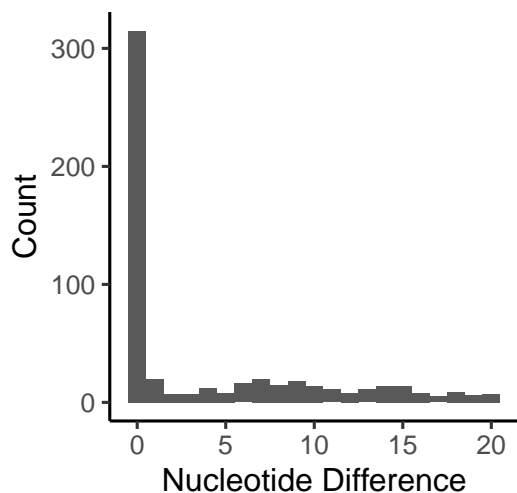


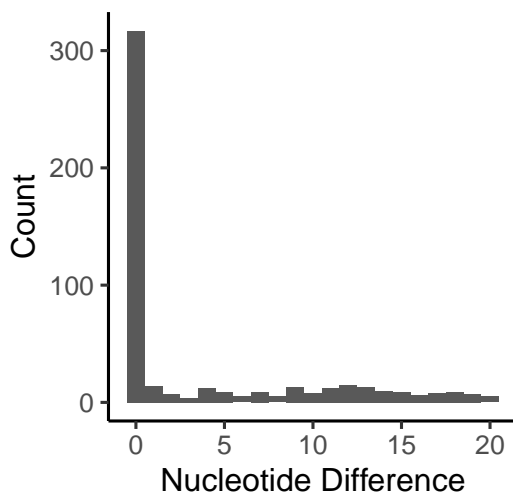
### IGHV1–2\*02

577 sequences assigned  
315 (54.6%) exact matches, in which:  
310 unique CDR3  
6 unique J



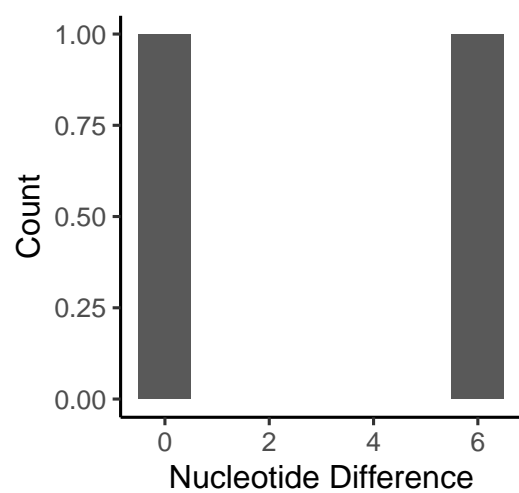
### IGHV1–18\*01

547 sequences assigned  
317 (58%) exact matches, in which:  
316 unique CDR3  
6 unique J



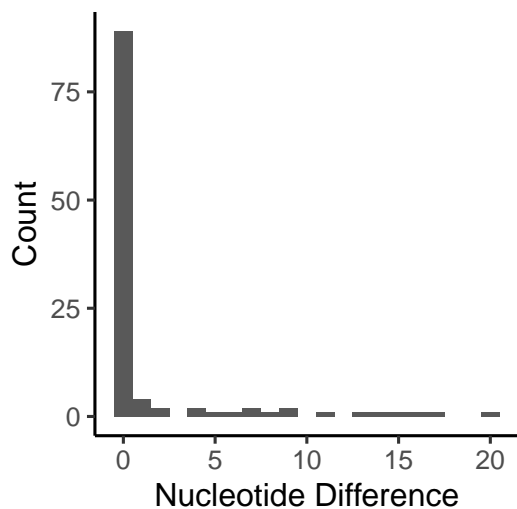
### IGHV1–45\*02

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



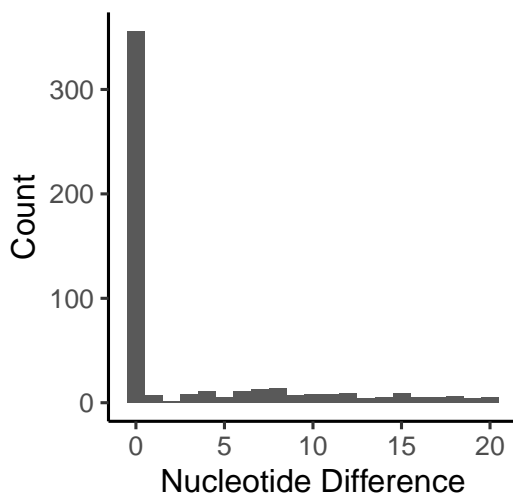
### IGHV1–2\*04

115 sequences assigned  
89 (77.4%) exact matches, in which:  
89 unique CDR3  
5 unique J



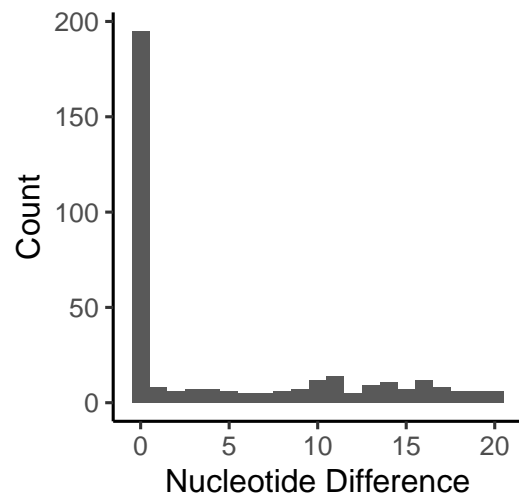
### IGHV1–18\*04

516 sequences assigned  
356 (69%) exact matches, in which:  
355 unique CDR3  
6 unique J



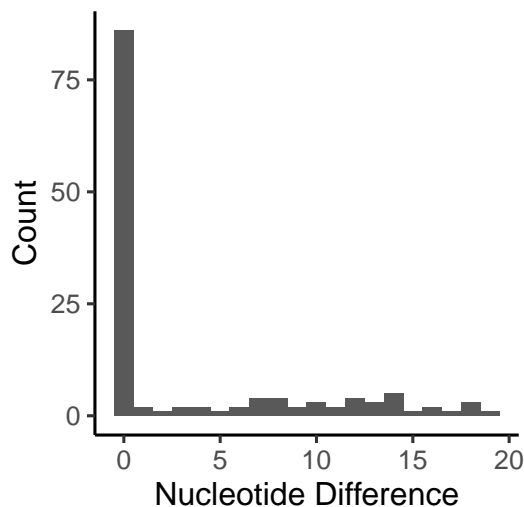
### IGHV1–46\*01

387 sequences assigned  
195 (50.4%) exact matches, in which:  
194 unique CDR3  
6 unique J



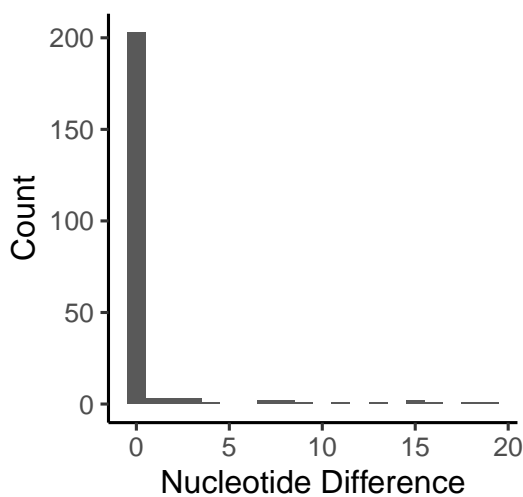
### IGHV1–3\*01\_05

139 sequences assigned  
86 (61.9%) exact matches, in which:  
86 unique CDR3  
6 unique J



