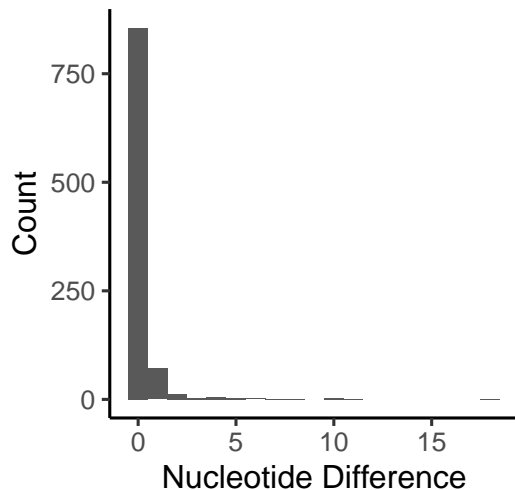


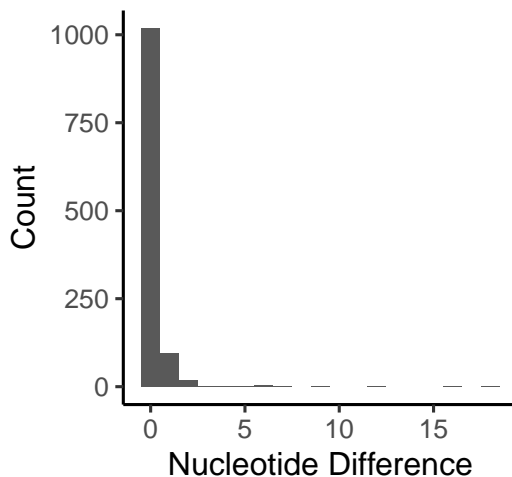
### IGHV1-2\*02

965 sequences assigned  
856 (88.7%) exact matches, in which:  
830 unique CDR3  
6 unique J



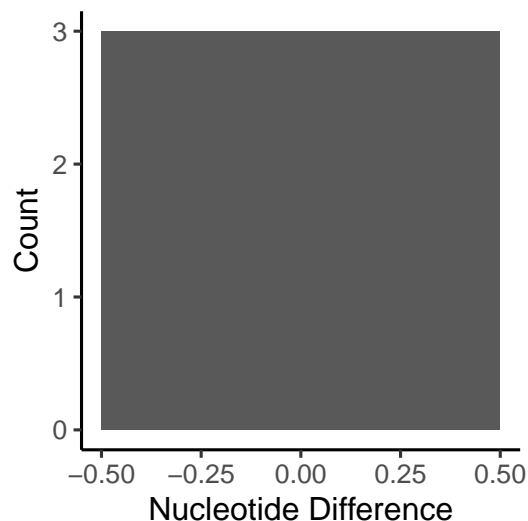
### IGHV1-8\*01

1144 sequences assigned  
1018 (89%) exact matches, in which:  
979 unique CDR3  
6 unique J



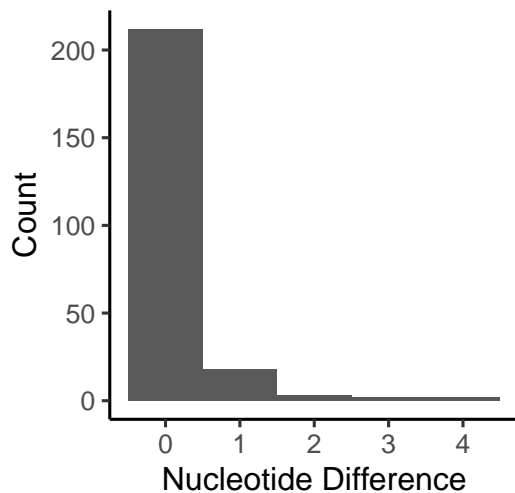
### IGHV1-45\*02

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



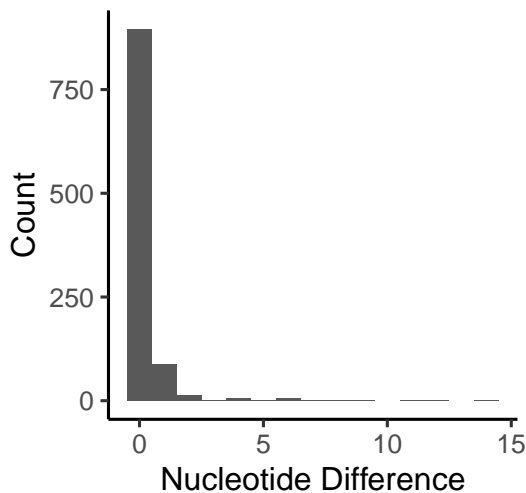
### IGHV1-2\*04

237 sequences assigned  
212 (89.5%) exact matches, in which:  
200 unique CDR3  
6 unique J



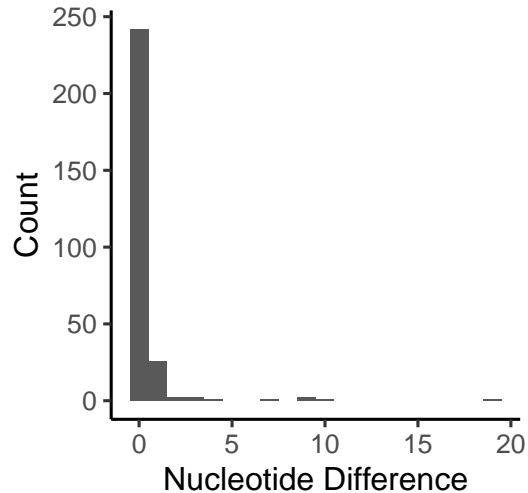
### IGHV1-18\*01

1023 sequences assigned  
896 (87.6%) exact matches, in which:  
872 unique CDR3  
6 unique J



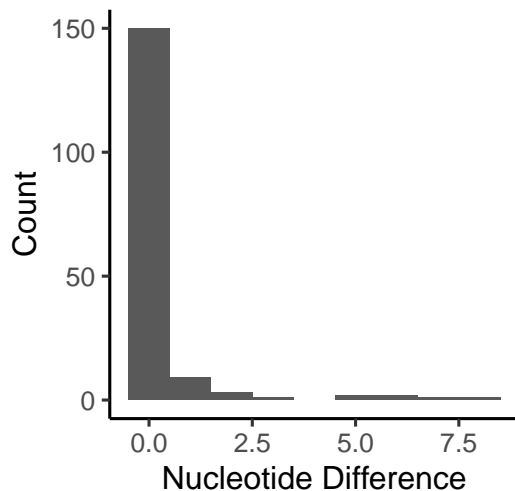
### IGHV1-46\*01

285 sequences assigned  
242 (84.9%) exact matches, in which:  
233 unique CDR3  
6 unique J



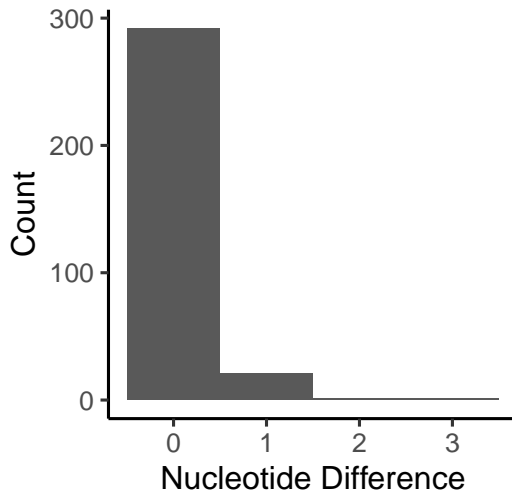
### IGHV1-3\*05

169 sequences assigned  
150 (88.8%) exact matches, in which:  
148 unique CDR3  
6 unique J



