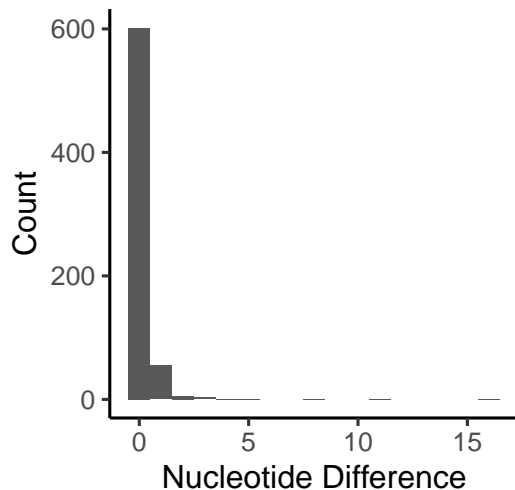


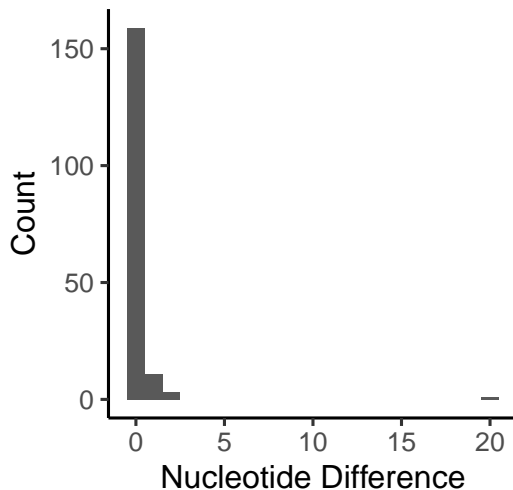
### IGHV1-2\*04

671 sequences assigned  
602 (89.7%) exact matches, in which:  
582 unique CDR3  
6 unique J



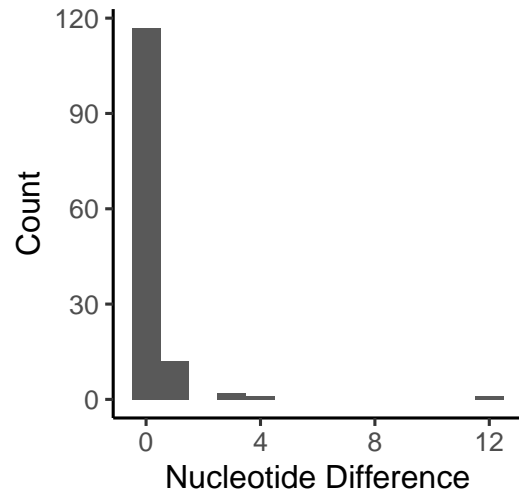
### IGHV1-24\*01

174 sequences assigned  
159 (91.4%) exact matches, in which:  
154 unique CDR3  
6 unique J



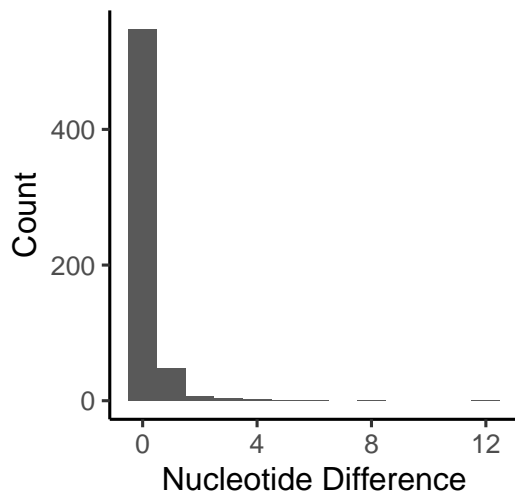
### IGHV1-58\*02

133 sequences assigned  
117 (88%) exact matches, in which:  
115 unique CDR3  
6 unique J



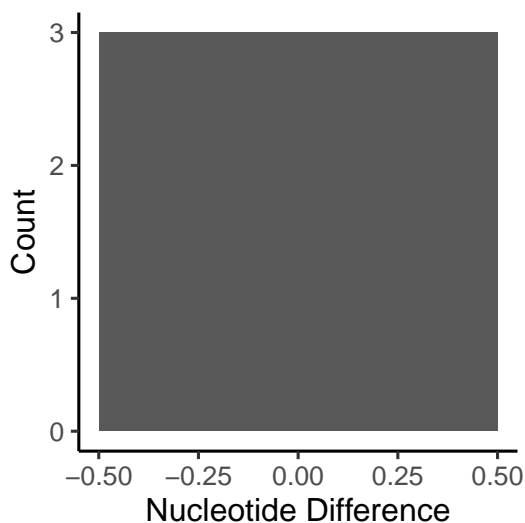
### IGHV1-3\*01

613 sequences assigned  
548 (89.4%) exact matches, in which:  
543 unique CDR3  
6 unique J



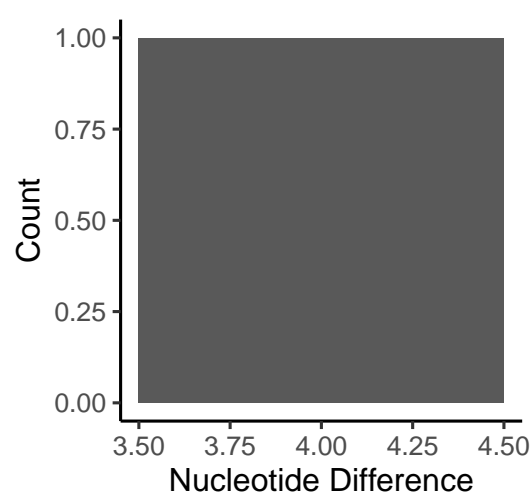
### IGHV1-45\*02

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



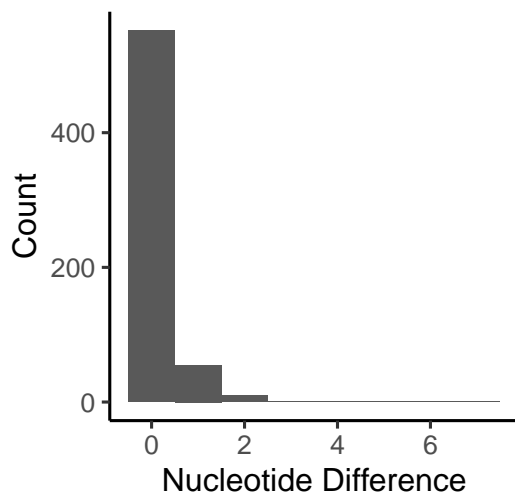
### IGHV1-68\*02

1 sequences assigned  
No exact matches.