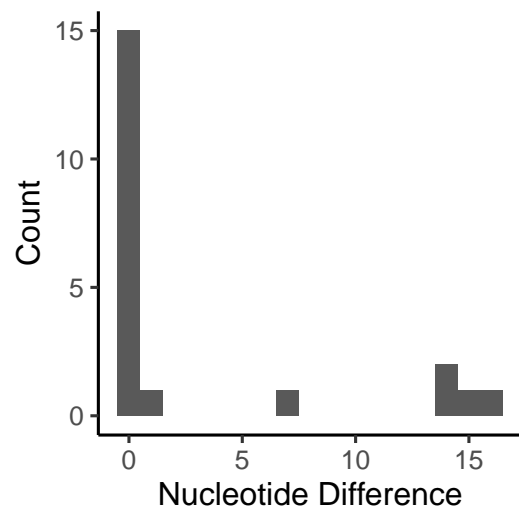
### IGHV1–24\*01

227 sequences assigned  
203 (89.4%) exact matches, in which:  
203 unique CDR3  
6 unique J



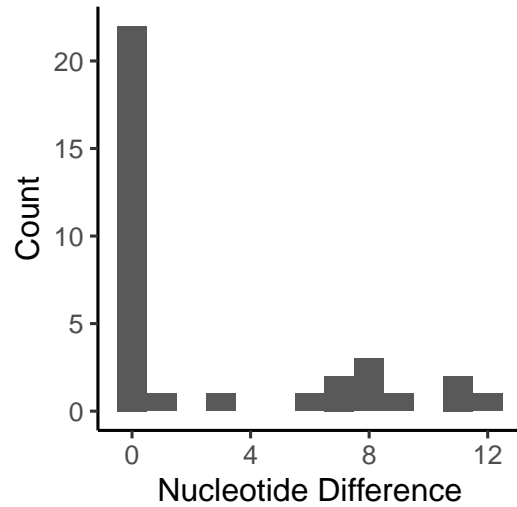
### IGHV1–58\*02

21 sequences assigned  
15 (71.4%) exact matches, in which:  
15 unique CDR3  
5 unique J



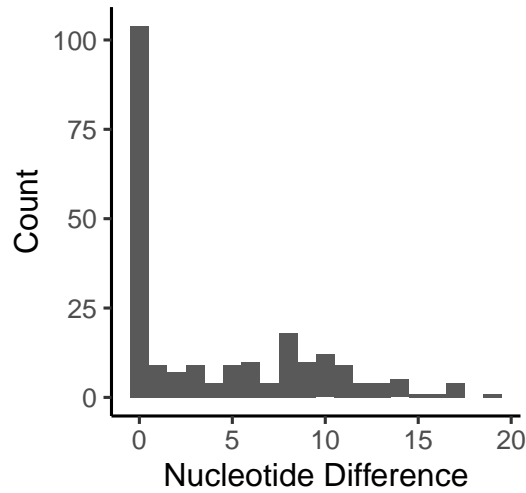
### IGHV1-58\*01\_03

35 sequences assigned  
22 (62.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



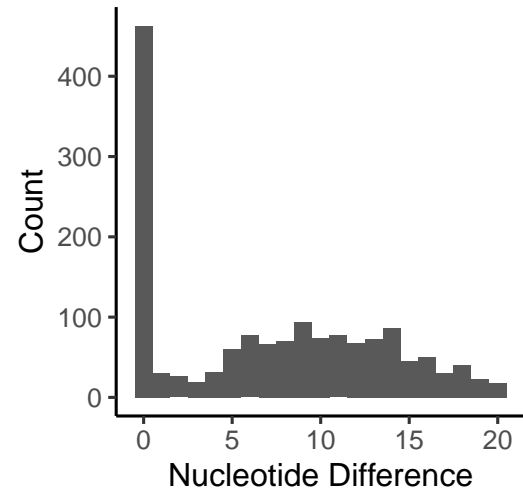
### IGHV2-5\*02

232 sequences assigned  
104 (44.8%) exact matches, in which:  
103 unique CDR3  
6 unique J



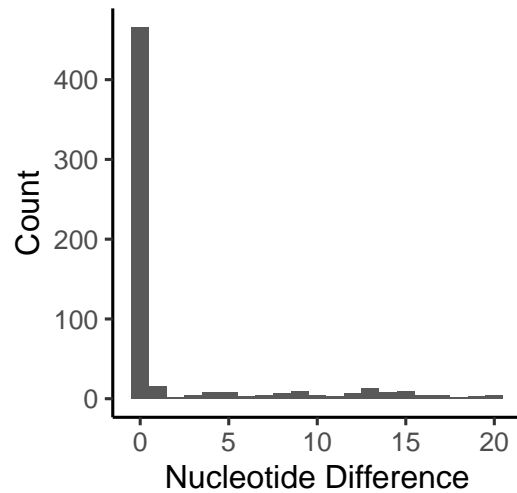
### IGHV3-7\*03

1604 sequences assigned  
463 (28.9%) exact matches, in which:  
448 unique CDR3  
6 unique J



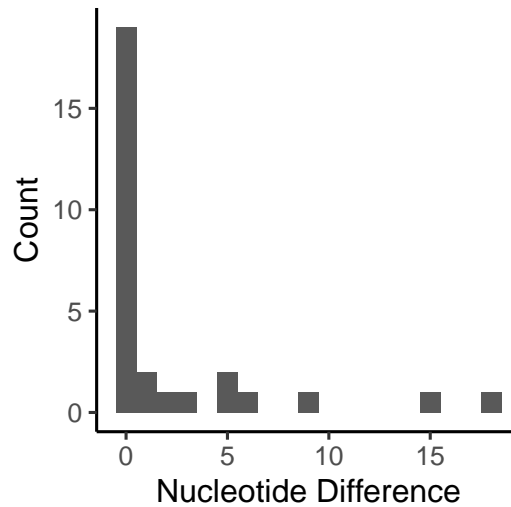
### IGHV1-69\*01\_12\_13

619 sequences assigned  
466 (75.3%) exact matches, in which:  
466 unique CDR3  
6 unique J



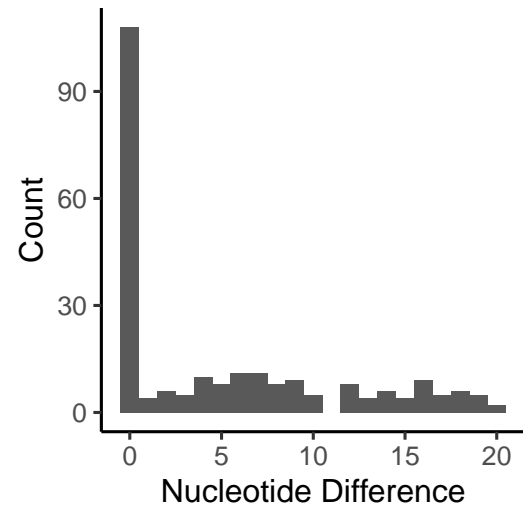
### IGHV2-26\*01

30 sequences assigned  
19 (63.3%) exact matches, in which:  
19 unique CDR3  
5 unique J