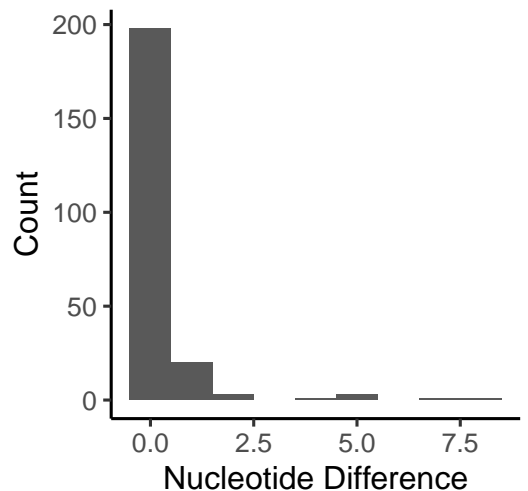
### IGHV1-24\*01

315 sequences assigned  
292 (92.7%) exact matches, in which:  
279 unique CDR3  
6 unique J



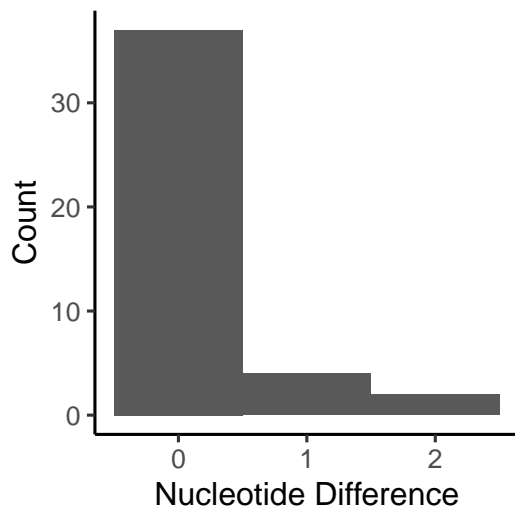
### IGHV1-46\*03

227 sequences assigned  
198 (87.2%) exact matches, in which:  
189 unique CDR3  
6 unique J



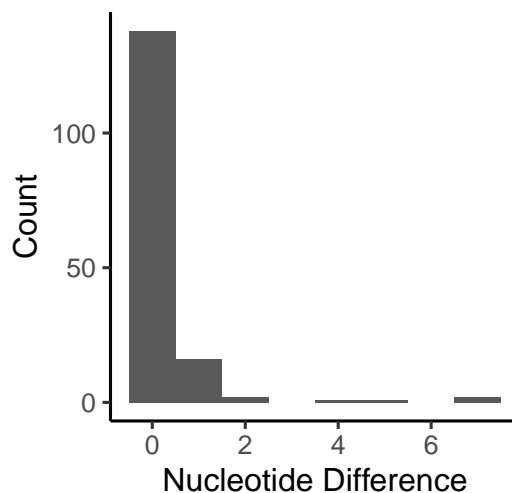
### IGHV1–58\*01

43 sequences assigned  
37 (86%) exact matches, in which:  
37 unique CDR3  
4 unique J



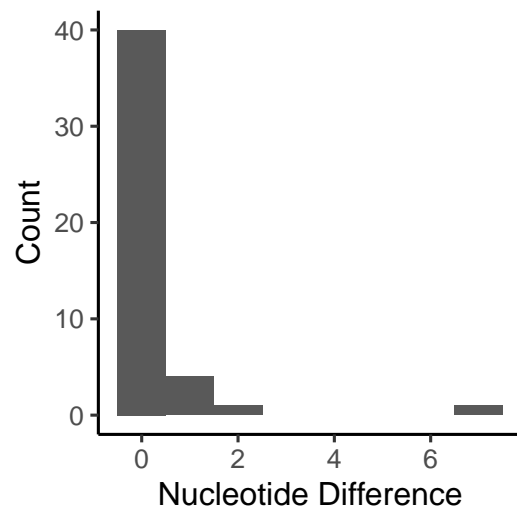
### IGHV2–5\*01

160 sequences assigned  
138 (86.2%) exact matches, in which:  
136 unique CDR3  
6 unique J



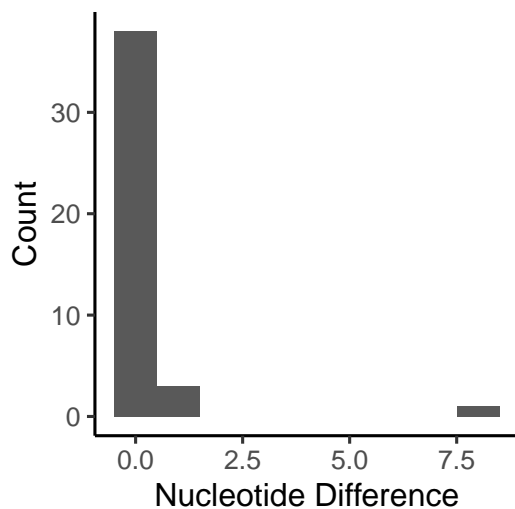
### IGHV2–70\*01

46 sequences assigned  
40 (87%) exact matches, in which:  
39 unique CDR3  
5 unique J



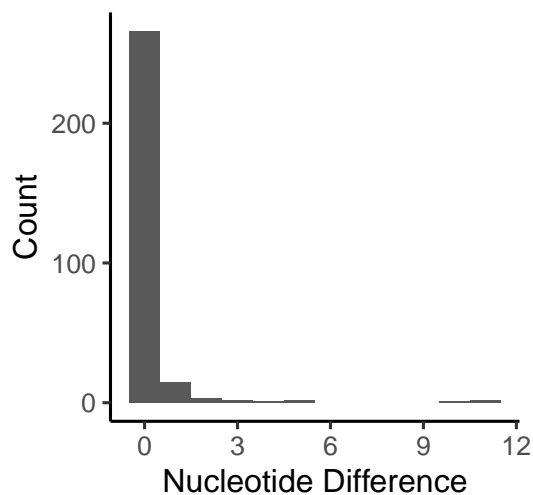
### IGHV1–58\*02

42 sequences assigned  
38 (90.5%) exact matches, in which:  
38 unique CDR3  
6 unique J



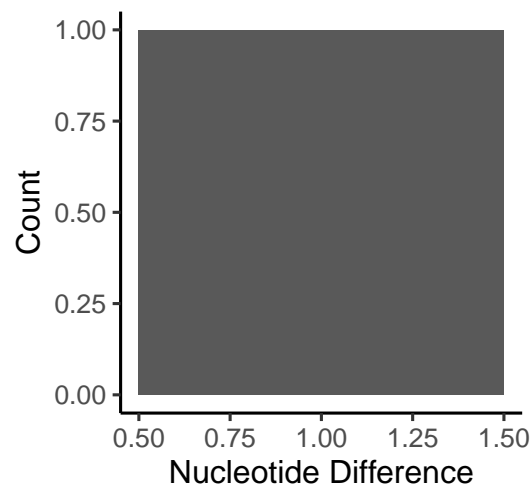
### IGHV2–5\*02

293 sequences assigned  
266 (90.8%) exact matches, in which:  
263 unique CDR3  
6 unique J



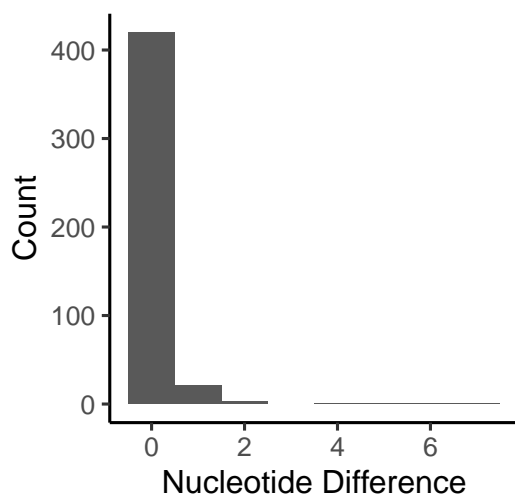
### IGHV2–70D\*04

1 sequences assigned  
No exact matches.



