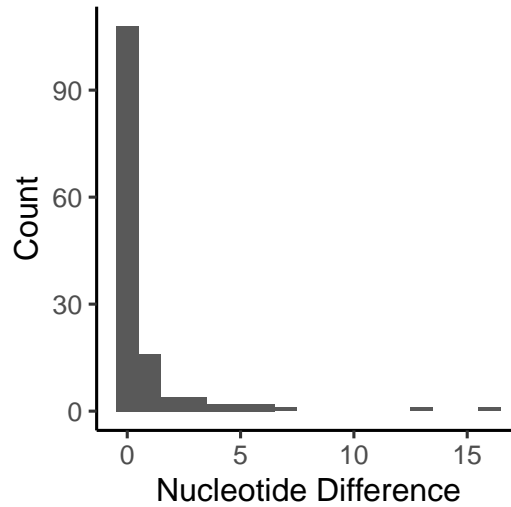
### IGHV3-74\*01

365 sequences assigned  
263 (72.1%) exact matches, in which:  
256 unique CDR3  
6 unique J



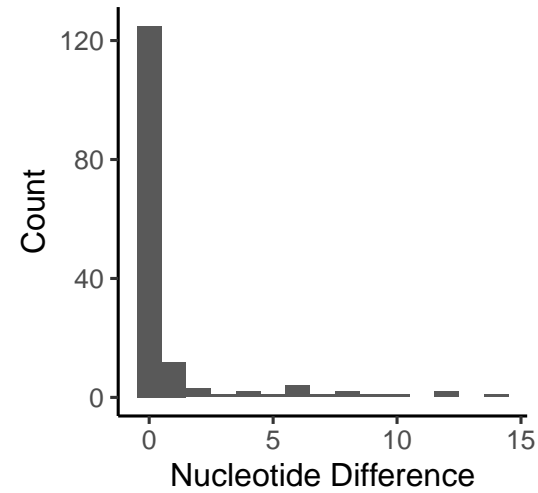
### IGHV4-4\*07

141 sequences assigned  
108 (76.6%) exact matches, in which:  
105 unique CDR3  
5 unique J



