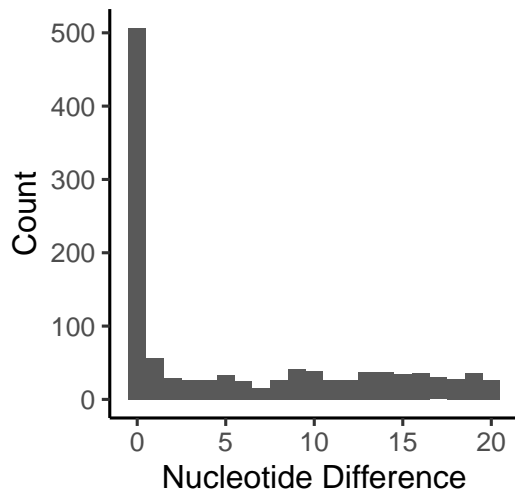


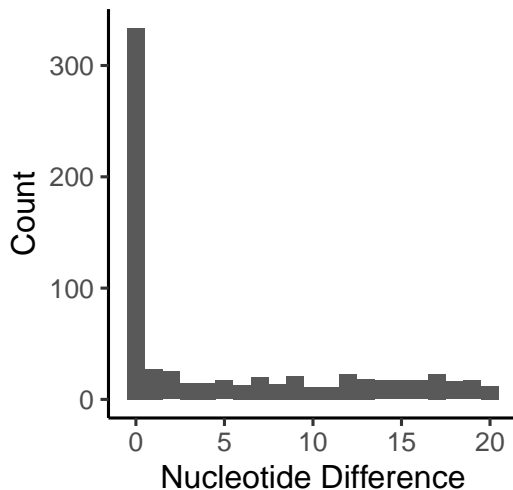
### IGHV1-2\*02

1338 sequences assigned  
507 (37.9%) exact matches, in which:  
505 unique CDR3  
6 unique J



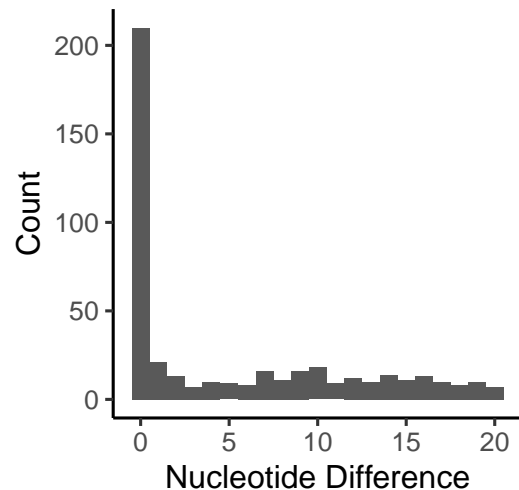
### IGHV1-8\*01

733 sequences assigned  
334 (45.6%) exact matches, in which:  
330 unique CDR3  
6 unique J



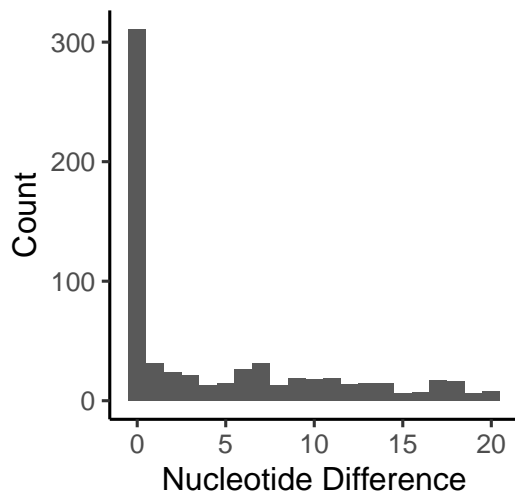
### IGHV1-46\*01

533 sequences assigned  
210 (39.4%) exact matches, in which:  
209 unique CDR3  
5 unique J