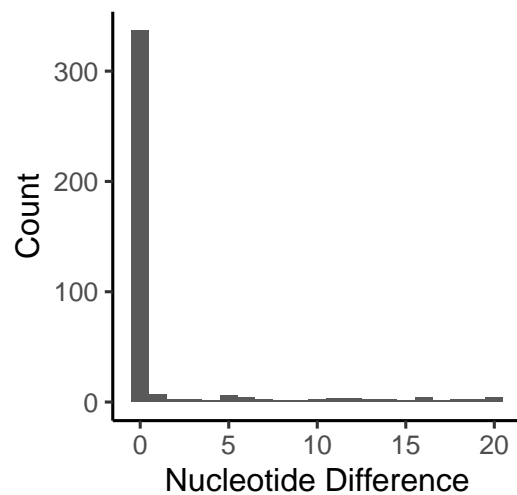
### IGHV3-11\*06

249 sequences assigned  
108 (43.4%) exact matches, in which:  
102 unique CDR3  
5 unique J



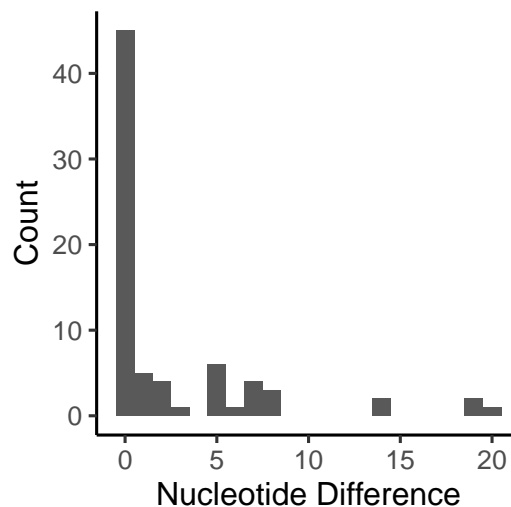
### IGHV1-69\*06\_14

407 sequences assigned  
337 (82.8%) exact matches, in which:  
337 unique CDR3  
6 unique J



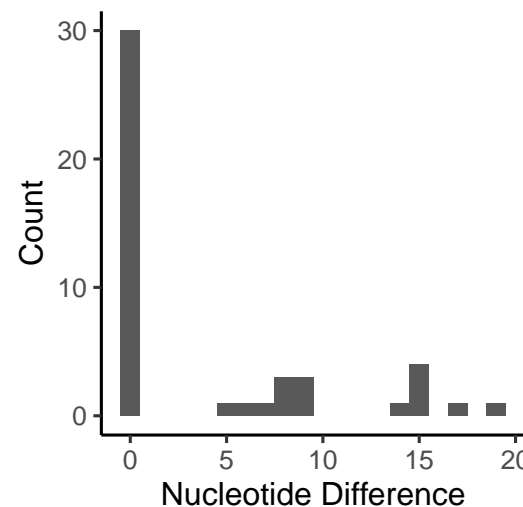
### IGHV2-70\*01

75 sequences assigned  
45 (60%) exact matches, in which:  
44 unique CDR3  
4 unique J



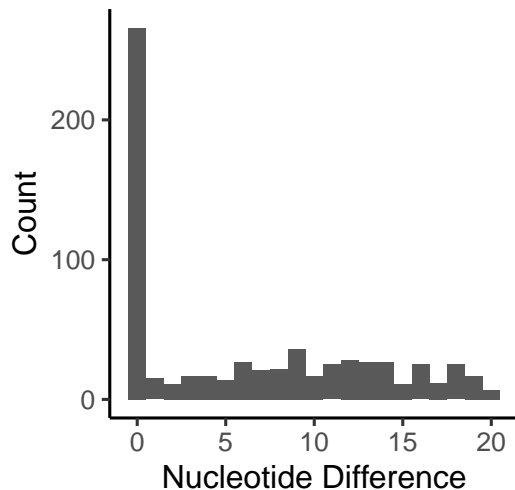
### IGHV3-13\*05

61 sequences assigned  
30 (49.2%) exact matches, in which:  
28 unique CDR3  
5 unique J



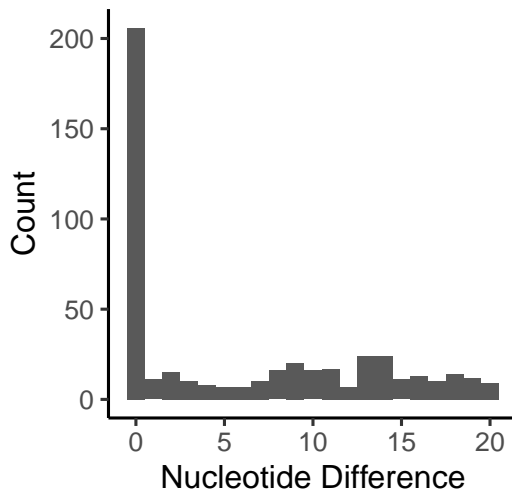
### IGHV3-15\*01\_02

709 sequences assigned  
266 (37.5%) exact matches, in which:  
257 unique CDR3  
6 unique J



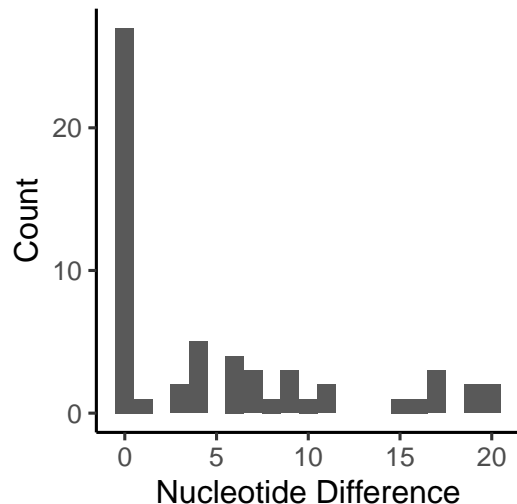
### IGHV3-30\*01

487 sequences assigned  
206 (42.3%) exact matches, in which:  
200 unique CDR3  
6 unique J



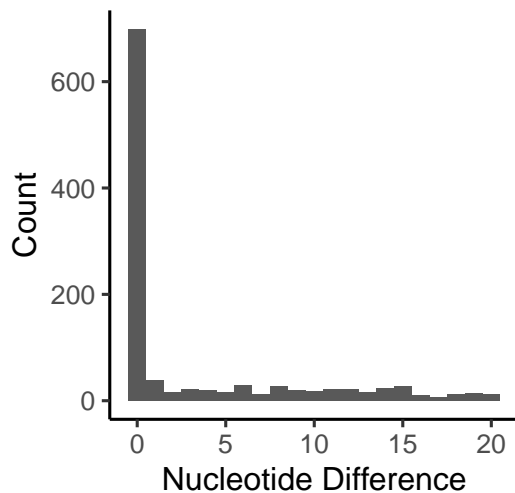
### IGHV3-43\*01

61 sequences assigned  
27 (44.3%) exact matches, in which:  
26 unique CDR3  
4 unique J