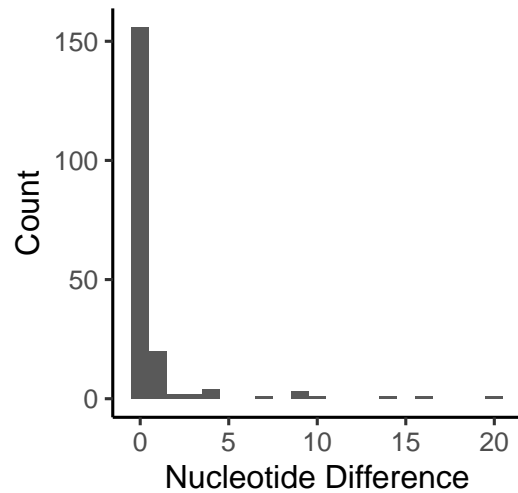
### IGHV4-30-2\*01

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



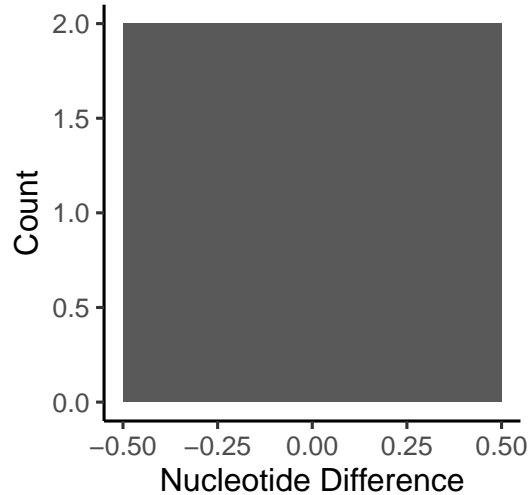
### IGHV3-64D\*06

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



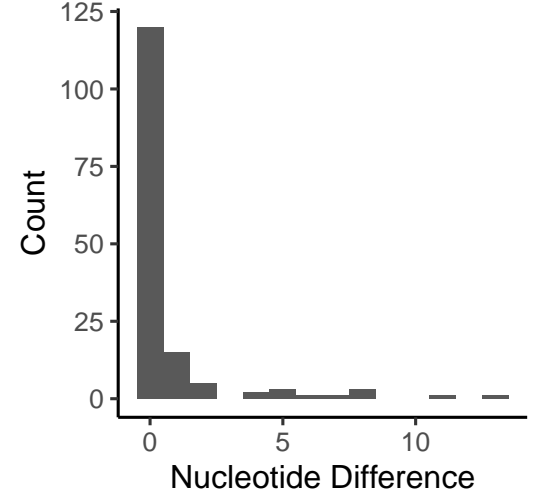
### IGHV4-28\*01

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



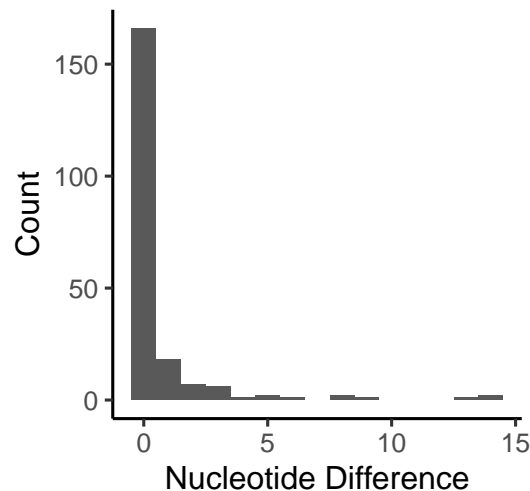
### IGHV4-30-4\*01

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



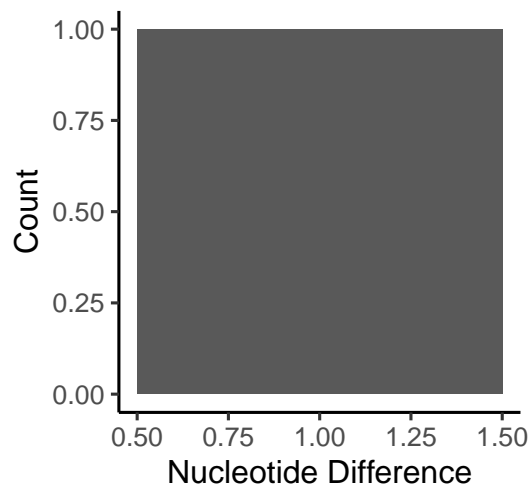
### IGHV4-4\*02

208 sequences assigned  
166 (79.8%) exact matches, in which:  
162 unique CDR3  
6 unique J



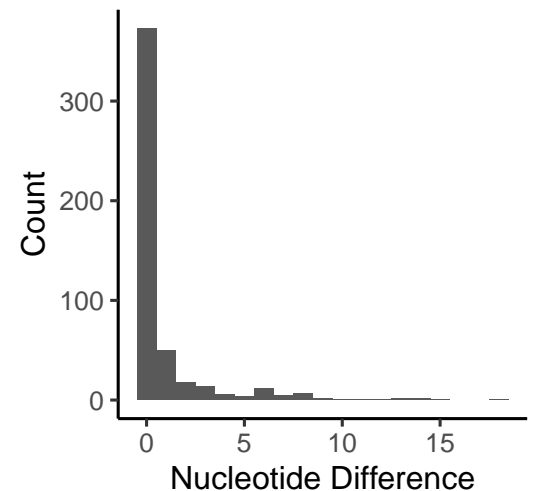
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