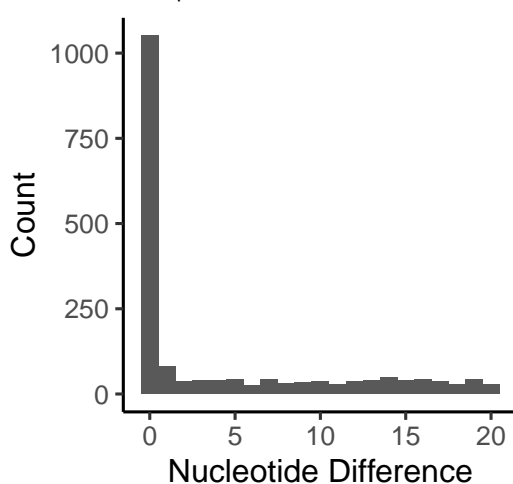
### IGHV1-2\*06

725 sequences assigned  
311 (42.9%) exact matches, in which:  
304 unique CDR3  
6 unique J



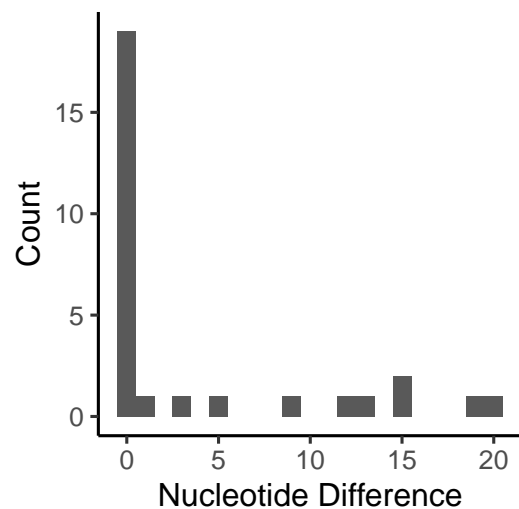
### IGHV1-18\*01

2052 sequences assigned  
1051 (51.2%) exact matches, in which:  
1041 unique CDR3  
6 unique J



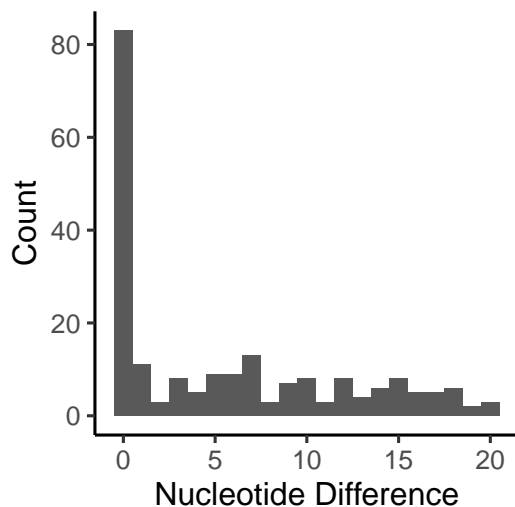
### IGHV1-58\*02

34 sequences assigned  
19 (55.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



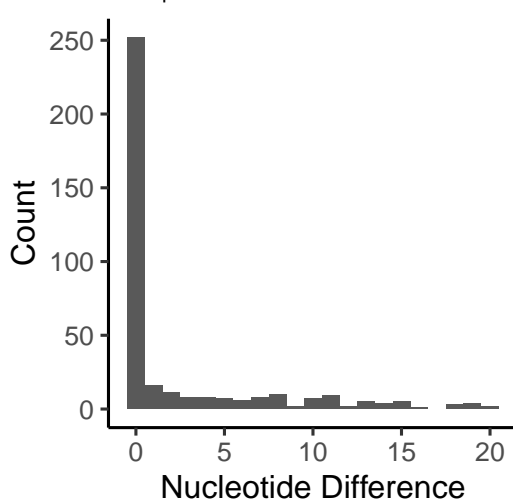
### IGHV1-3\*01\_05

225 sequences assigned  
83 (36.9%) exact matches, in which:  
83 unique CDR3  
6 unique J