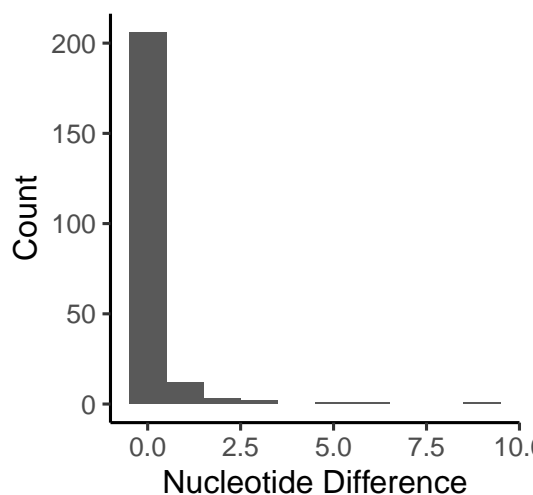
### IGHV1–69\*08\_C191T

448 sequences assigned  
420 (93.8%) exact matches, in which:  
401 unique CDR3  
6 unique J



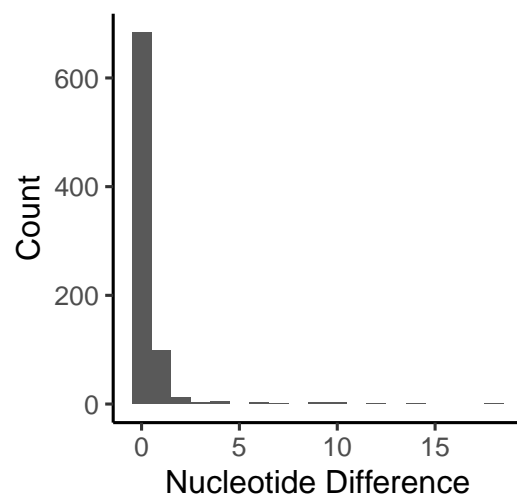
### IGHV2–26\*01

226 sequences assigned  
206 (91.2%) exact matches, in which:  
203 unique CDR3  
6 unique J



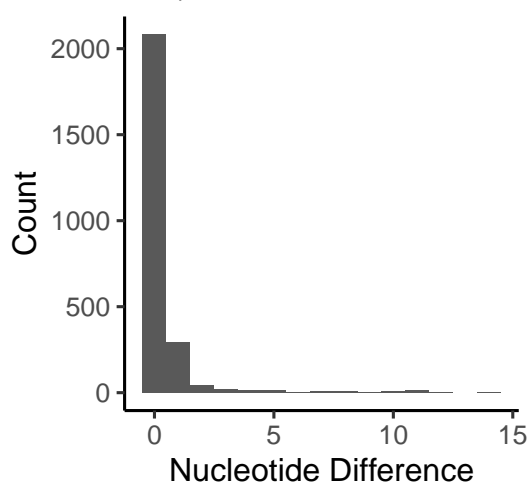
### IGHV3–7\*01

812 sequences assigned  
684 (84.2%) exact matches, in which:  
663 unique CDR3  
6 unique J



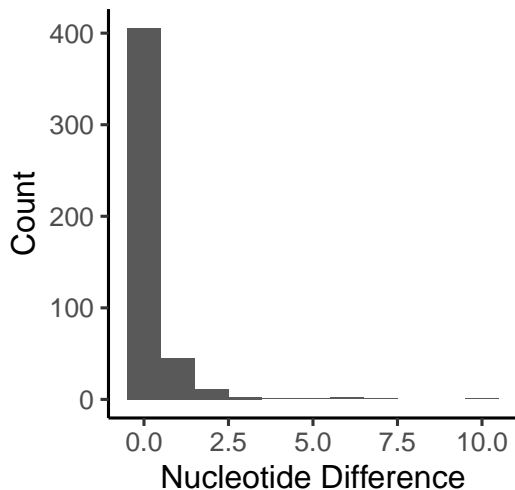
### IGHV3-9\*01

2506 sequences assigned  
2083 (83.1%) exact matches, in which:  
1973 unique CDR3  
6 unique J



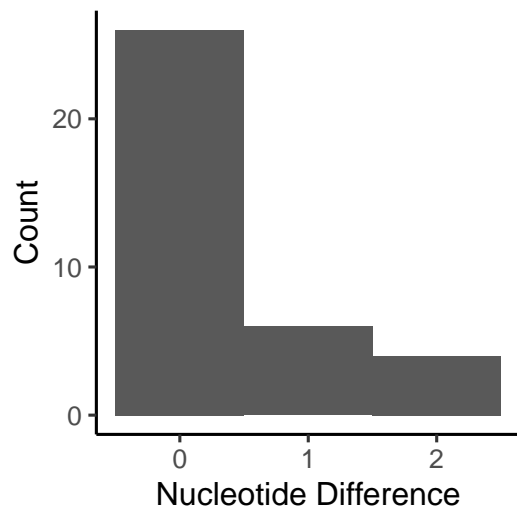
### IGHV3-15\*01

472 sequences assigned  
406 (86%) exact matches, in which:  
389 unique CDR3  
6 unique J



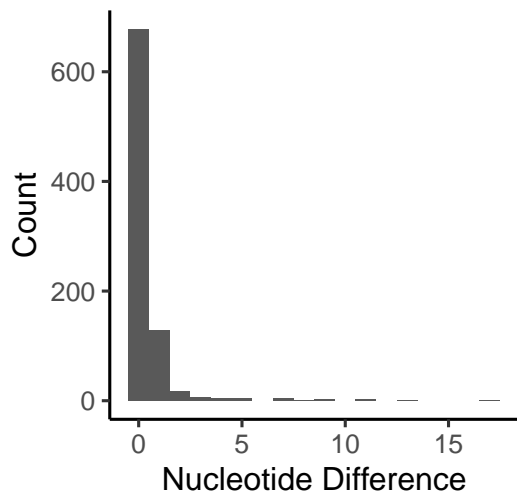
### IGHV3-20\*04

36 sequences assigned  
26 (72.2%) exact matches, in which:  
25 unique CDR3  
3 unique J



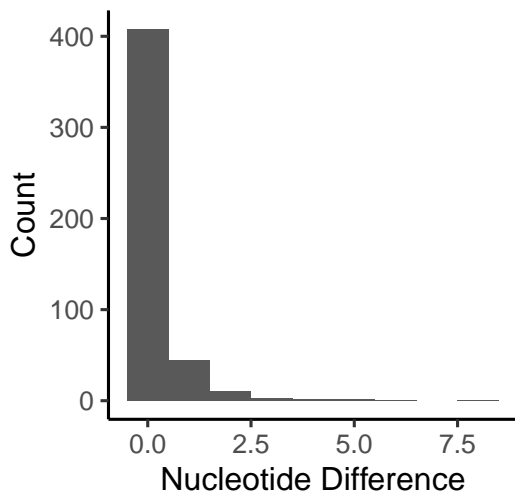
### IGHV3-11\*01

852 sequences assigned  
678 (79.6%) exact matches, in which:  
648 unique CDR3  
6 unique J



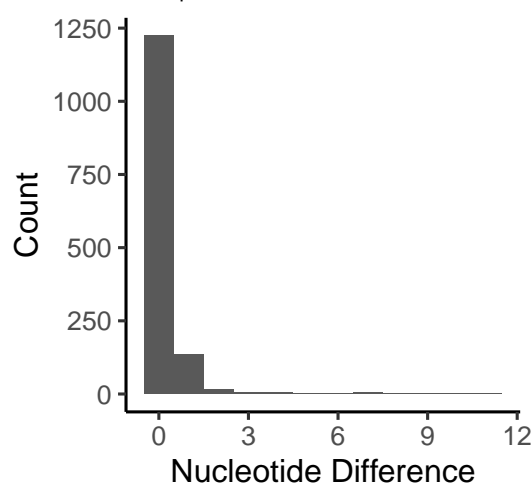
### IGHV3-15\*07

471 sequences assigned  
408 (86.6%) exact matches, in which:  
394 unique CDR3  
6 unique J