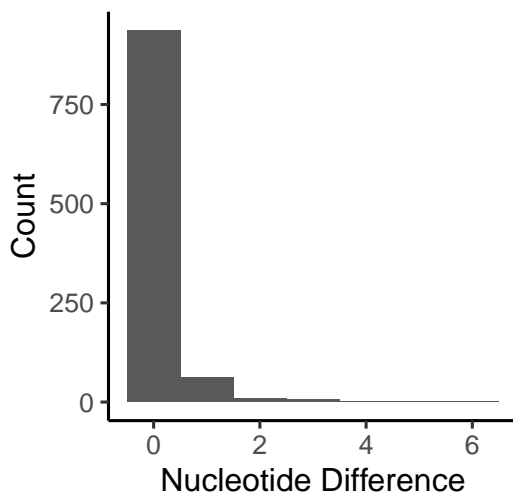
### IGHV1-18\*01

623 sequences assigned  
552 (88.6%) exact matches, in which:  
545 unique CDR3  
6 unique J



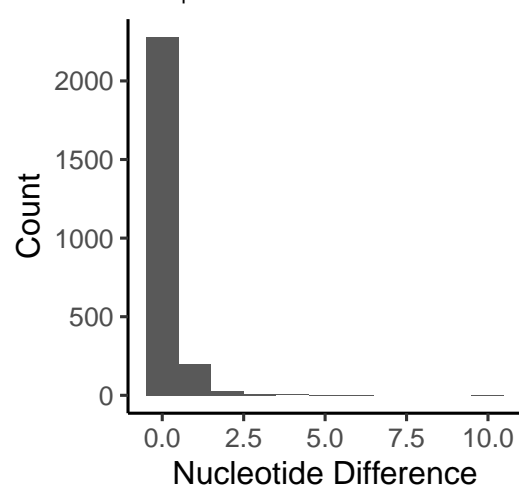
### IGHV1-46\*01

1022 sequences assigned  
937 (91.7%) exact matches, in which:  
915 unique CDR3  
6 unique J



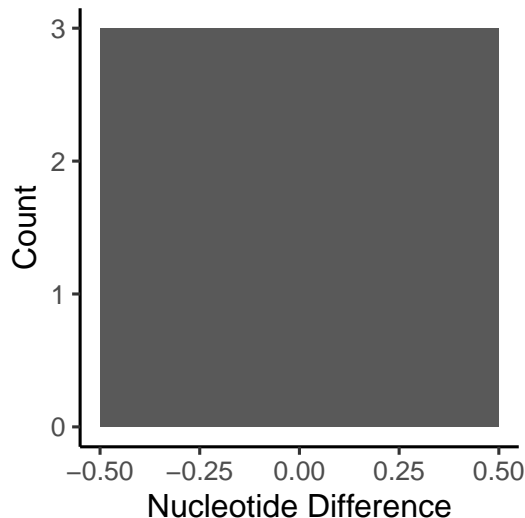
### IGHV1-69\*04

2525 sequences assigned  
2279 (90.3%) exact matches, in which:  
2208 unique CDR3  
6 unique J



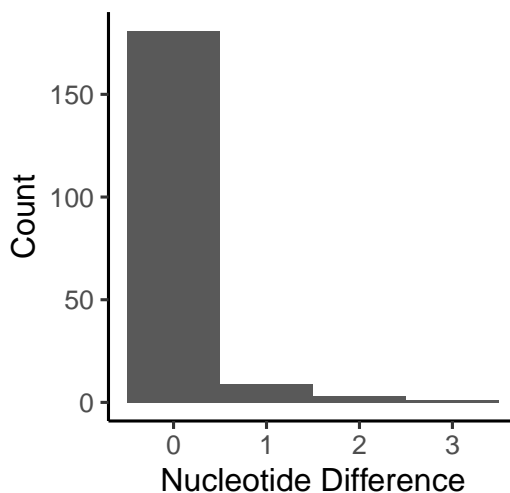
### IGHV1–69D\*01

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



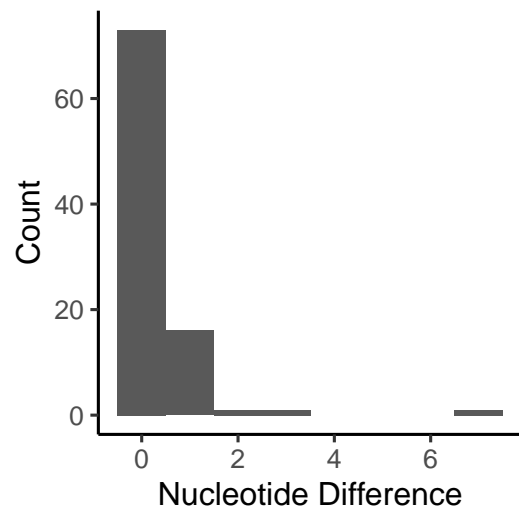
### IGHV2–70\*15

194 sequences assigned  
181 (93.3%) exact matches, in which:  
181 unique CDR3  
5 unique J



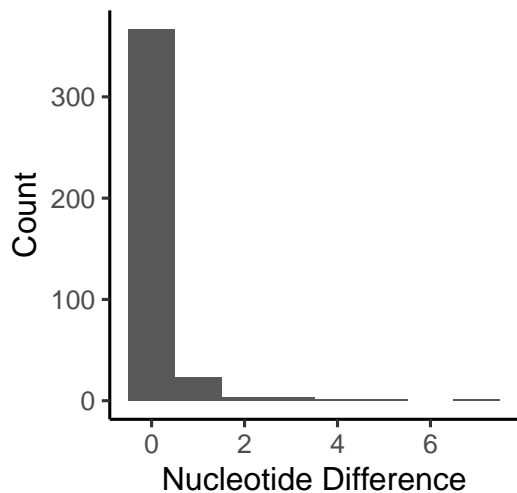
### IGHV3–11\*06

92 sequences assigned  
73 (79.3%) exact matches, in which:  
73 unique CDR3  
6 unique J



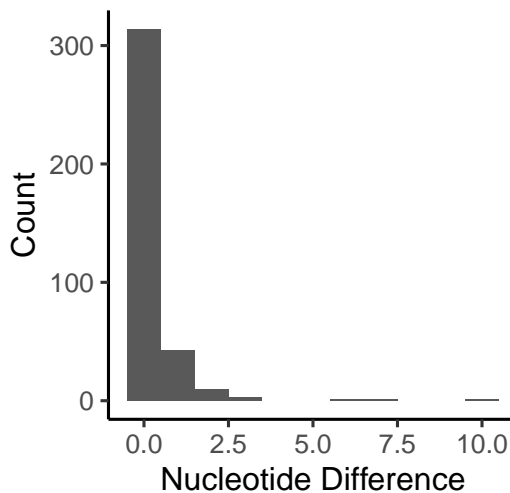
### IGHV2–5\*02

399 sequences assigned  
367 (92%) exact matches, in which:  
362 unique CDR3  
6 unique J