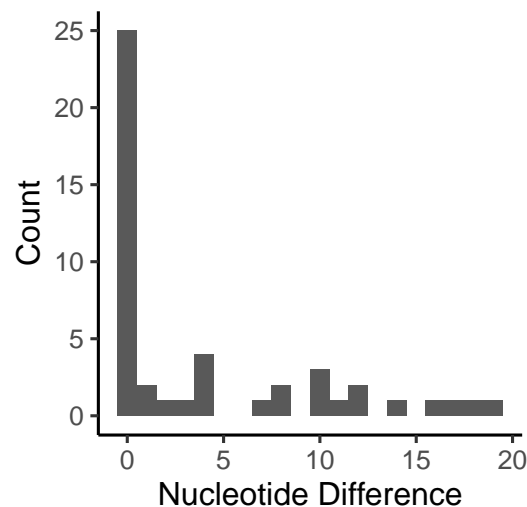
### IGHV1-24\*01

394 sequences assigned  
252 (64%) exact matches, in which:  
252 unique CDR3  
6 unique J



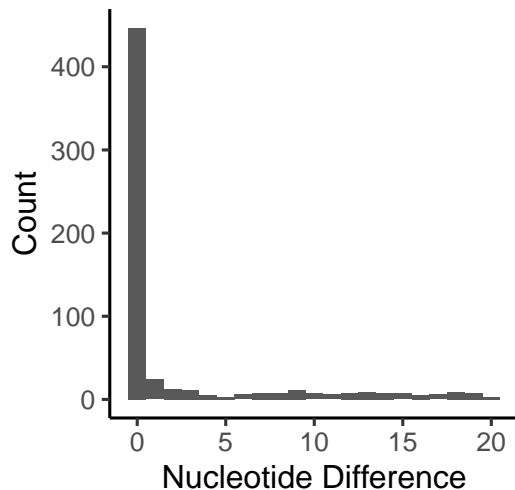
### IGHV1-58\*01\_03

47 sequences assigned  
25 (53.2%) exact matches, in which:  
25 unique CDR3  
4 unique J



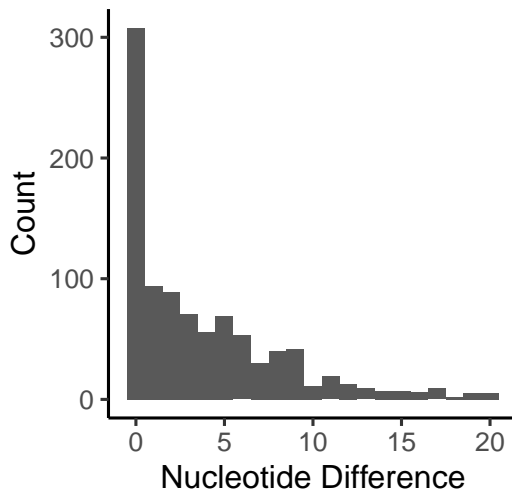
### IGHV1–69\*01\_12\_13

702 sequences assigned  
447 (63.7%) exact matches, in which:  
446 unique CDR3  
6 unique J



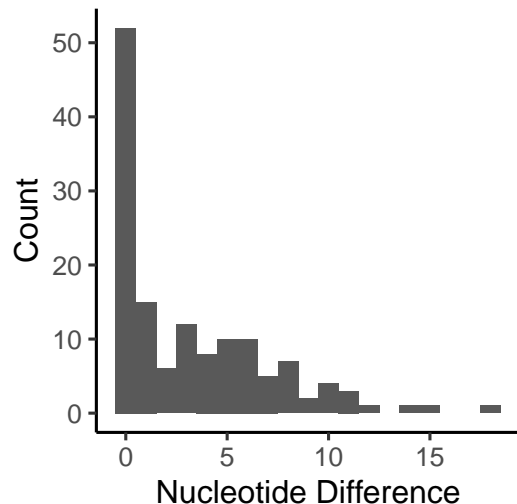
### IGHV2–5\*02

969 sequences assigned  
308 (31.8%) exact matches, in which:  
281 unique CDR3  
6 unique J