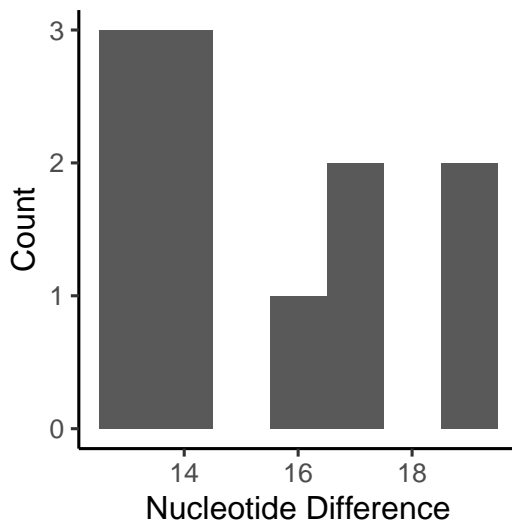
### IGHV3-21\*01\_02

1151 sequences assigned  
699 (60.7%) exact matches, in which:  
680 unique CDR3  
6 unique J



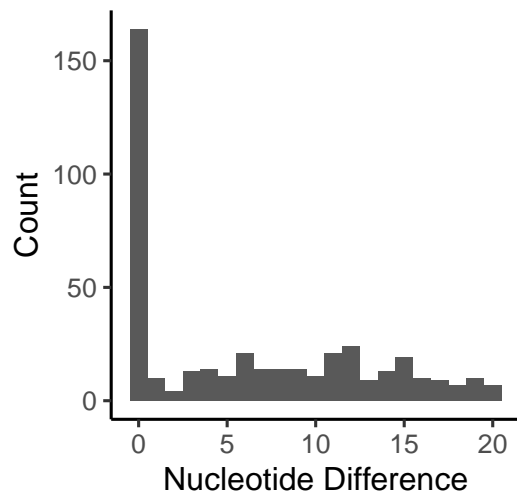
### IGHV3-30-3\*03

11 sequences assigned  
No exact matches.



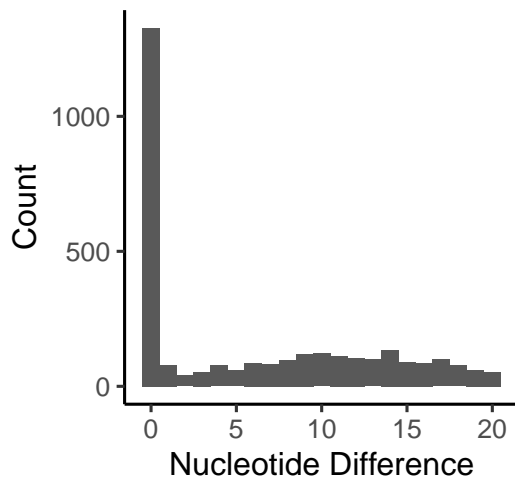
### IGHV3-48\*01

447 sequences assigned  
164 (36.7%) exact matches, in which:  
161 unique CDR3  
6 unique J



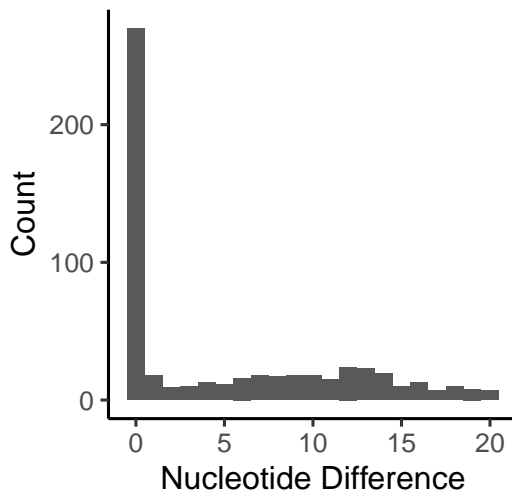
### IGHV3-23\*01\_04

3353 sequences assigned  
1327 (39.6%) exact matches, in which:  
1306 unique CDR3  
6 unique J



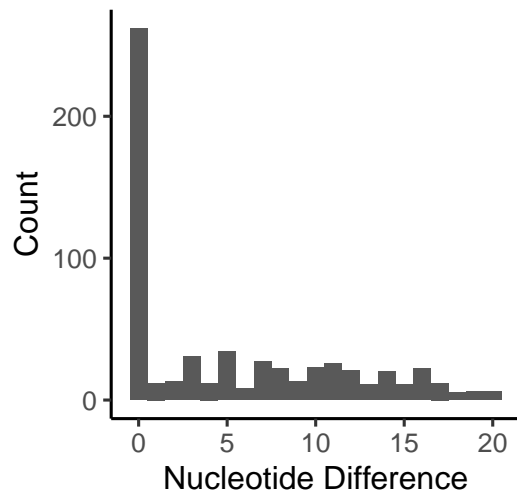
### IGHV3-33\*01

585 sequences assigned  
270 (46.2%) exact matches, in which:  
268 unique CDR3  
6 unique J



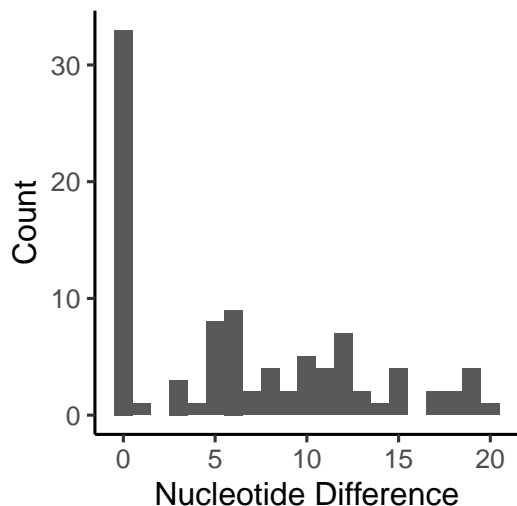
### IGHV3-48\*03

638 sequences assigned  
262 (41.1%) exact matches, in which:  
258 unique CDR3  
6 unique J



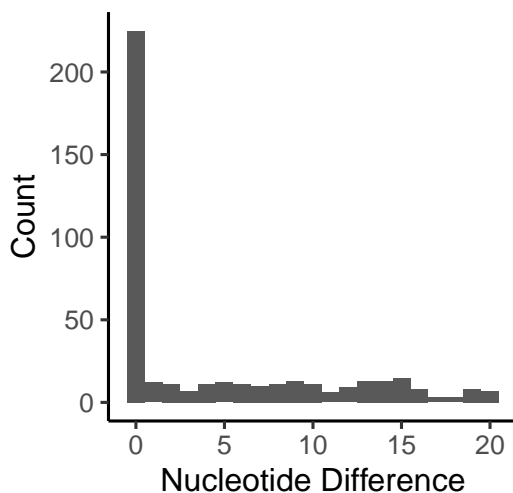
### IGHV3-49\*04

101 sequences assigned  
33 (32.7%) exact matches, in which:  
33 unique CDR3  
6 unique J



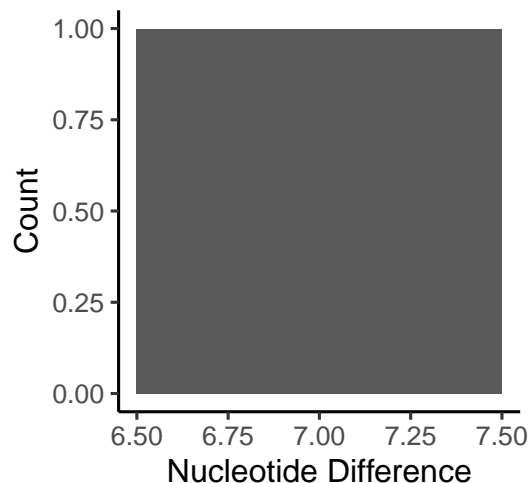
### IGHV3-53\*01\_02

468 sequences assigned  
225 (48.1%) exact matches, in which:  
217 unique CDR3  
6 unique J