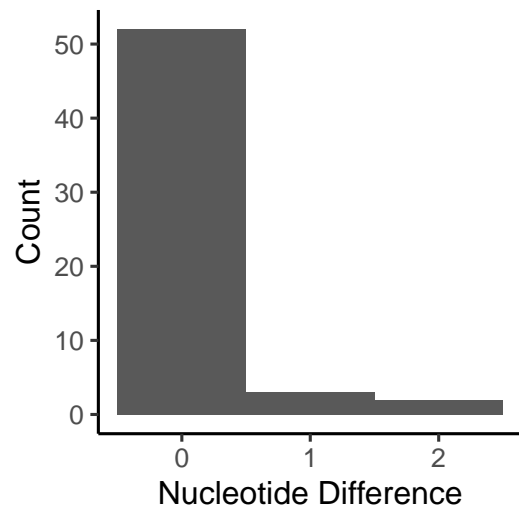
### IGHV3–7\*03

374 sequences assigned  
314 (84%) exact matches, in which:  
308 unique CDR3  
6 unique J



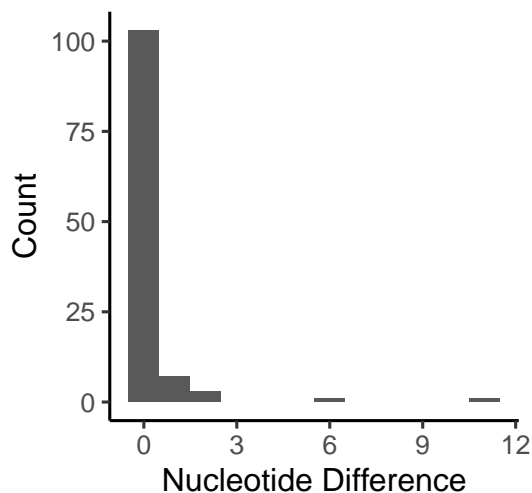
### IGHV3–13\*01\_G290A\_T30

57 sequences assigned  
52 (91.2%) exact matches, in which:  
50 unique CDR3  
5 unique J



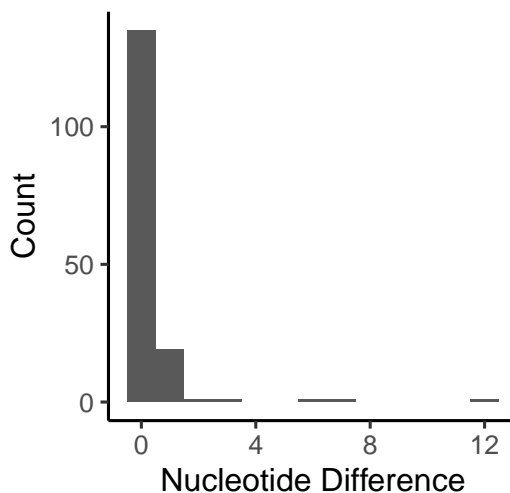
### IGHV2–26\*01

115 sequences assigned  
103 (89.6%) exact matches, in which:  
103 unique CDR3  
6 unique J



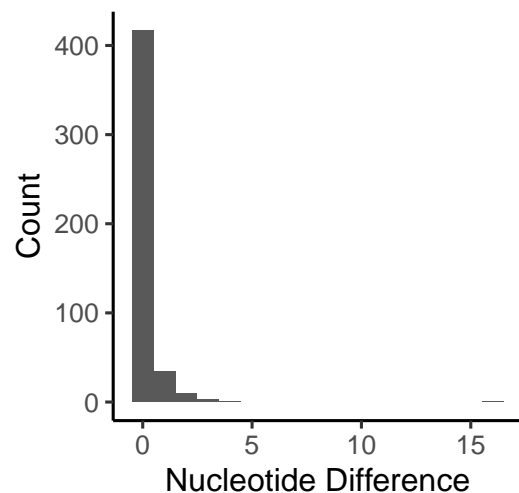
### IGHV3–7\*04

159 sequences assigned  
135 (84.9%) exact matches, in which:  
130 unique CDR3  
6 unique J



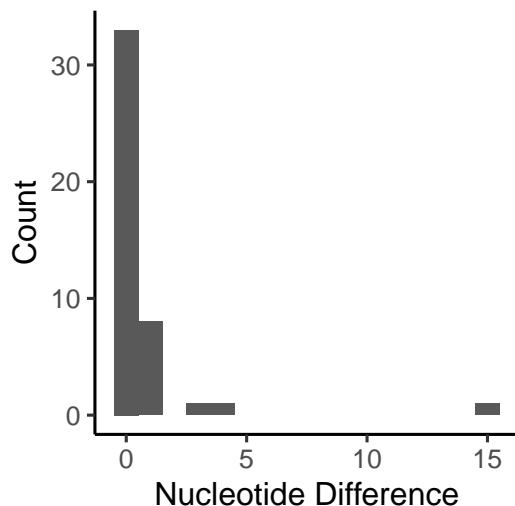
### IGHV3–15\*07

466 sequences assigned  
417 (89.5%) exact matches, in which:  
403 unique CDR3  
6 unique J



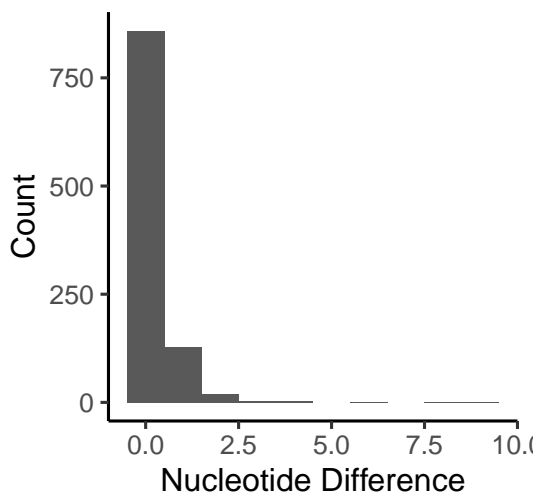
### IGHV3-20\*04

44 sequences assigned  
33 (75%) exact matches, in which:  
32 unique CDR3  
5 unique J



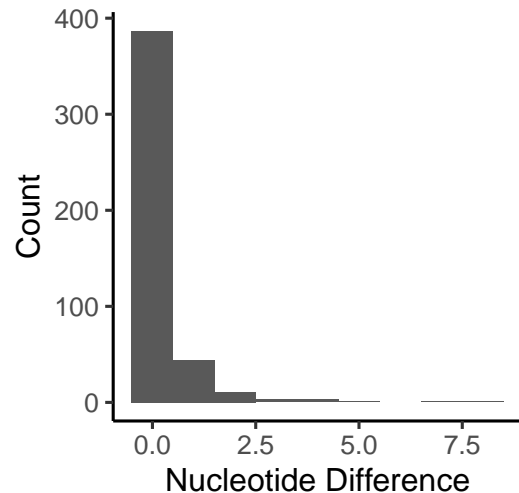
### IGHV3-33\*01

1018 sequences assigned  
859 (84.4%) exact matches, in which:  
835 unique CDR3  
6 unique J