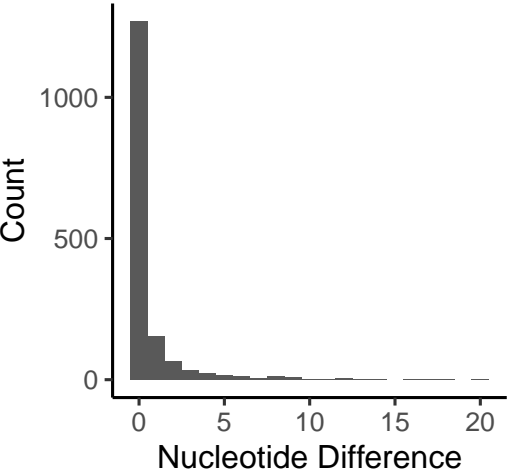
### IGHV4-31\*03

504 sequences assigned  
373 (74%) exact matches, in which:  
366 unique CDR3  
6 unique J



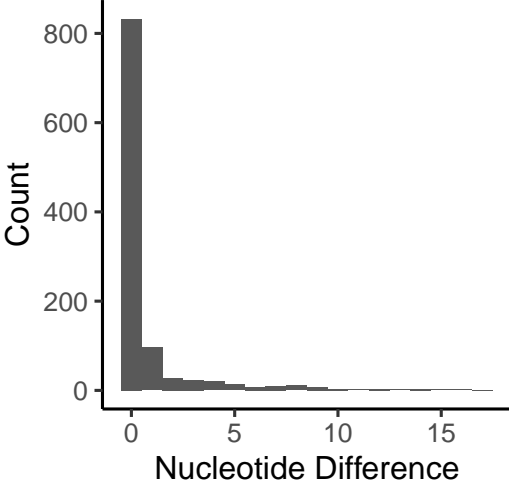
IGHV4-34\*01

1627 sequences assigned  
1269 (78%) exact matches, in which:  
1223 unique CDR3  
6 unique J



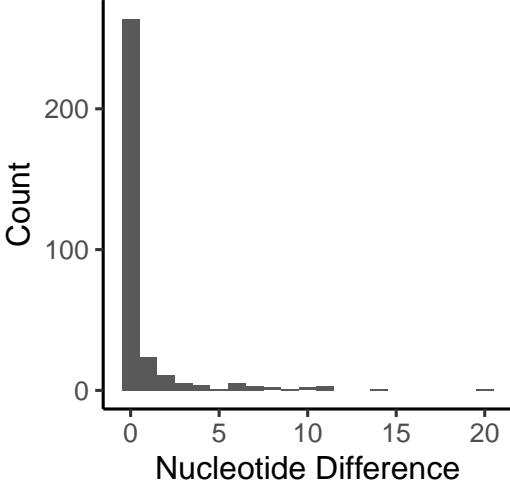
IGHV4-61\*02

1074 sequences assigned  
833 (77.6%) exact matches, in which:  
823 unique CDR3  
6 unique J



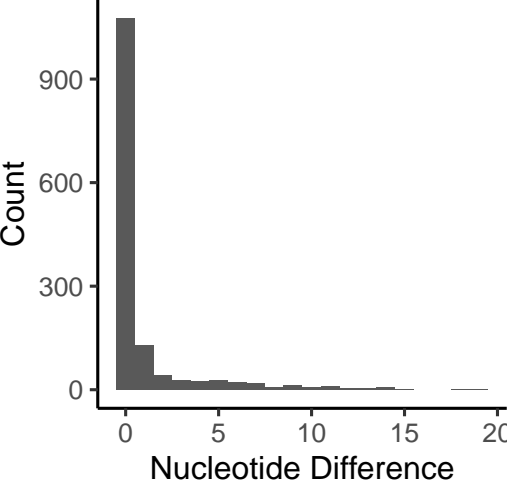
IGHV5-10-1\*03

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



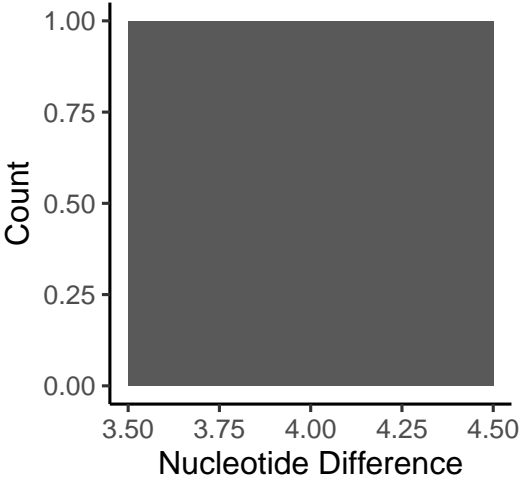
IGHV4-39\*01

1433 sequences assigned  
1077 (75.2%) exact matches, in which:  
1052 unique CDR3  
6 unique J