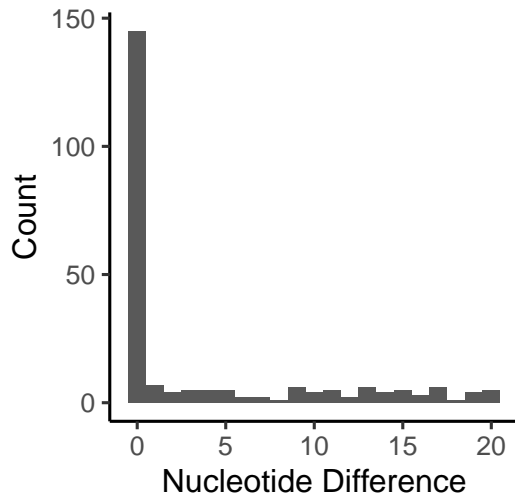
### IGHV2–70\*11\_15

139 sequences assigned  
52 (37.4%) exact matches, in which:  
51 unique CDR3  
5 unique J



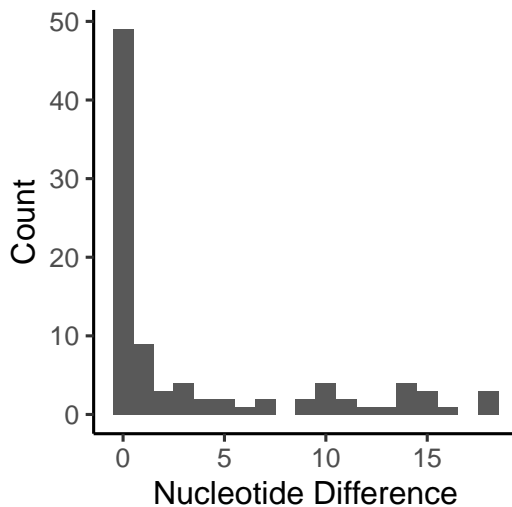
### IGHV1–69\*04\_09

279 sequences assigned  
145 (52%) exact matches, in which:  
144 unique CDR3  
6 unique J



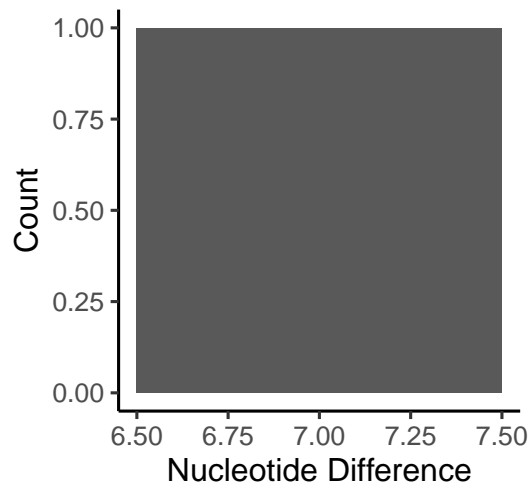
### IGHV2–26\*01

102 sequences assigned  
49 (48%) exact matches, in which:  
48 unique CDR3  
6 unique J



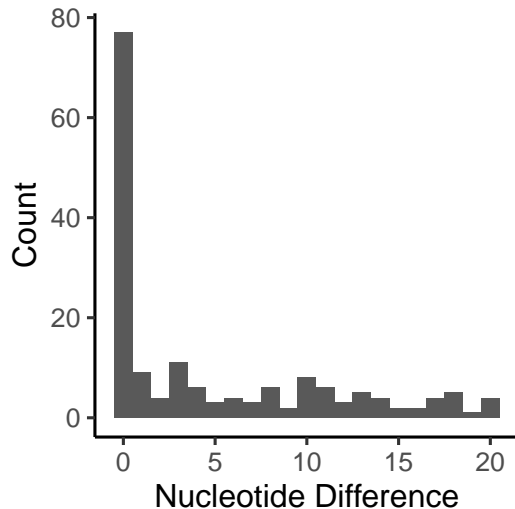
### IGHV2–70D\*04

1 sequences assigned  
No exact matches.