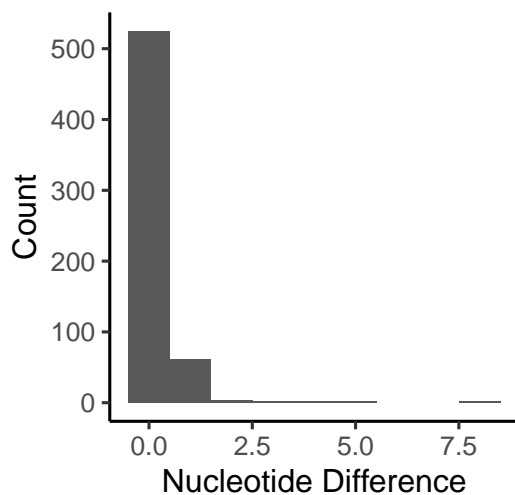
### IGHV3-43\*02

452 sequences assigned  
387 (85.6%) exact matches, in which:  
373 unique CDR3  
6 unique J



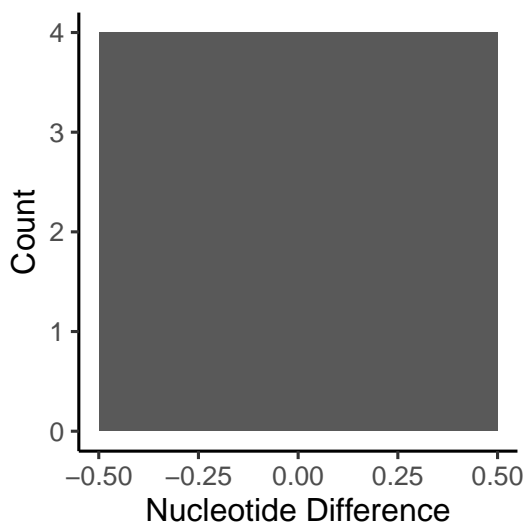
### IGHV3-21\*01

598 sequences assigned  
525 (87.8%) exact matches, in which:  
505 unique CDR3  
6 unique J



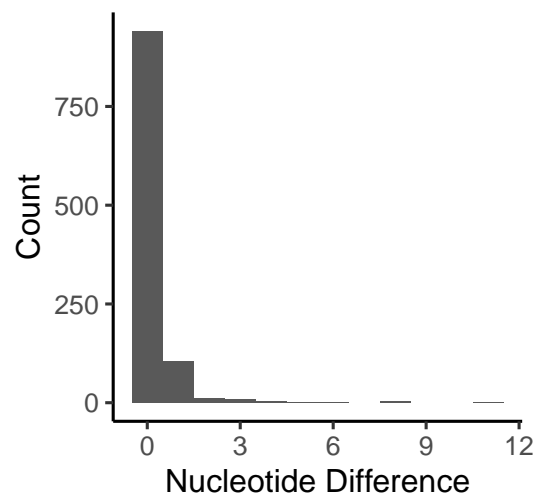
### IGHV3-38-3\*01

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



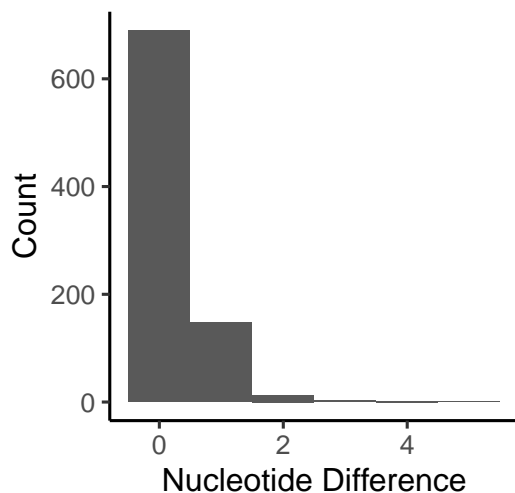
### IGHV3-48\*03

1075 sequences assigned  
941 (87.5%) exact matches, in which:  
912 unique CDR3  
6 unique J



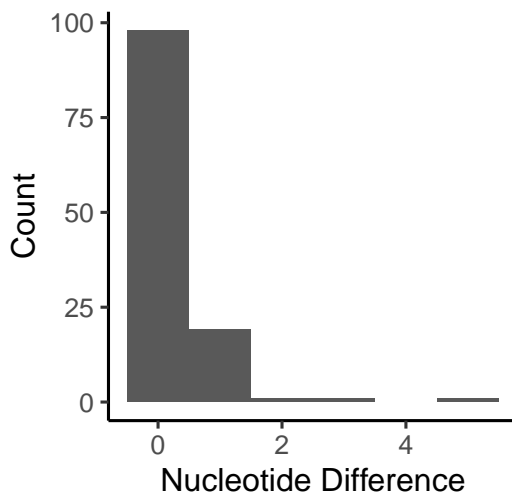
### IGHV3-30-3\*01

858 sequences assigned  
690 (80.4%) exact matches, in which:  
665 unique CDR3  
6 unique J



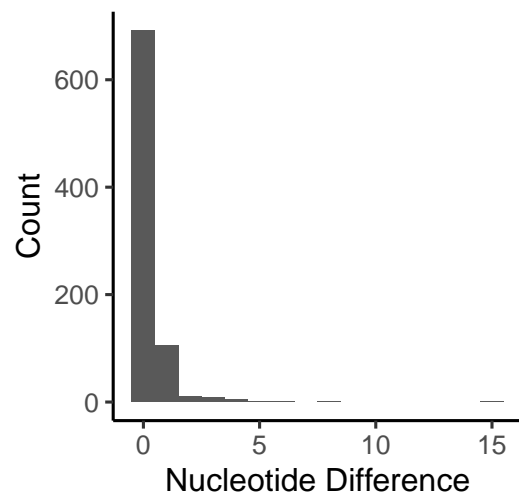
### IGHV3-43\*01

120 sequences assigned  
98 (81.7%) exact matches, in which:  
94 unique CDR3  
6 unique J



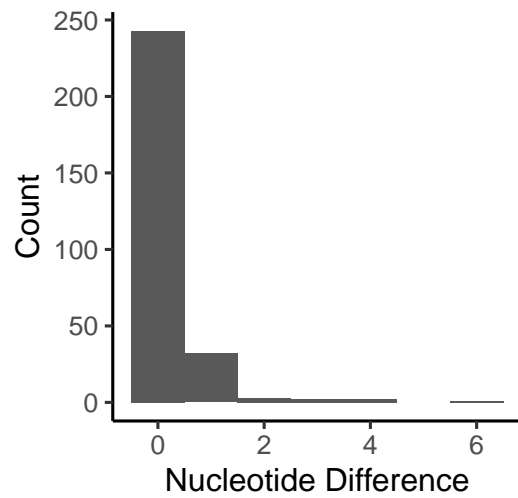
### IGHV3-48\*04

823 sequences assigned  
692 (84.1%) exact matches, in which:  
675 unique CDR3  
6 unique J