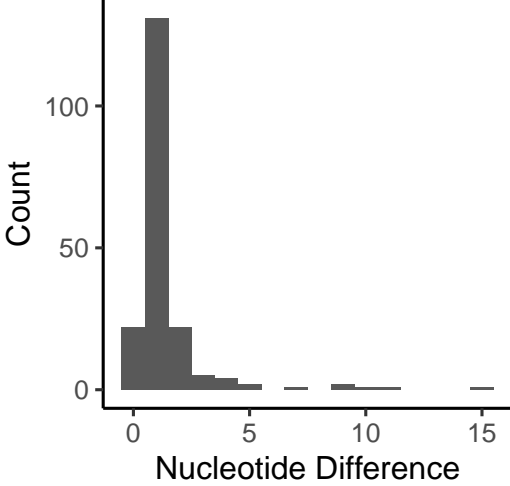
IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



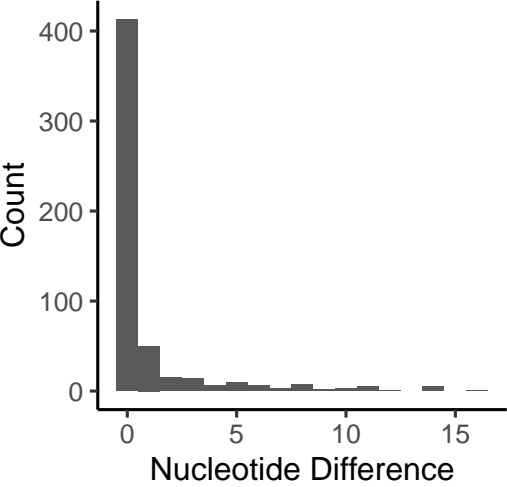
IGHV5-51\*01

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



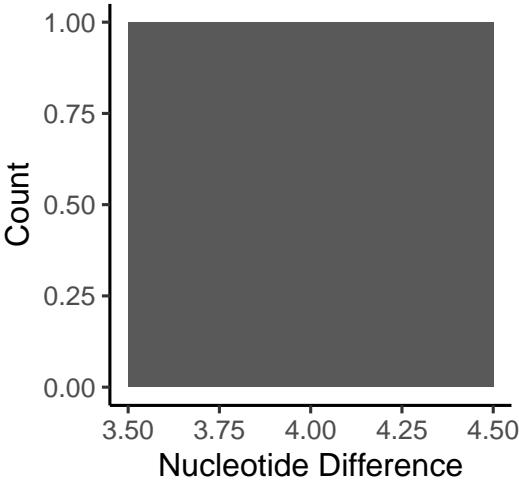
IGHV4-59\*01

541 sequences assigned  
413 (76.3%) exact matches, in which:  
407 unique CDR3  
6 unique J



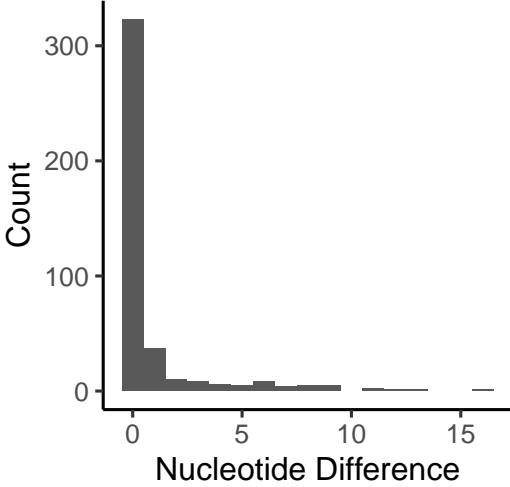
IGHV4/OR15-8\*03

1 sequences assigned  
No exact matches.