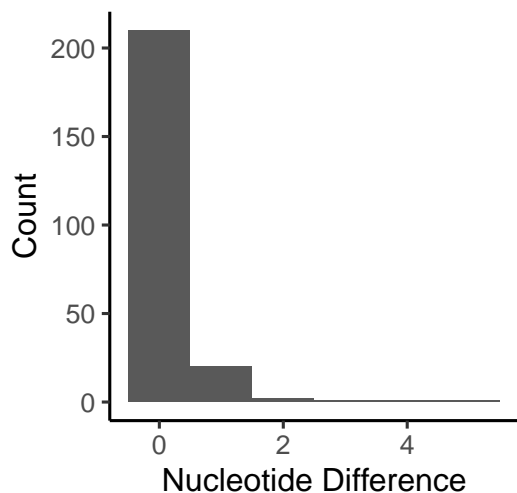
### IGHV3-21\*01

1401 sequences assigned  
1224 (87.4%) exact matches, in which:  
1152 unique CDR3  
6 unique J



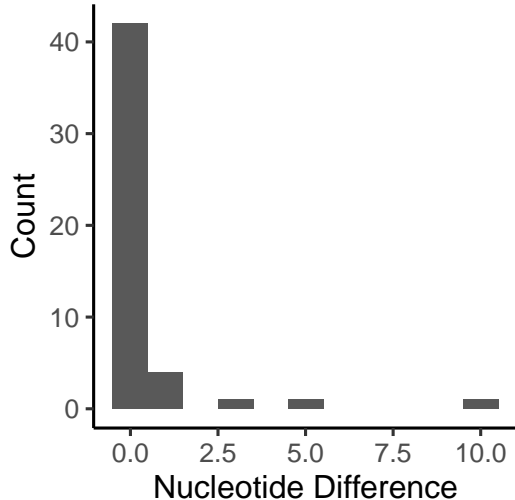
### IGHV3-13\*01

239 sequences assigned  
210 (87.9%) exact matches, in which:  
197 unique CDR3  
6 unique J



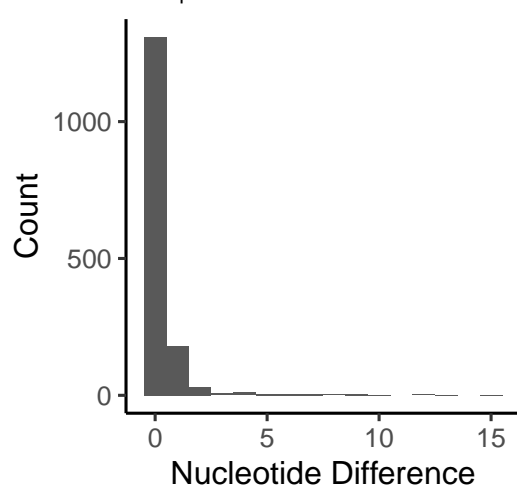
### IGHV3-20\*01

49 sequences assigned  
42 (85.7%) exact matches, in which:  
39 unique CDR3  
5 unique J



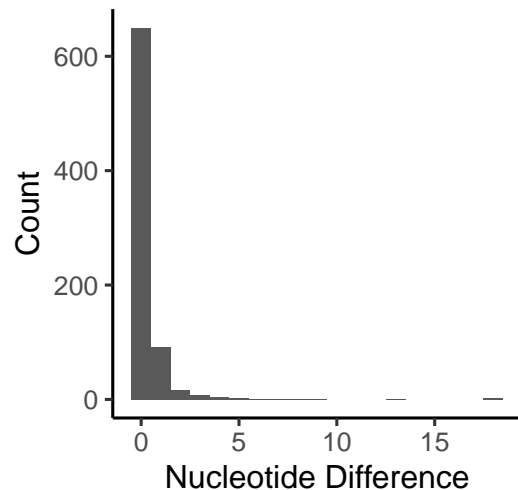
### IGHV3-30-3\*01

1562 sequences assigned  
1309 (83.8%) exact matches, in which:  
1229 unique CDR3  
6 unique J



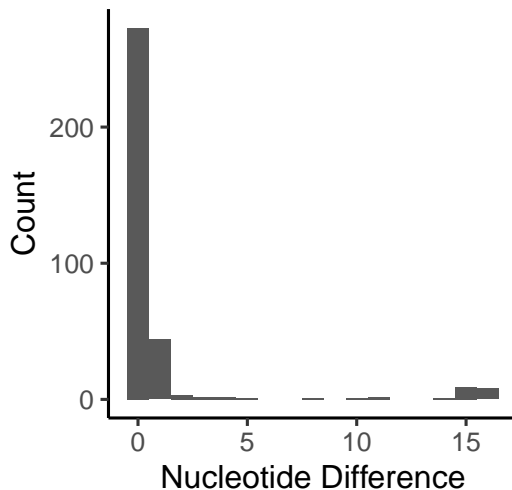
### IGHV3–33\*01

779 sequences assigned  
650 (83.4%) exact matches, in which:  
613 unique CDR3  
6 unique J



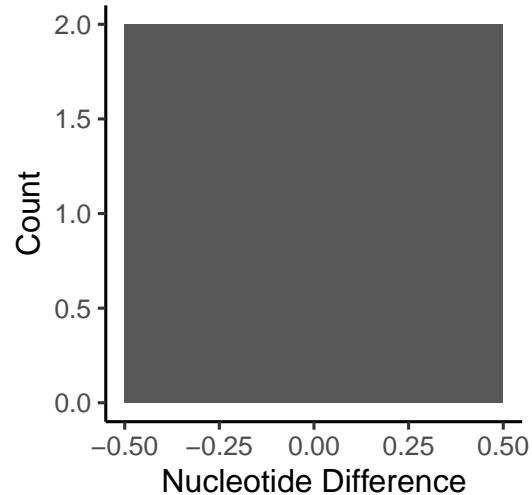
### IGHV3–48\*01

347 sequences assigned  
273 (78.7%) exact matches, in which:  
267 unique CDR3  
6 unique J