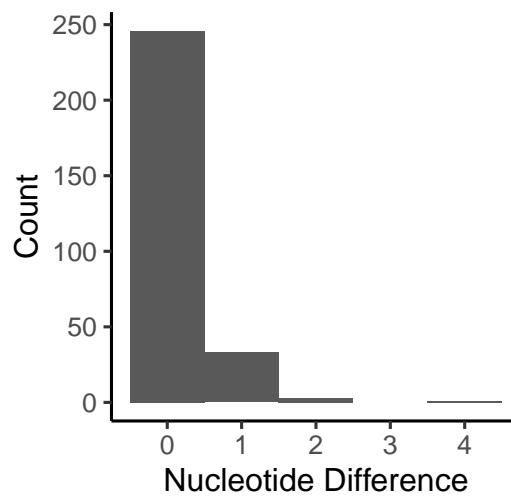
### IGHV3-49\*03

283 sequences assigned  
243 (85.9%) exact matches, in which:  
238 unique CDR3  
6 unique J



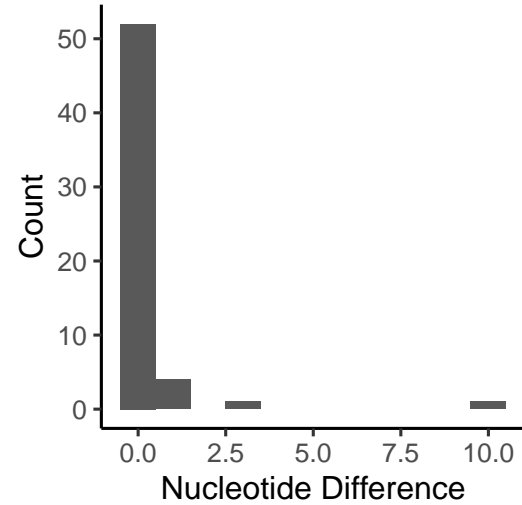
### IGHV3-64\*01

284 sequences assigned  
246 (86.6%) exact matches, in which:  
235 unique CDR3  
6 unique J



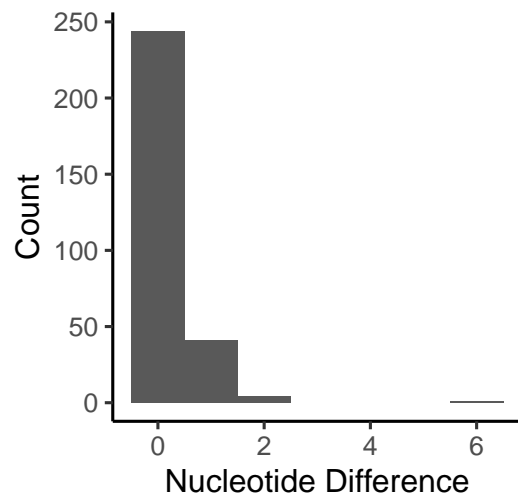
### IGHV3-72\*01

59 sequences assigned  
52 (88.1%) exact matches, in which:  
50 unique CDR3  
5 unique J



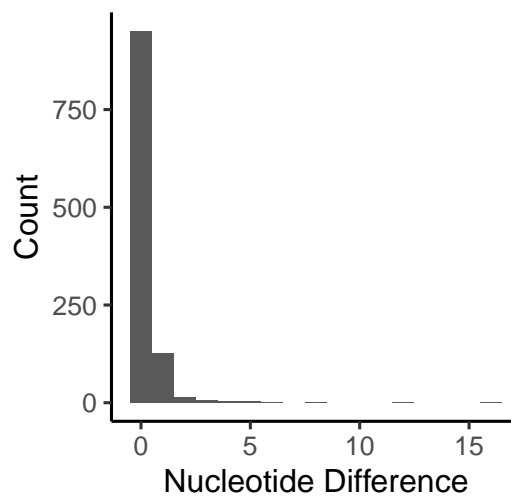
### IGHV3-49\*04

290 sequences assigned  
244 (84.1%) exact matches, in which:  
239 unique CDR3  
6 unique J



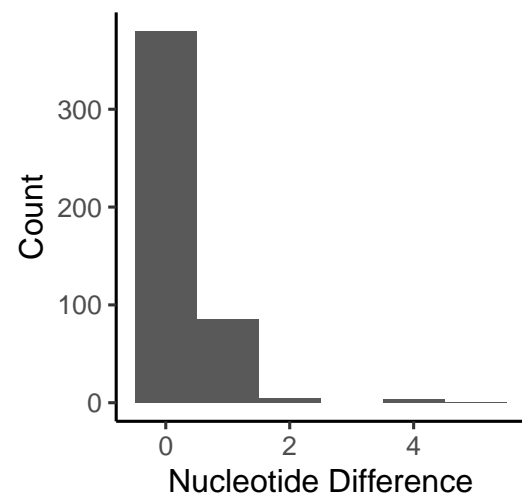
### IGHV3-66\*01

1114 sequences assigned  
951 (85.4%) exact matches, in which:  
904 unique CDR3  
6 unique J



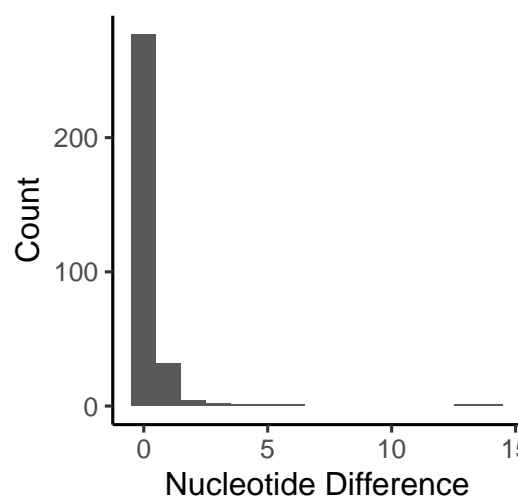
### IGHV3-73\*01

475 sequences assigned  
380 (80%) exact matches, in which:  
356 unique CDR3  
6 unique J



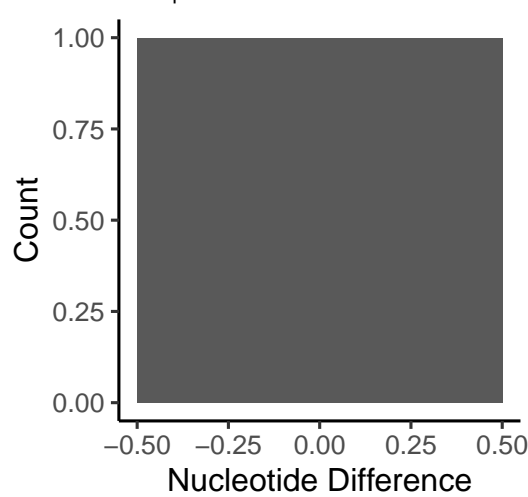
### IGHV3-53\*04

320 sequences assigned  
277 (86.6%) exact matches, in which:  
271 unique CDR3  
6 unique J