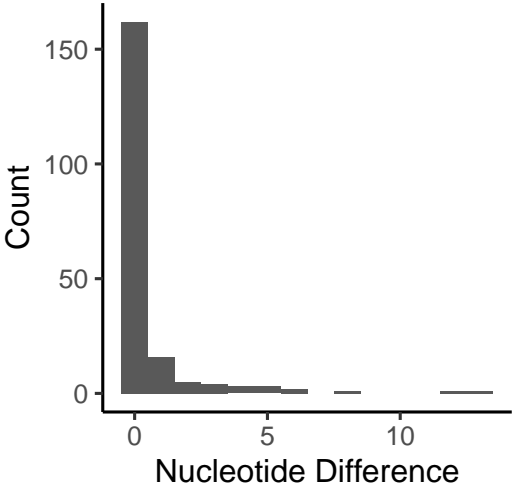
IGHV5-51\*03

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



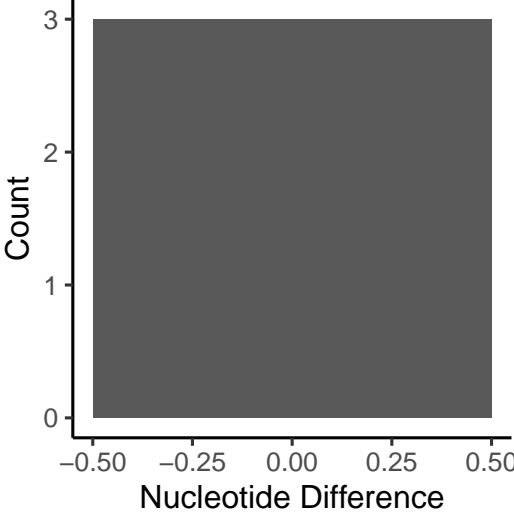
IGHV6-1\*01

198 sequences assigned  
162 (81.8%) exact matches, in which:  
156 unique CDR3  
5 unique J



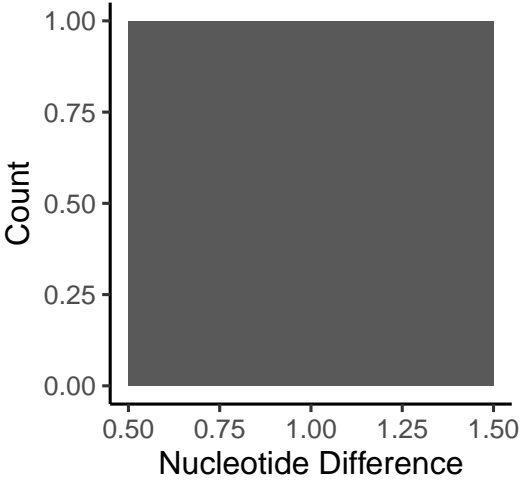
IGHV7-4-1\*01

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



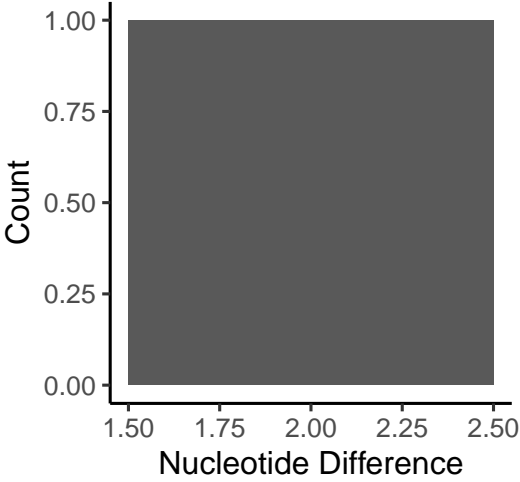
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



IGHV3/OR16-12\*01

1 sequences assigned  
No exact matches.







Warning – no inferred sequences found.