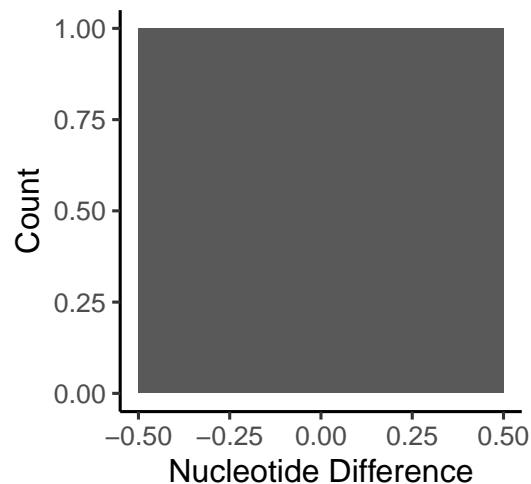
### IGHV3–52\*01

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



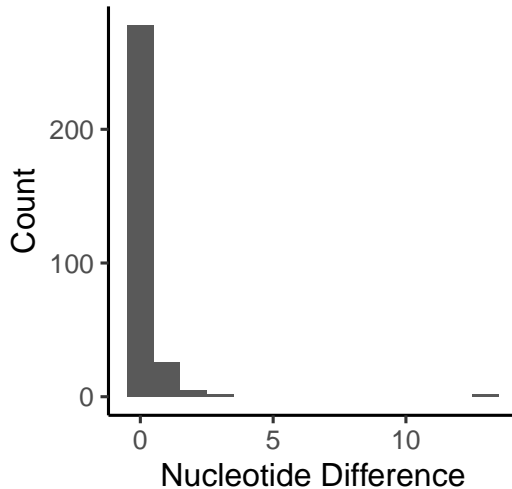
### IGHV3–38–3\*01

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



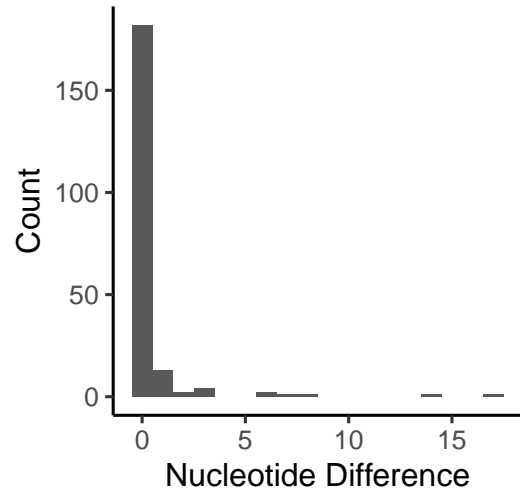
### IGHV3–48\*04

313 sequences assigned  
278 (88.8%) exact matches, in which:  
263 unique CDR3  
6 unique J



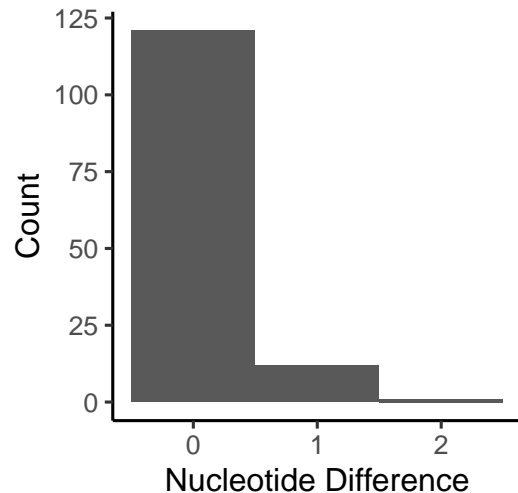
### IGHV3–53\*01

208 sequences assigned  
182 (87.5%) exact matches, in which:  
176 unique CDR3  
6 unique J



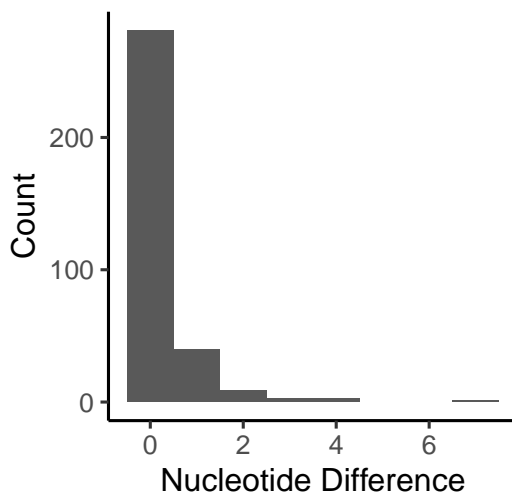
### IGHV3–43\*01

134 sequences assigned  
121 (90.3%) exact matches, in which:  
115 unique CDR3  
6 unique J



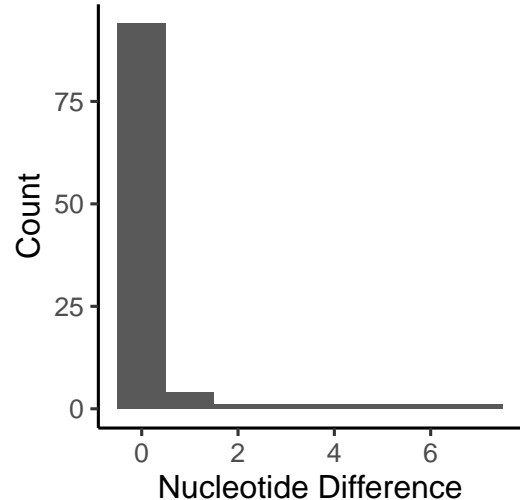
### IGHV3–49\*03

337 sequences assigned  
281 (83.4%) exact matches, in which:  
267 unique CDR3  
6 unique J



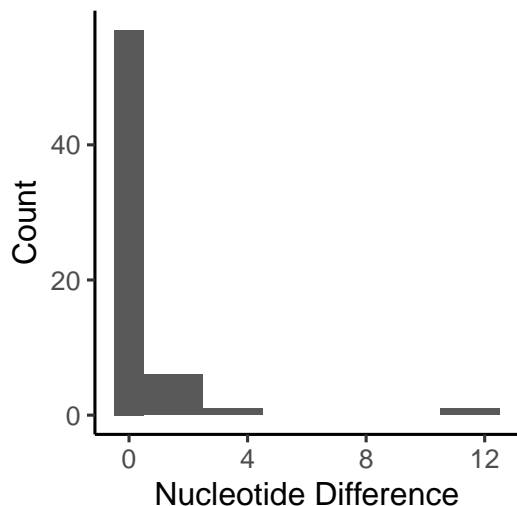
### IGHV3–53\*02

104 sequences assigned  
94 (90.4%) exact matches, in which:  
91 unique CDR3  
6 unique J



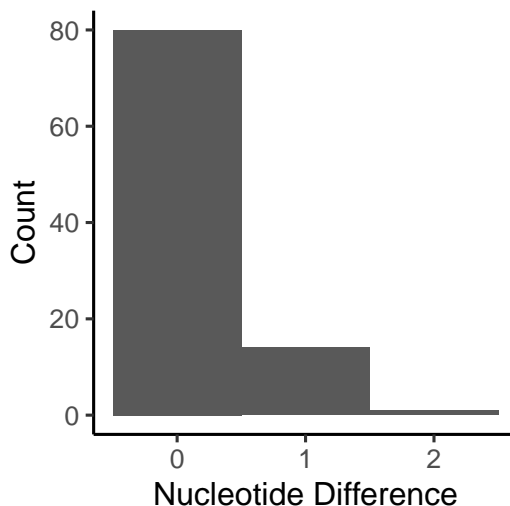
### IGHV3-64\*01

73 sequences assigned  
57 (78.1%) exact matches, in which:  
52 unique CDR3  
5 unique J



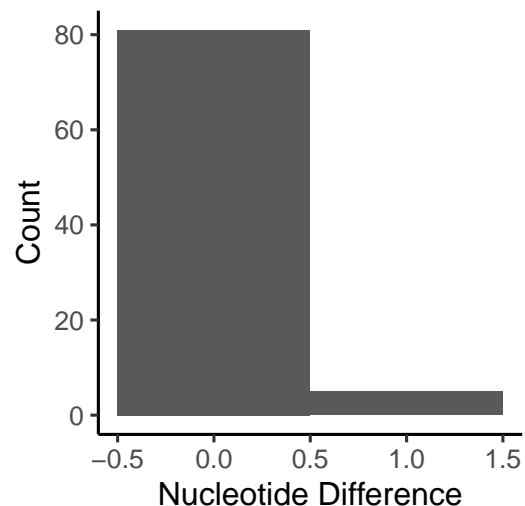
### IGHV3-73\*01

95 sequences assigned  
80 (84.2%) exact matches, in which:  
78 unique CDR3  
5 unique J