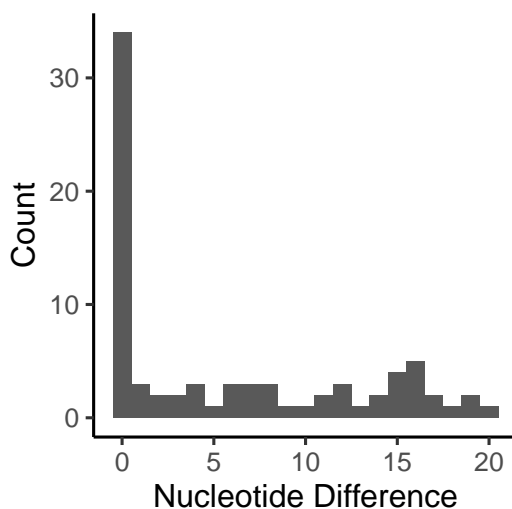
### IGHV2–5\*01

179 sequences assigned  
77 (43%) exact matches, in which:  
77 unique CDR3  
6 unique J



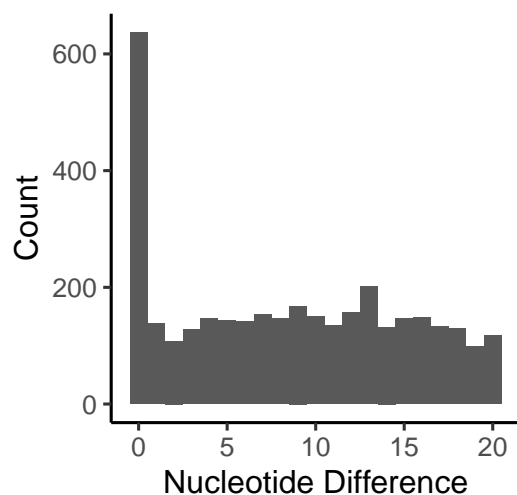
### IGHV2–70\*01

85 sequences assigned  
34 (40%) exact matches, in which:  
34 unique CDR3  
5 unique J



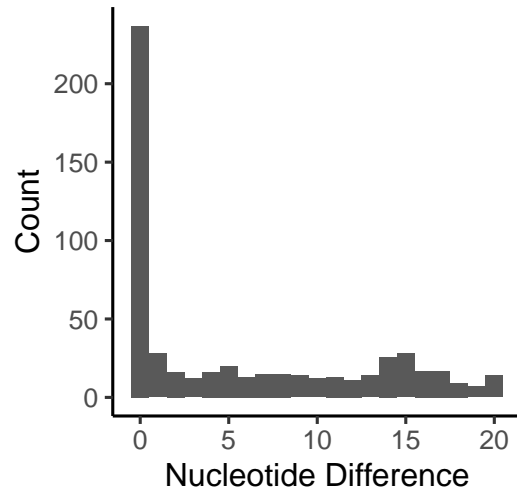
### IGHV3–7\*01

3854 sequences assigned  
637 (16.5%) exact matches, in which:  
513 unique CDR3  
6 unique J