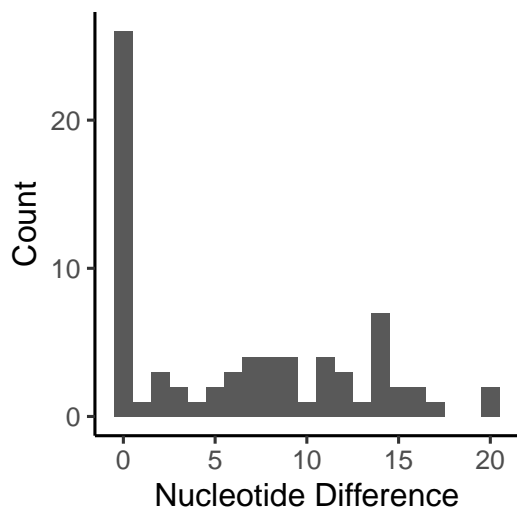
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



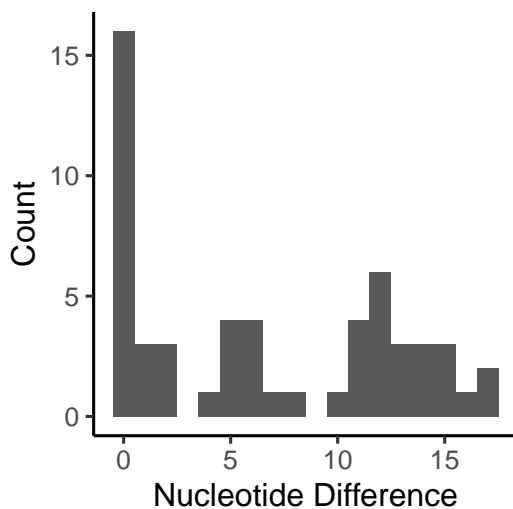
### IGHV3-49\*03\_05

75 sequences assigned  
26 (34.7%) exact matches, in which:  
26 unique CDR3  
4 unique J



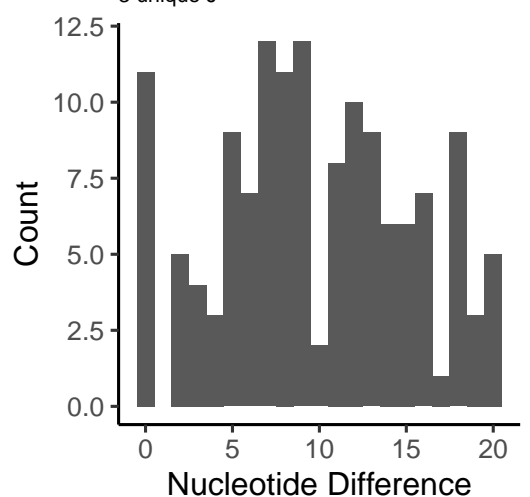
### IGHV3-64\*01

56 sequences assigned  
16 (28.6%) exact matches, in which:  
15 unique CDR3  
3 unique J



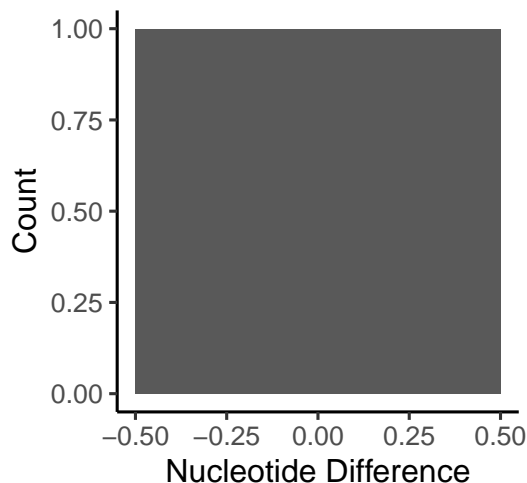
### IGHV3-72\*01

156 sequences assigned  
11 (7.1%) exact matches, in which:  
11 unique CDR3  
3 unique J



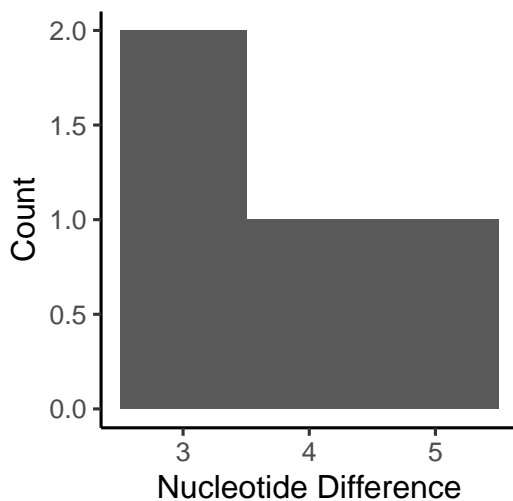
### IGHV3-52\*01\_03

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



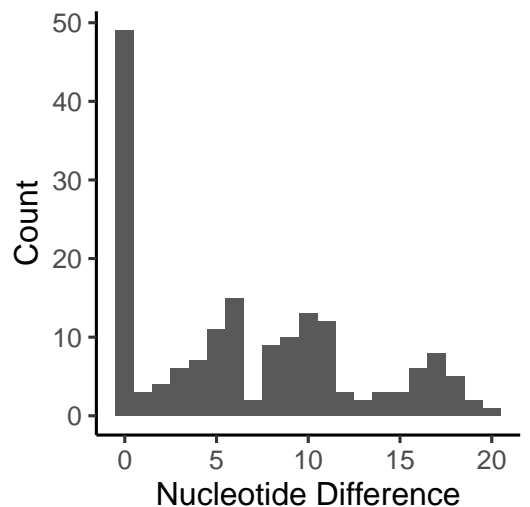
### IGHV3-69-1\*01

4 sequences assigned  
No exact matches.



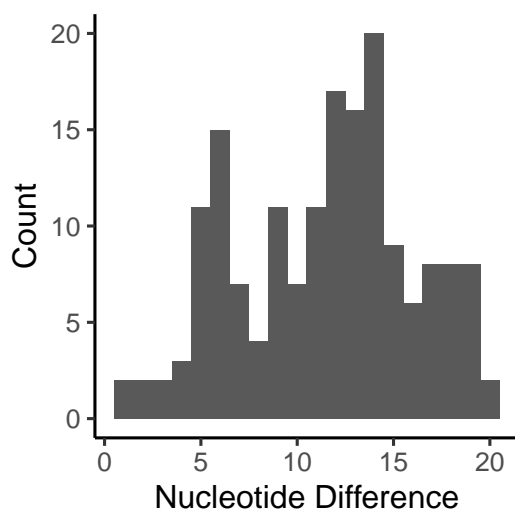
### IGHV3-73\*01\_02

184 sequences assigned  
49 (26.6%) exact matches, in which:  
45 unique CDR3  
4 unique J



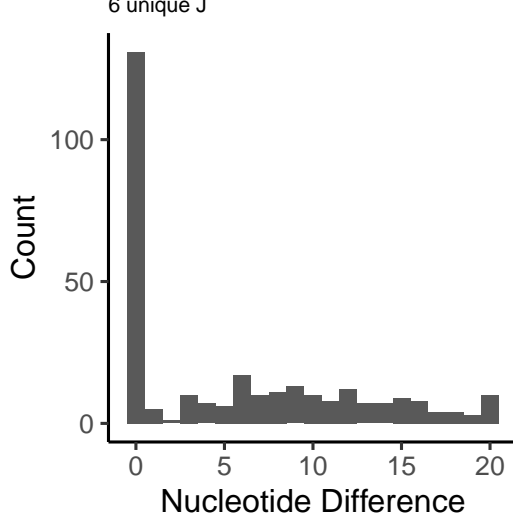
### IGHV3-74\*03

194 sequences assigned  
No exact matches.