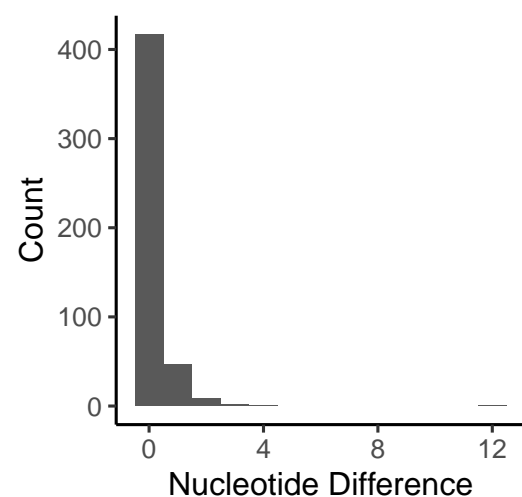
### IGHV3-69-1\*02

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



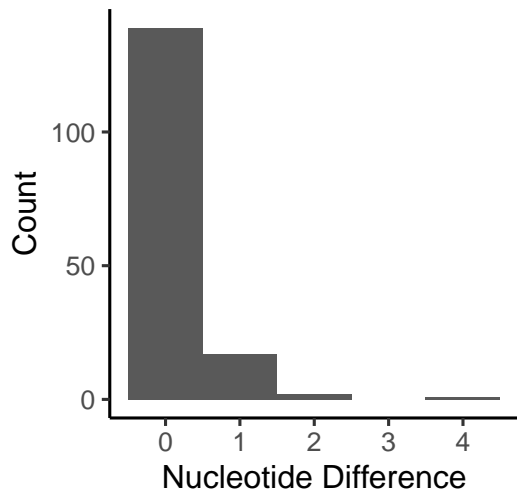
### IGHV3-74\*01

476 sequences assigned  
417 (87.6%) exact matches, in which:  
408 unique CDR3  
6 unique J



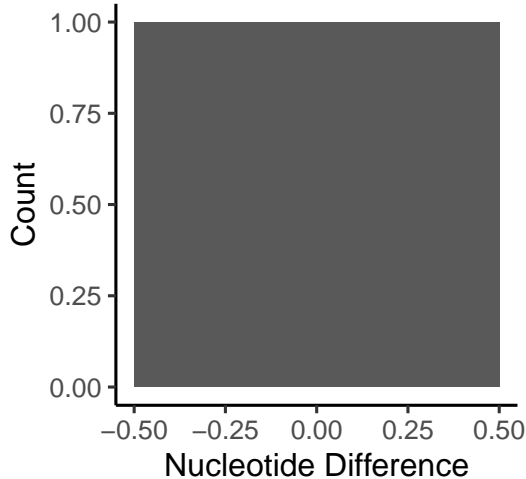
### IGHV3-43D\*03

159 sequences assigned  
139 (87.4%) exact matches, in which:  
136 unique CDR3  
5 unique J



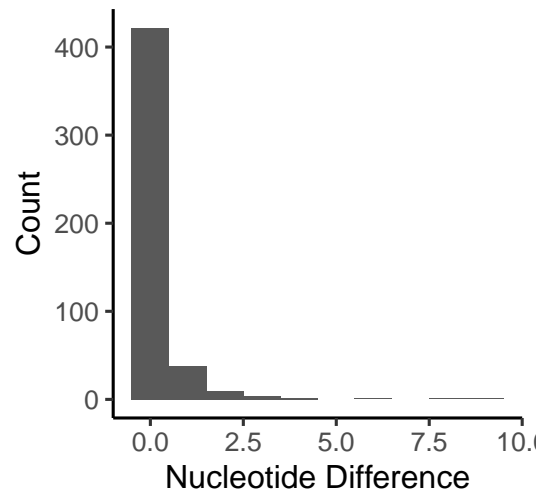
### IGHV4-28\*01

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



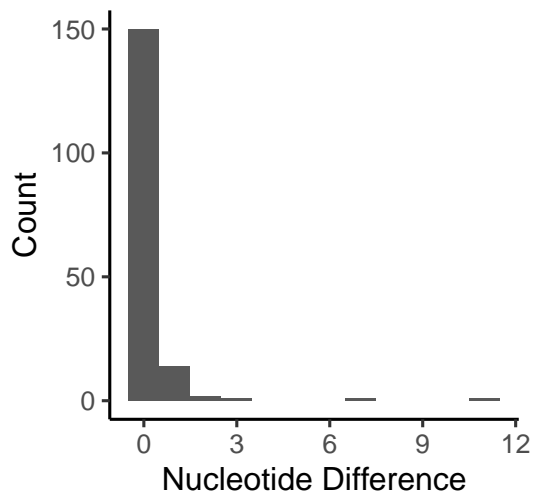
### IGHV4-31\*03

479 sequences assigned  
422 (88.1%) exact matches, in which:  
416 unique CDR3  
6 unique J



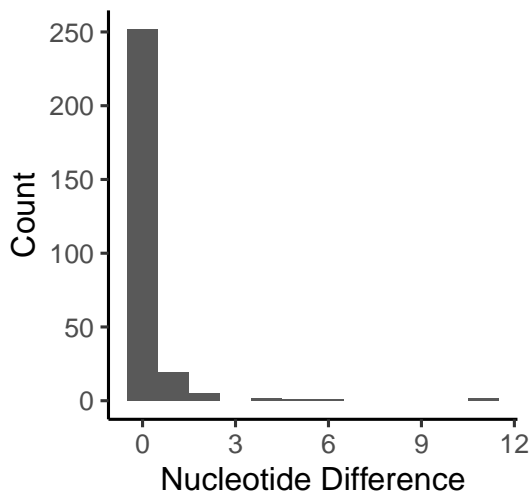
### IGHV3-64D\*06

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



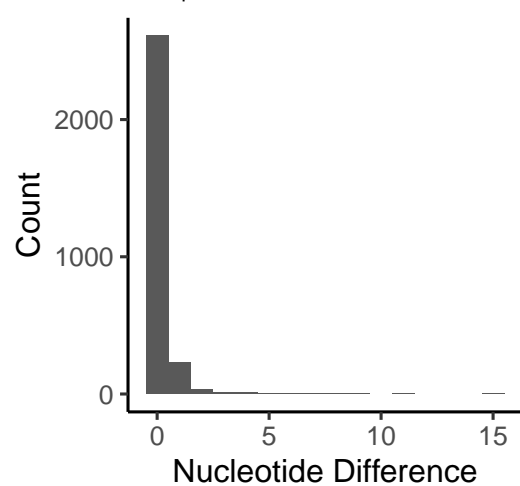
### IGHV4-30-4\*01

282 sequences assigned  
252 (89.4%) exact matches, in which:  
247 unique CDR3  
6 unique J



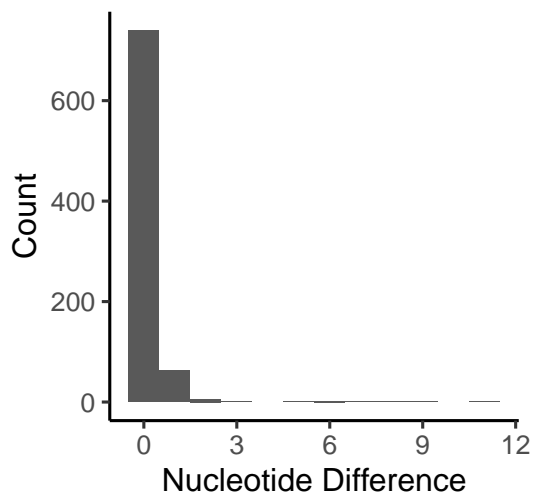
### IGHV4-34\*01

2914 sequences assigned  
2611 (89.6%) exact matches, in which:  
2533 unique CDR3  
6 unique J