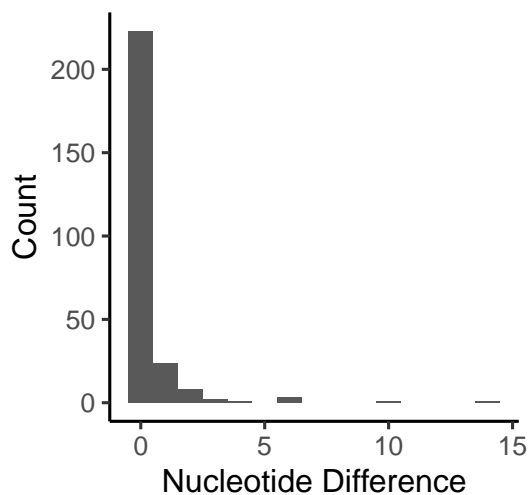
### IGHV3-43D\*03

86 sequences assigned  
81 (94.2%) exact matches, in which:  
78 unique CDR3  
5 unique J



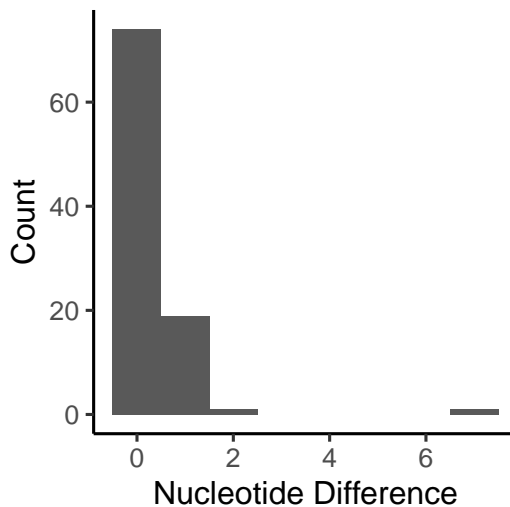
### IGHV3-66\*02

263 sequences assigned  
223 (84.8%) exact matches, in which:  
214 unique CDR3  
6 unique J



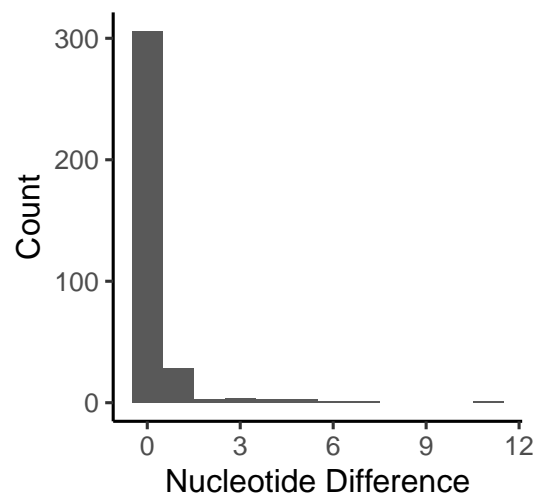
### IGHV3-73\*02

95 sequences assigned  
74 (77.9%) exact matches, in which:  
72 unique CDR3  
4 unique J



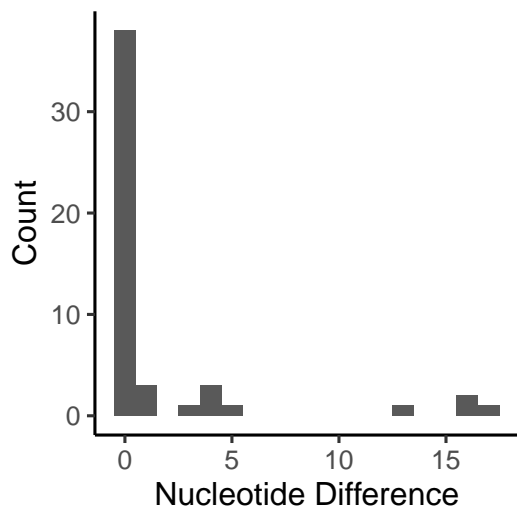
### IGHV4-4\*02

350 sequences assigned  
306 (87.4%) exact matches, in which:  
298 unique CDR3  
6 unique J



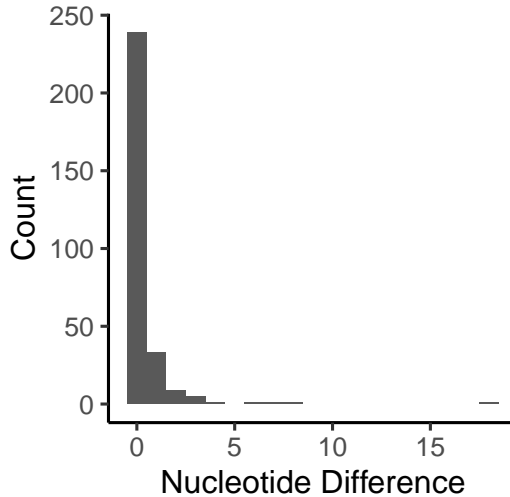
### IGHV3-72\*01

50 sequences assigned  
38 (76%) exact matches, in which:  
38 unique CDR3  
4 unique J



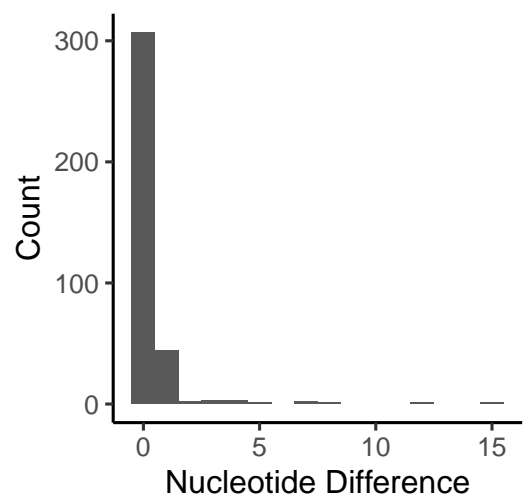
### IGHV3-74\*01

291 sequences assigned  
239 (82.1%) exact matches, in which:  
225 unique CDR3  
6 unique J



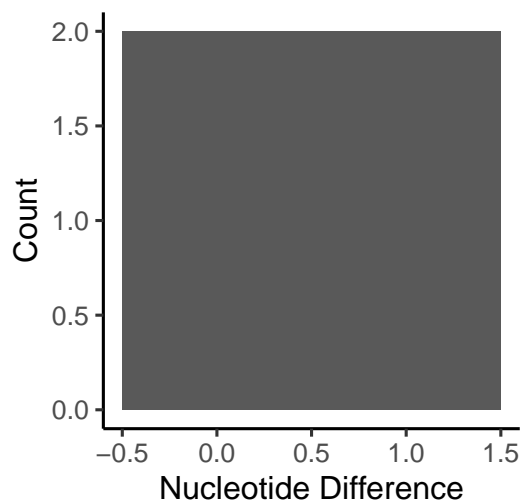
### IGHV4-4\*07

365 sequences assigned  
307 (84.1%) exact matches, in which:  
299 unique CDR3  
6 unique J



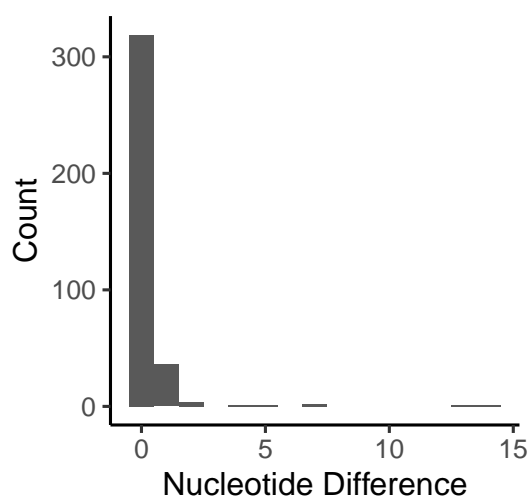
### IGHV4-28\*01

4 sequences assigned  
2 (50%) exact matches, in which:  
2 unique CDR3  
1 unique J