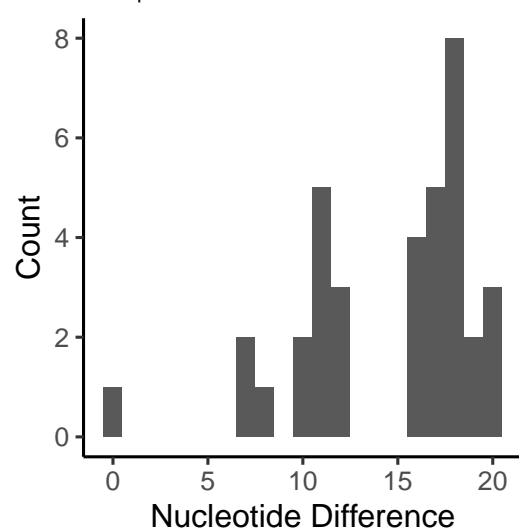
### IGHV3-64D\*06

323 sequences assigned  
131 (40.6%) exact matches, in which:  
130 unique CDR3  
6 unique J



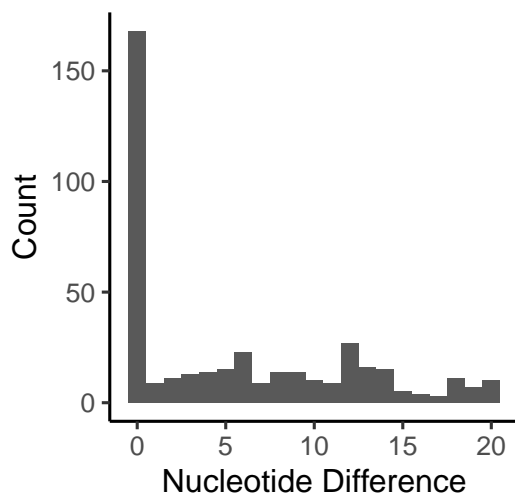
### IGHV4-28\*01\_07

36 sequences assigned  
1 (2.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



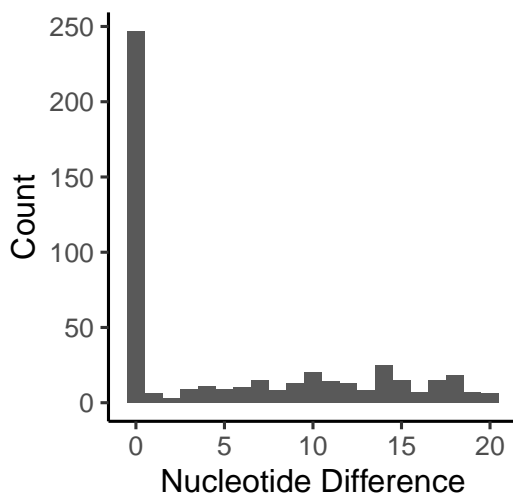
### IGHV3-74\*01\_02

421 sequences assigned  
168 (39.9%) exact matches, in which:  
156 unique CDR3  
6 unique J



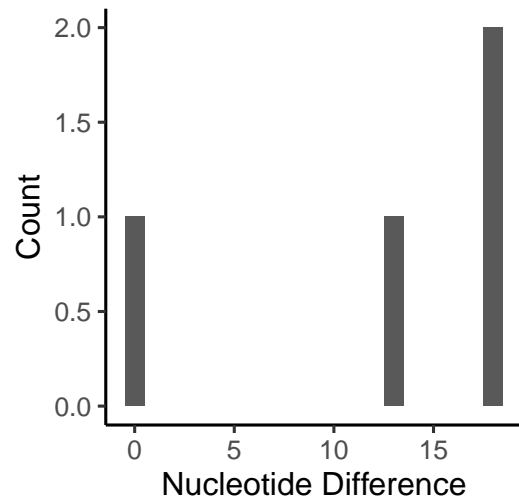
### IGHV4-4\*07

524 sequences assigned  
247 (47.1%) exact matches, in which:  
241 unique CDR3  
6 unique J



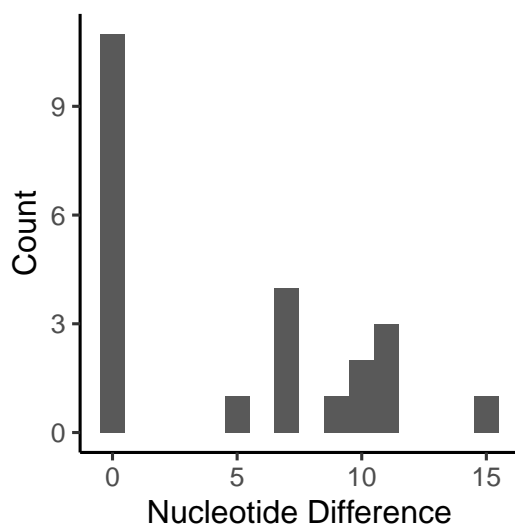
### IGHV4-28\*02\_05

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



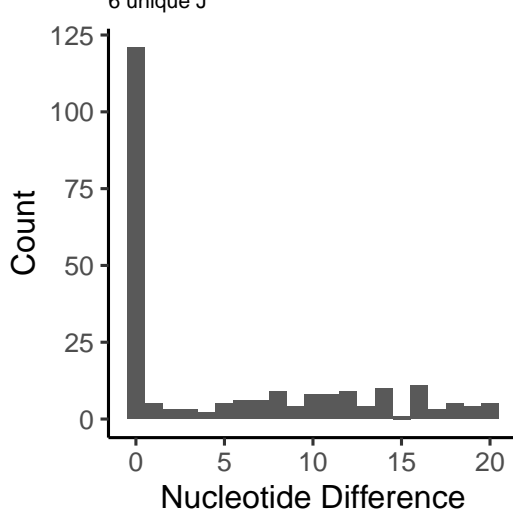
### IGHV3-43D\*04

25 sequences assigned  
11 (44%) exact matches, in which:  
11 unique CDR3  
3 unique J



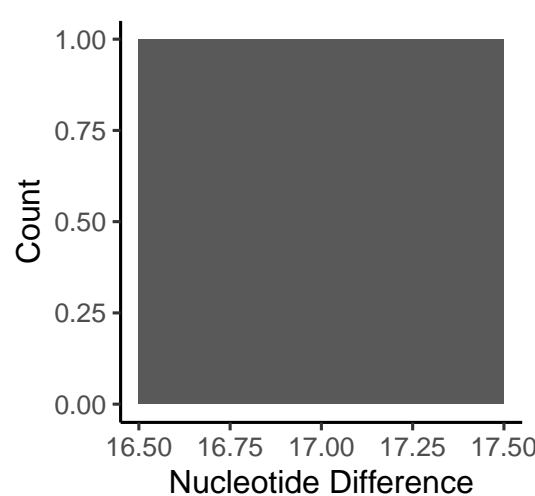
### IGHV4-4\*02\_03

305 sequences assigned  
121 (39.7%) exact matches, in which:  
119 unique CDR3  
6 unique J