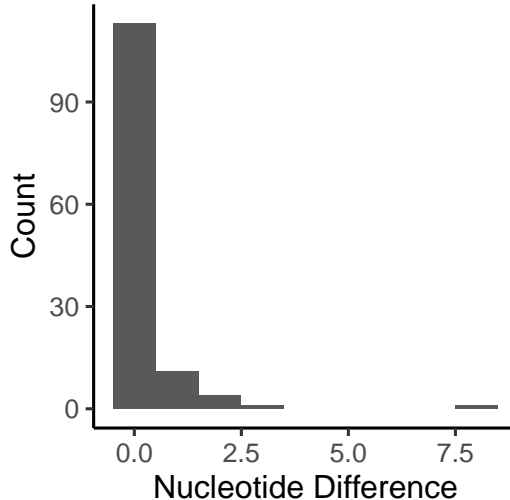
### IGHV4-4\*02

824 sequences assigned  
740 (89.8%) exact matches, in which:  
730 unique CDR3  
6 unique J



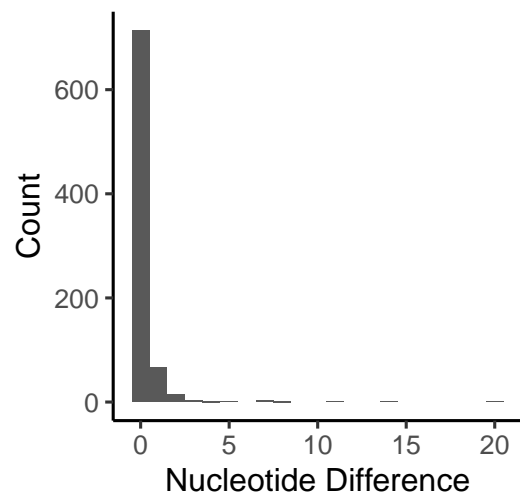
### IGHV4-30-2\*01

130 sequences assigned  
113 (86.9%) exact matches, in which:  
112 unique CDR3  
5 unique J



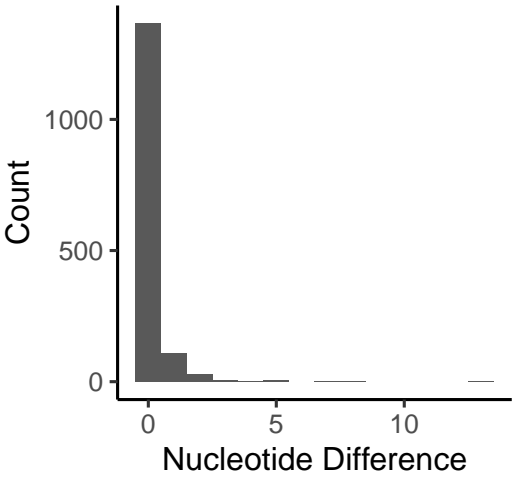
### IGHV4-38-2\*02

809 sequences assigned  
714 (88.3%) exact matches, in which:  
690 unique CDR3  
6 unique J



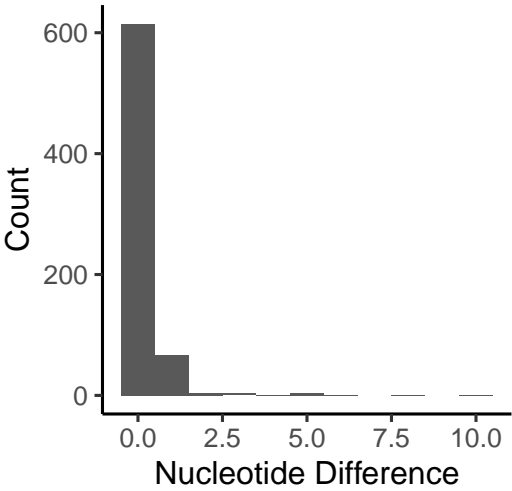
IGHV4-39\*01

1519 sequences assigned  
1366 (89.9%) exact matches, in which:  
1318 unique CDR3  
6 unique J



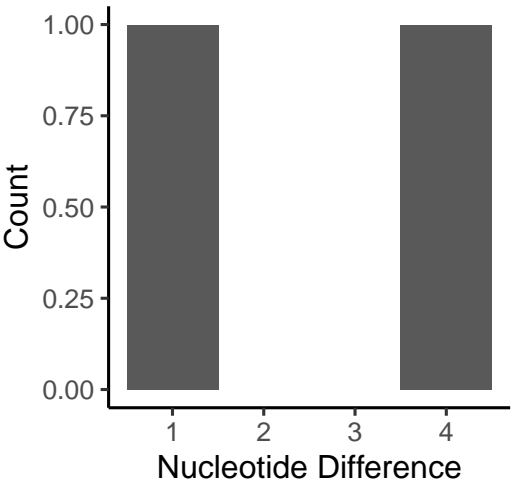
IGHV4-59\*01

697 sequences assigned  
615 (88.2%) exact matches, in which:  
607 unique CDR3  
6 unique J



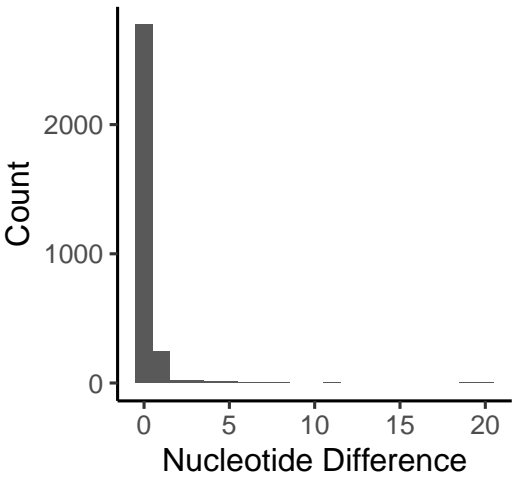
IGHV4-61\*05

2 sequences assigned  
No exact matches.