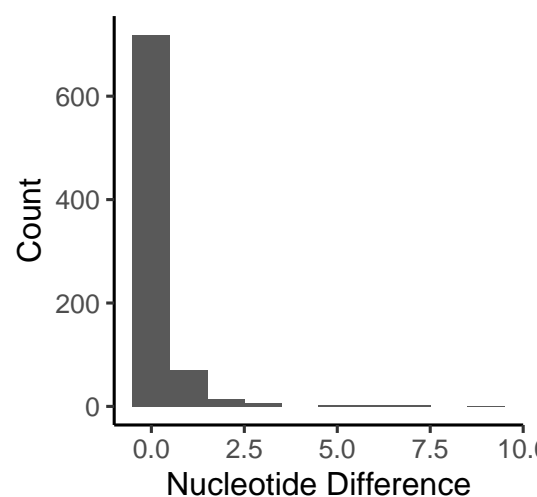
### IGHV4-30-2\*01

365 sequences assigned  
319 (87.4%) exact matches, in which:  
314 unique CDR3  
6 unique J



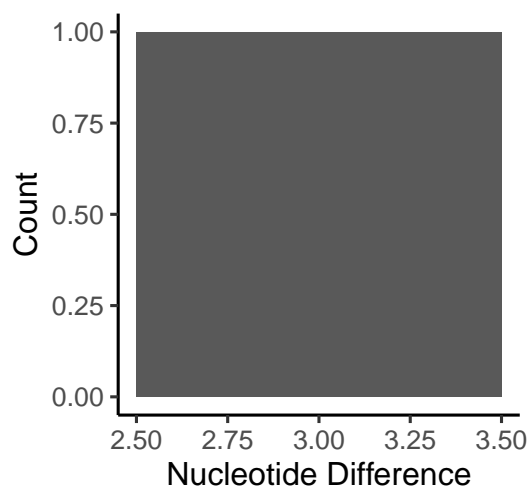
### IGHV4-34\*01

817 sequences assigned  
719 (88%) exact matches, in which:  
696 unique CDR3  
6 unique J



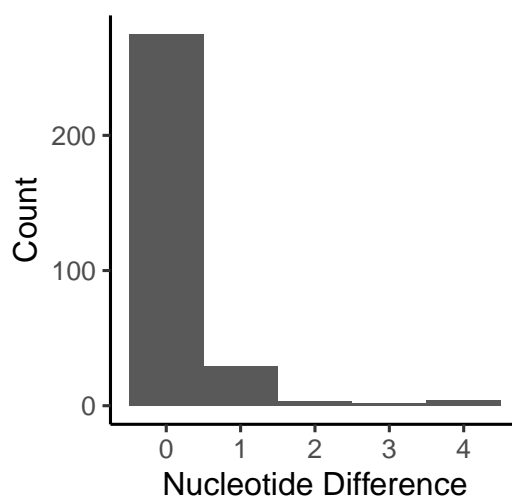
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



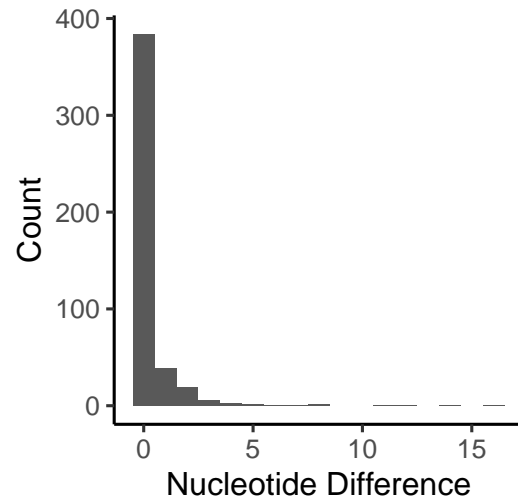
### IGHV4-30-4\*01

313 sequences assigned  
275 (87.9%) exact matches, in which:  
271 unique CDR3  
6 unique J



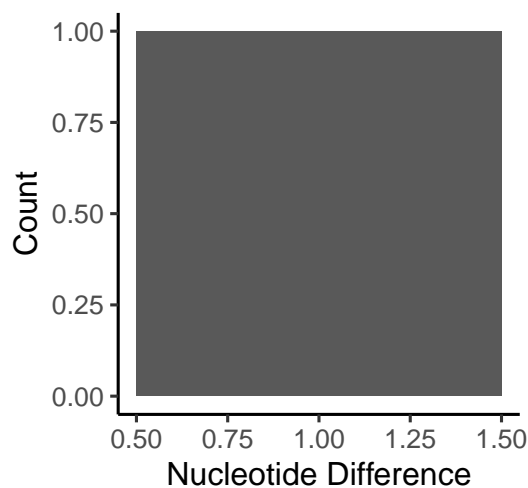
### IGHV4-38-2\*02

470 sequences assigned  
384 (81.7%) exact matches, in which:  
371 unique CDR3  
6 unique J



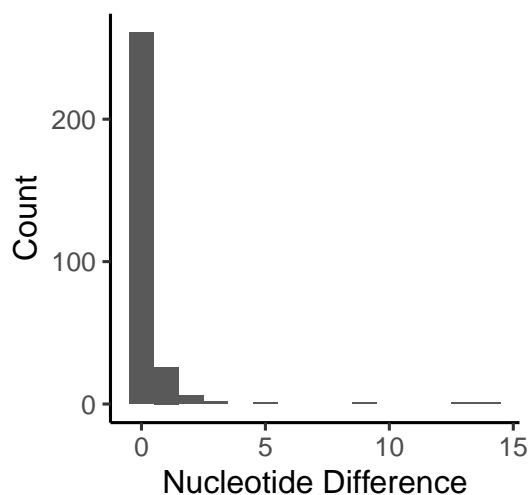
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



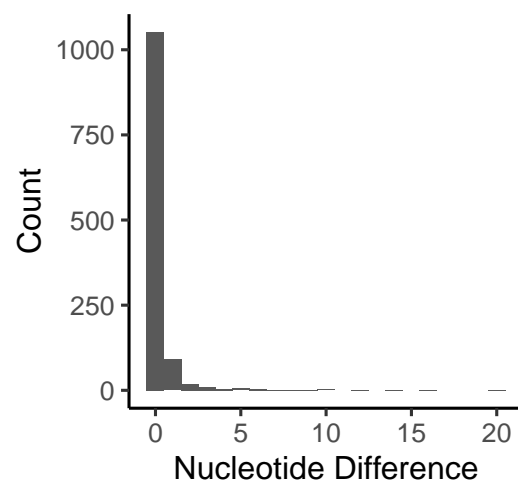
### IGHV4-31\*03

299 sequences assigned  
261 (87.3%) exact matches, in which:  
252 unique CDR3  
6 unique J



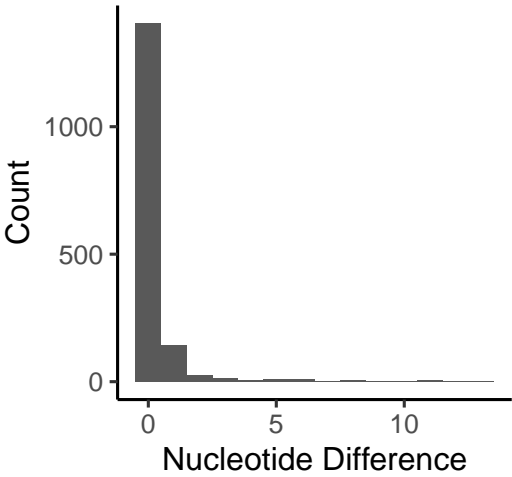
### IGHV4-39\*01

1192 sequences assigned  
1052 (88.3%) exact matches, in which:  
992 unique CDR3  
6 unique J