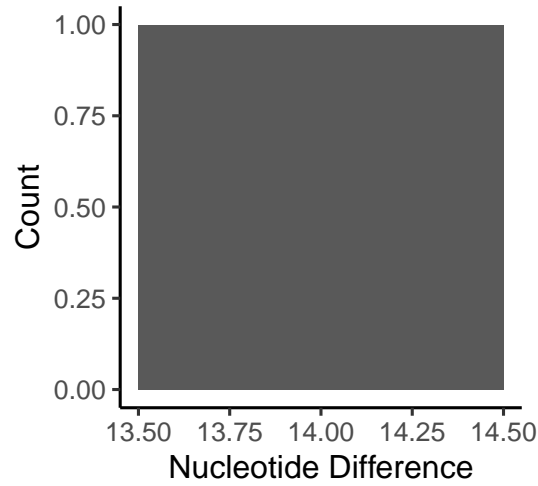
### IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



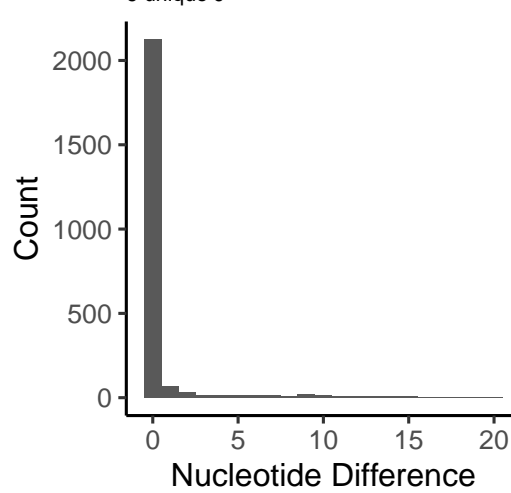
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



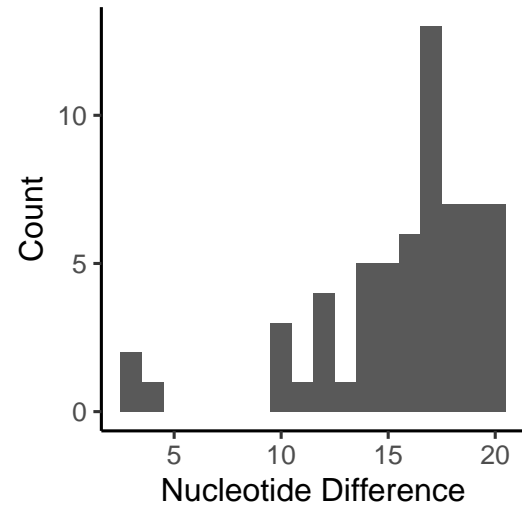
### IGHV4-34\*01\_02

2446 sequences assigned  
2125 (86.9%) exact matches, in which:  
2099 unique CDR3  
6 unique J



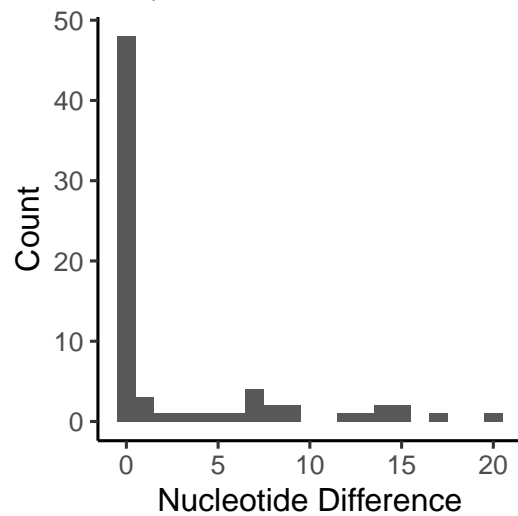
### IGHV4-59\*02

86 sequences assigned  
No exact matches.



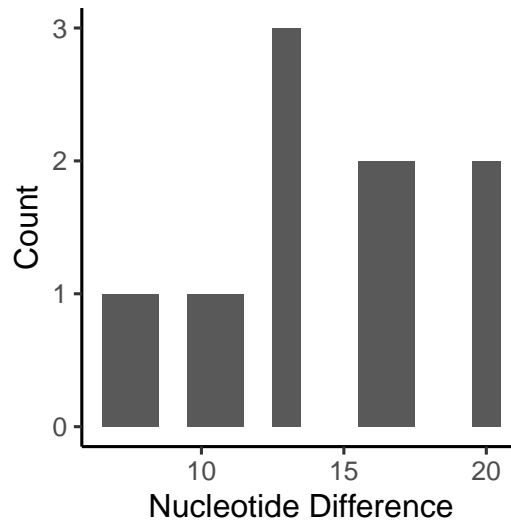
### IGHV4-31\*01

74 sequences assigned  
48 (64.9%) exact matches, in which:  
47 unique CDR3  
5 unique J



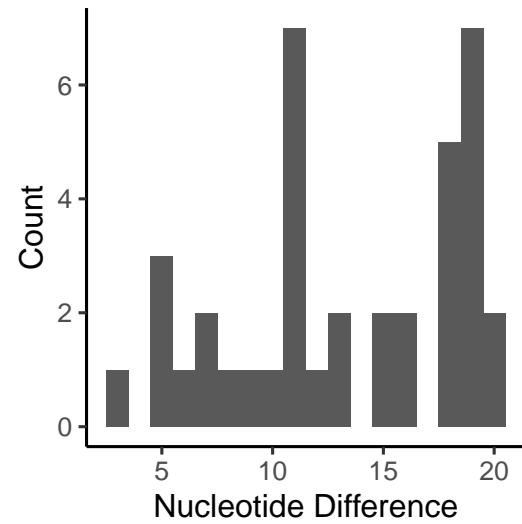
### IGHV4-38-2\*02

18 sequences assigned  
No exact matches.



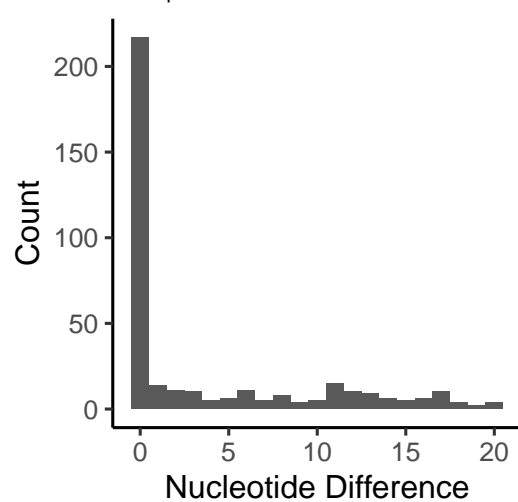
### IGHV4-59\*11

47 sequences assigned  
No exact matches.