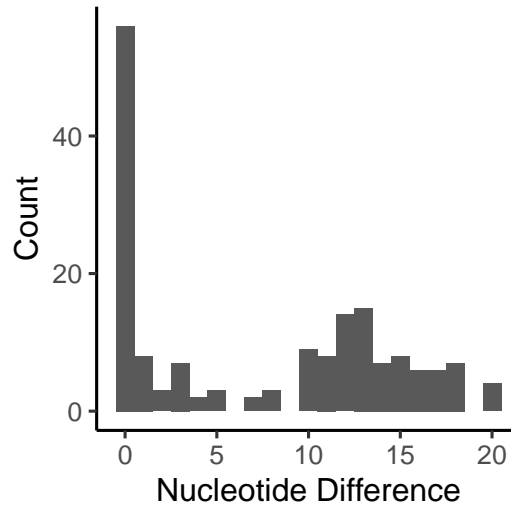
### IGHV3-9\*01

634 sequences assigned  
237 (37.4%) exact matches, in which:  
210 unique CDR3  
6 unique J



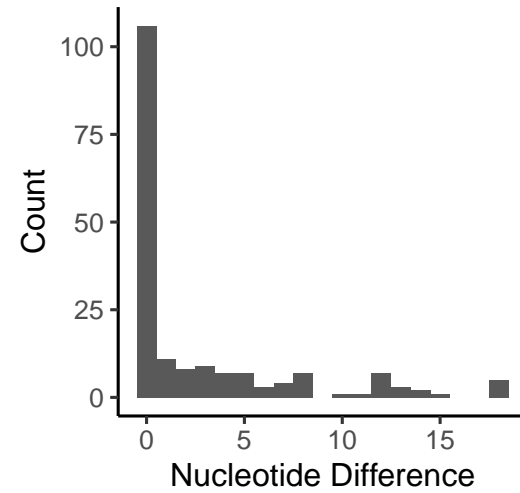
### IGHV3-13\*01

174 sequences assigned  
56 (32.2%) exact matches, in which:  
46 unique CDR3  
5 unique J



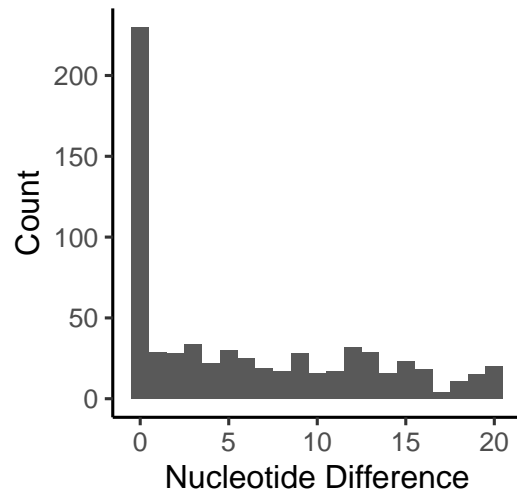
### IGHV3-20\*01\_02

188 sequences assigned  
106 (56.4%) exact matches, in which:  
81 unique CDR3  
6 unique J



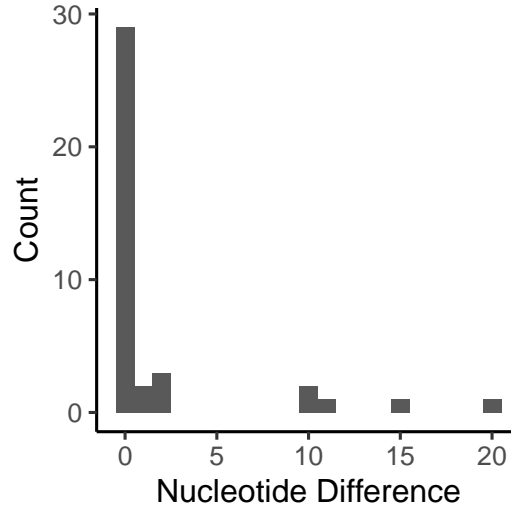
### IGHV3-11\*01

739 sequences assigned  
230 (31.1%) exact matches, in which:  
195 unique CDR3  
6 unique J