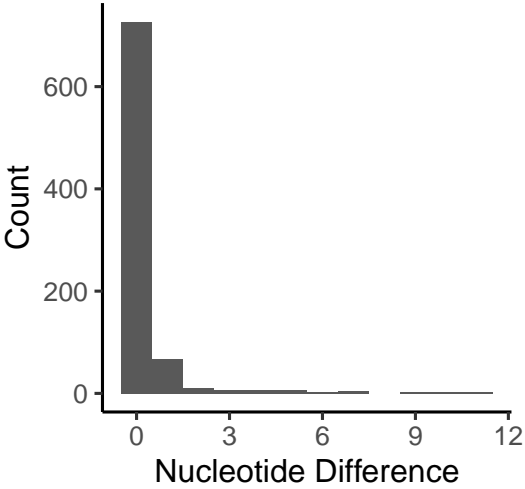
IGHV4-39\*07

1633 sequences assigned  
1405 (86%) exact matches, in which:  
1348 unique CDR3  
6 unique J



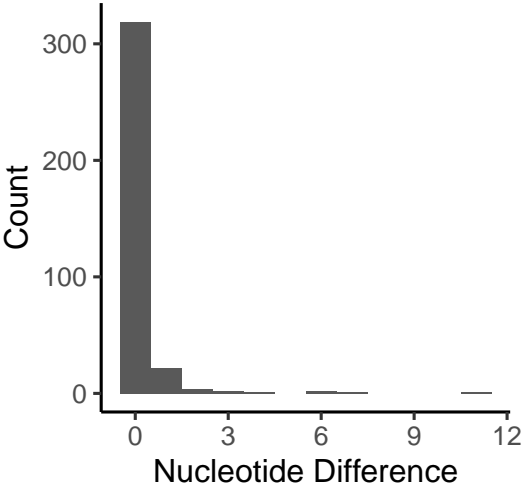
IGHV4-61\*02

839 sequences assigned  
727 (86.7%) exact matches, in which:  
700 unique CDR3  
6 unique J



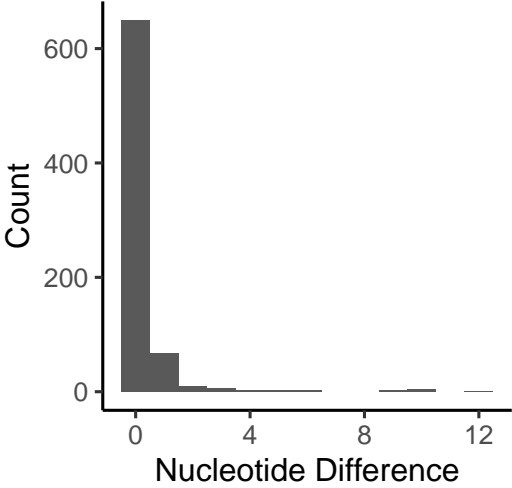
IGHV5-51\*03

352 sequences assigned  
319 (90.6%) exact matches, in which:  
308 unique CDR3  
6 unique J



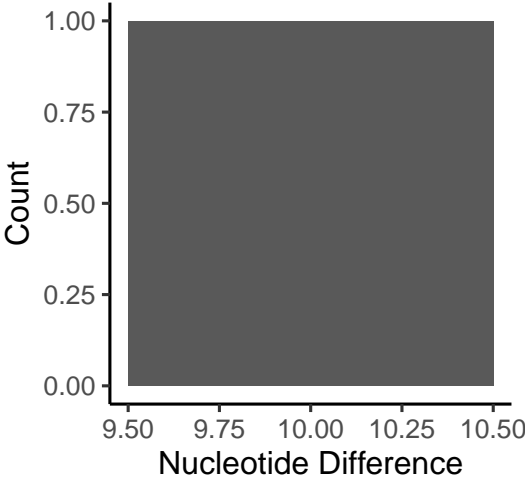
IGHV4-59\*01

748 sequences assigned  
650 (86.9%) exact matches, in which:  
641 unique CDR3  
6 unique J



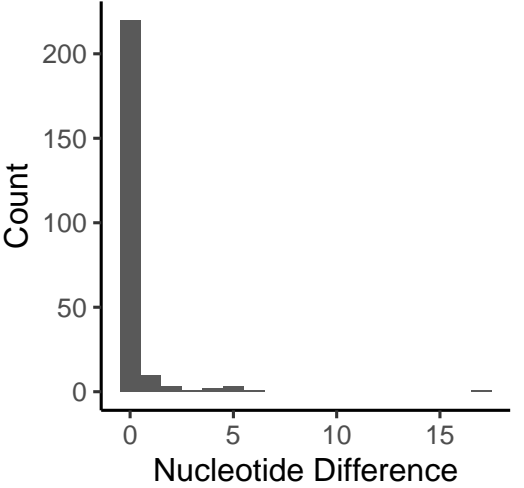
IGHV1/OR15-4\*01

1 sequences assigned  
No exact matches.



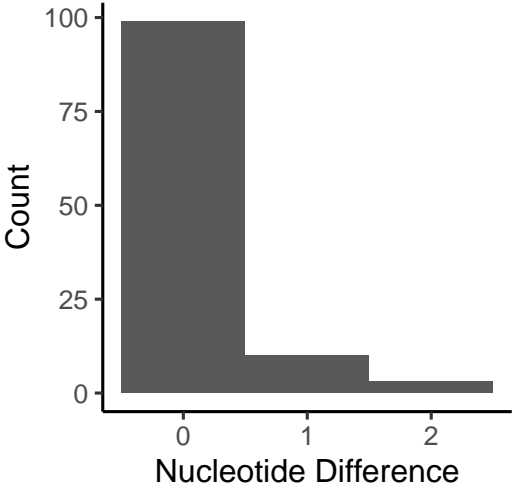
IGHV6-1\*01

241 sequences assigned  
220 (91.3%) exact matches, in which:  
211 unique CDR3  
6 unique J



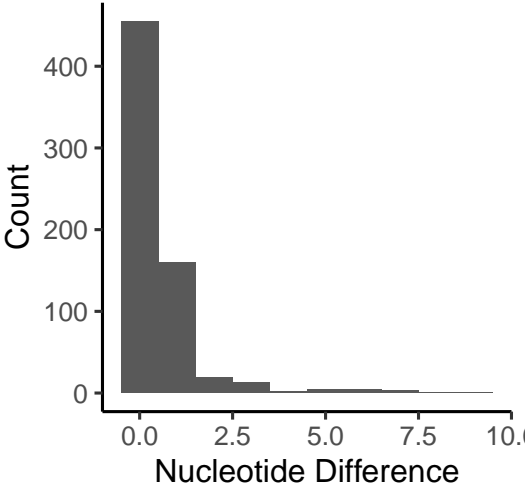
IGHV4-61\*01

112 sequences assigned  
99 (88.4%) exact matches, in which:  
99 unique CDR3  
6 unique J



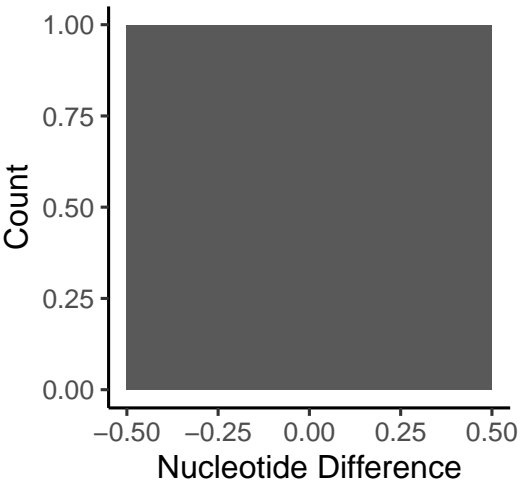
IGHV5-51\*01

662 sequences assigned  
455 (68.7%) exact matches, in which:  
441 unique CDR3  
6 unique J



IGHV3/OR16-12\*01

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







Warning – no inferred sequences found.