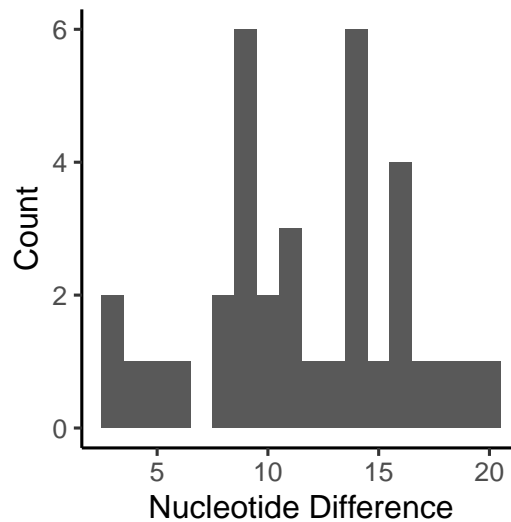
### IGHV4-31\*02

421 sequences assigned  
217 (51.5%) exact matches, in which:  
215 unique CDR3  
6 unique J



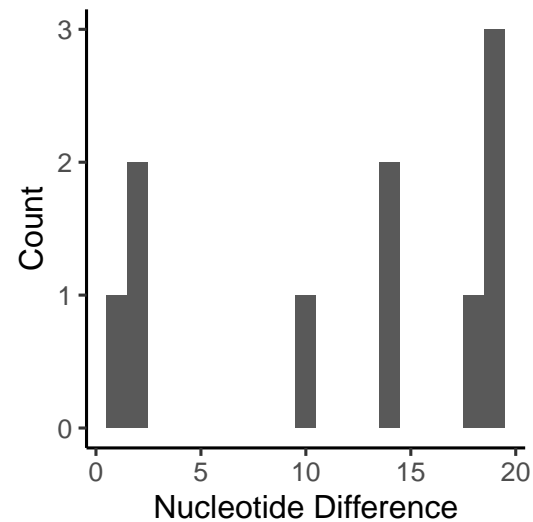
### IGHV4-39\*02

39 sequences assigned  
No exact matches.



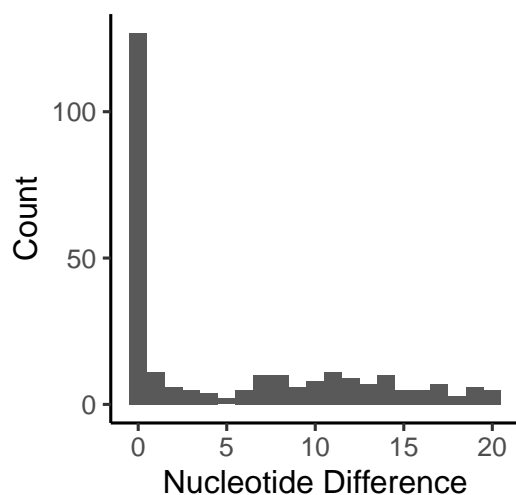
### IGHV4-59\*12

11 sequences assigned  
No exact matches.



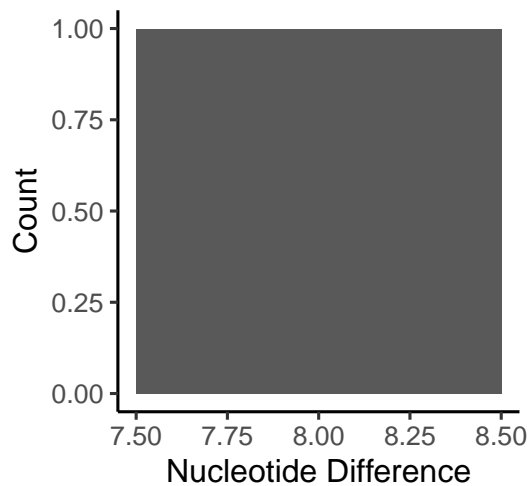
### IGHV4-61\*01

295 sequences assigned  
127 (43.1%) exact matches, in which:  
124 unique CDR3  
5 unique J



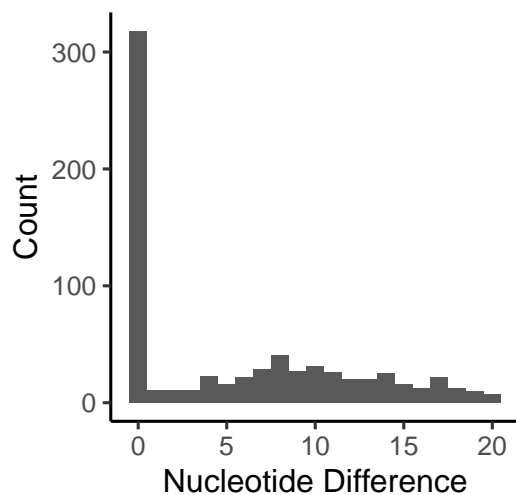
### IGHV5-51\*01\_03

1 sequences assigned  
No exact matches.



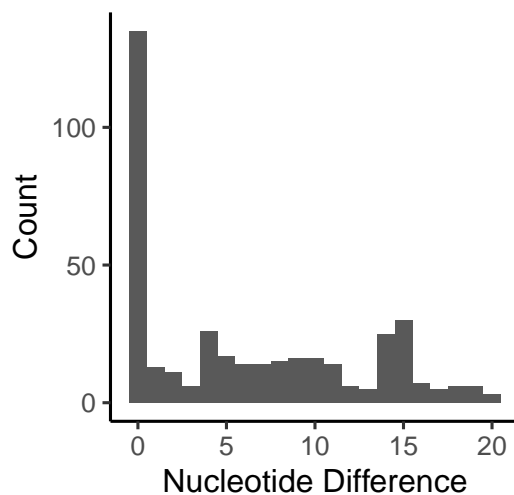
### IGHV4-61\*02

773 sequences assigned  
318 (41.1%) exact matches, in which:  
312 unique CDR3  
6 unique J



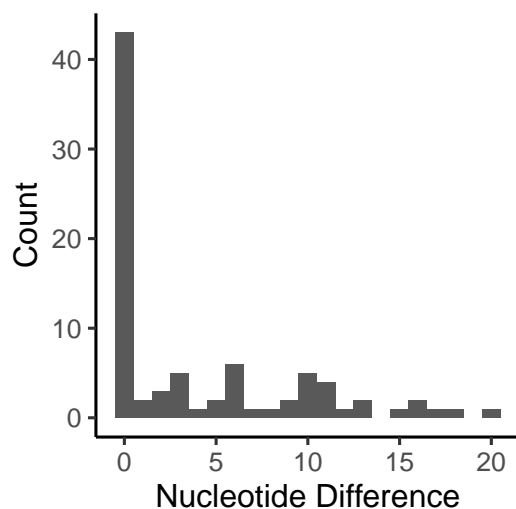
### IGHV6-1\*01\_02

397 sequences assigned  
135 (34%) exact matches, in which:  
134 unique CDR3  
6 unique J



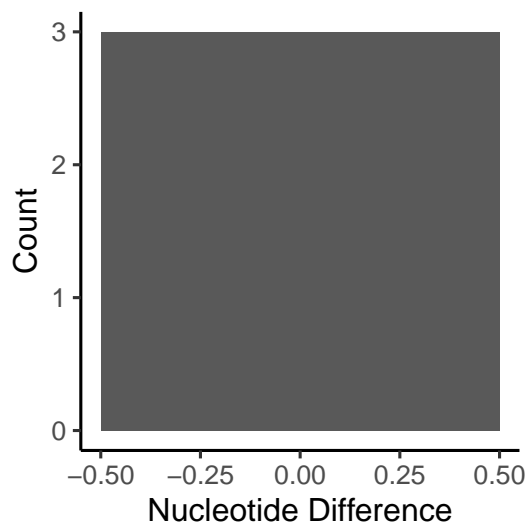
### IGHV5-10-1\*01\_03

87 sequences assigned  
43 (49.4%) exact matches, in which:  
43 unique CDR3  
5 unique J



### IGHV7-4-1\*01

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







[illegible]