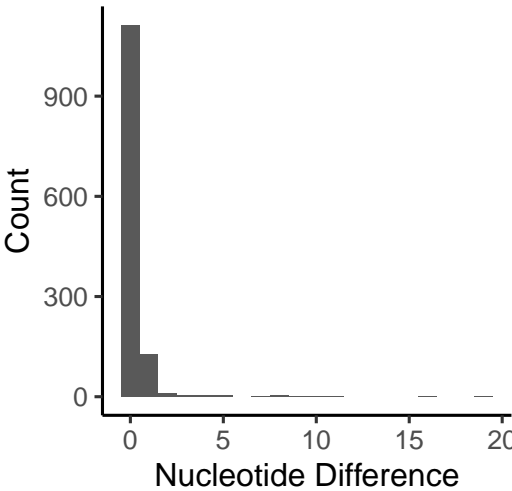
IGHV4-39\*07

3092 sequences assigned  
2773 (89.7%) exact matches, in which:  
2684 unique CDR3  
6 unique J



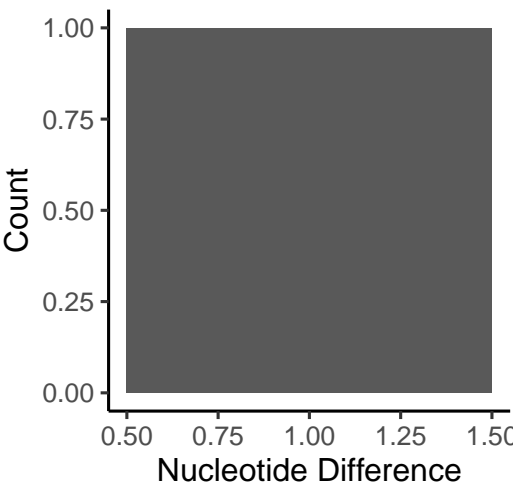
IGHV4-59\*08

1272 sequences assigned  
1113 (87.5%) exact matches, in which:  
1090 unique CDR3  
6 unique J



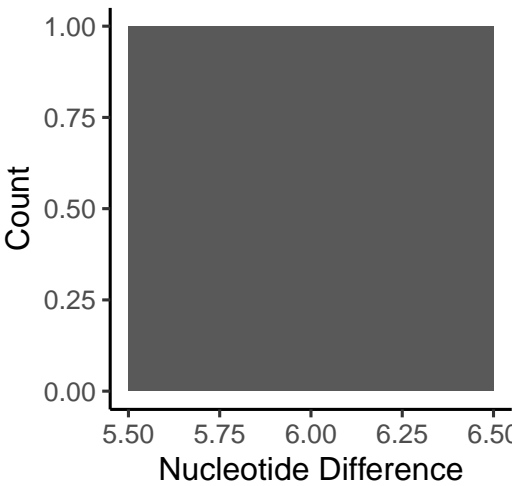
IGHV1/OR15-4\*01

1 sequences assigned  
No exact matches.



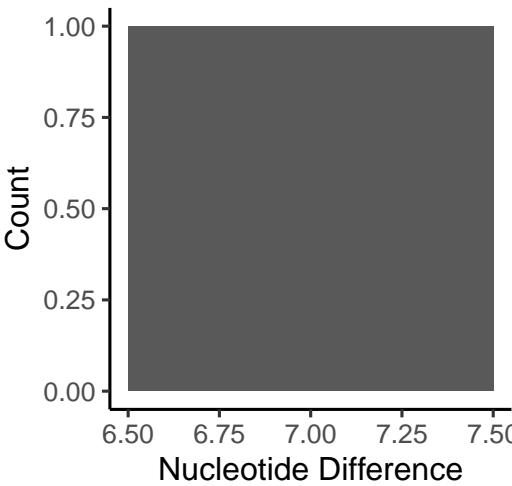
IGHV4-55\*08

1 sequences assigned  
No exact matches.



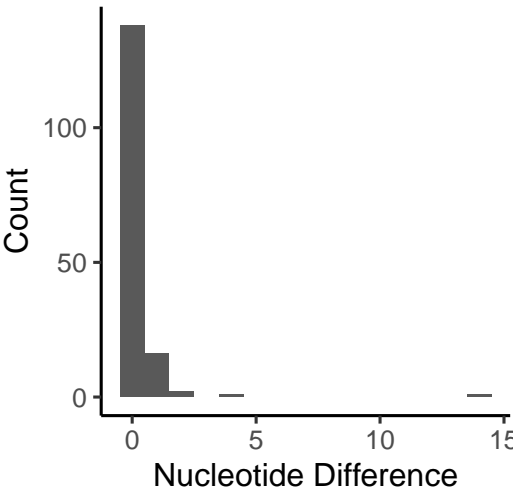
IGHV4-61\*01

1 sequences assigned  
No exact matches.



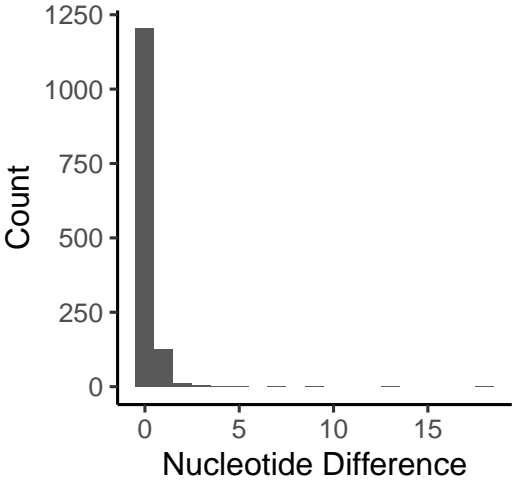
IGHV5-10-1\*03

159 sequences assigned  
138 (86.8%) exact matches, in which:  
133 unique CDR3  
5 unique J



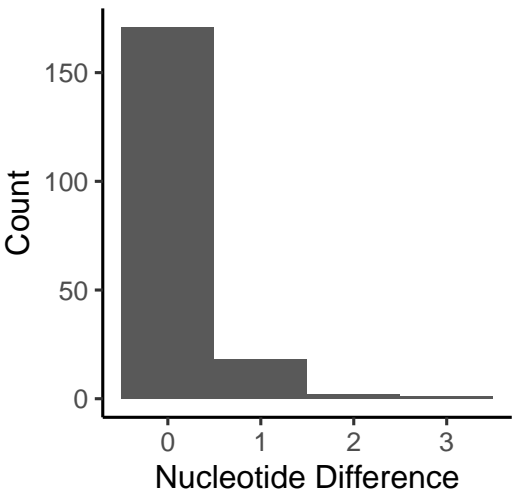
### IGHV5-51\*01

1358 sequences assigned  
1204 (88.7%) exact matches, in which:  
1169 unique CDR3  
6 unique J



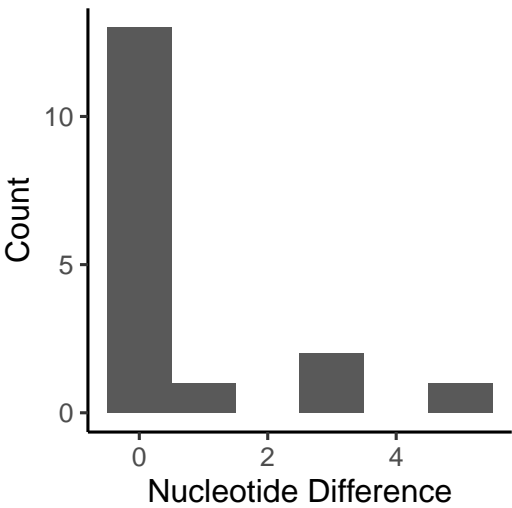
### IGHV6-1\*01

192 sequences assigned  
171 (89.1%) exact matches, in which:  
166 unique CDR3  
6 unique J



### IGHV7-4-1\*01

17 sequences assigned  
13 (76.5%) exact matches, in which:  
13 unique CDR3  
5 unique J







Warning – no inferred sequences found.