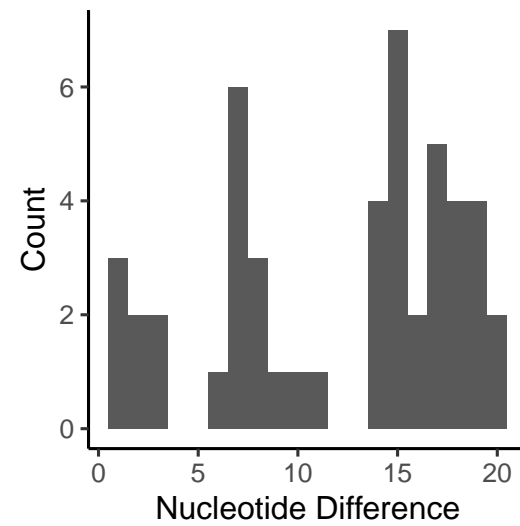
### IGHV3-13\*05

41 sequences assigned  
29 (70.7%) exact matches, in which:  
27 unique CDR3  
5 unique J



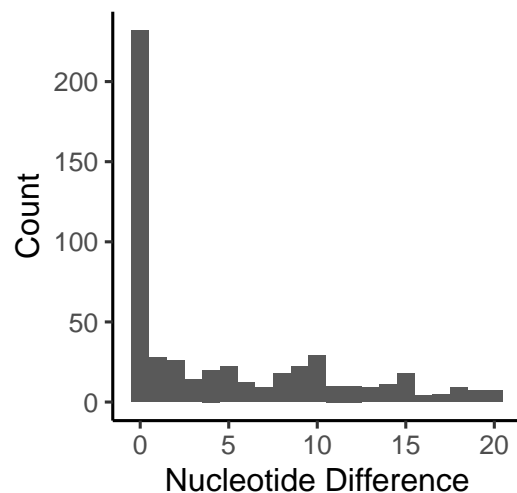
### IGHV3-20\*03\_04

77 sequences assigned  
No exact matches.



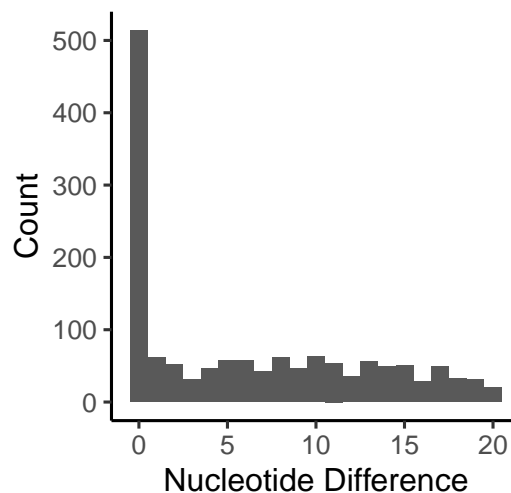
### IGHV3-11\*06

591 sequences assigned  
232 (39.3%) exact matches, in which:  
186 unique CDR3  
6 unique J



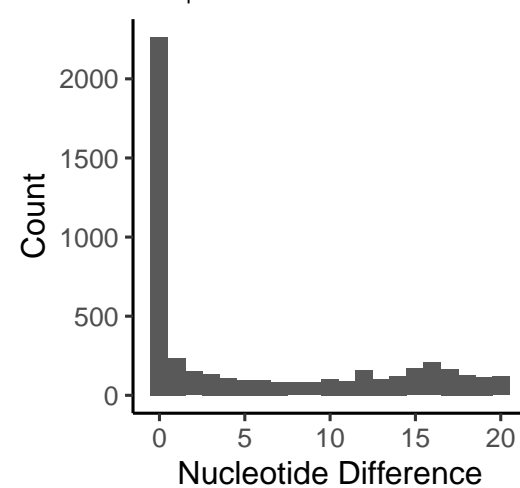
### IGHV3-15\*01\_02

1666 sequences assigned  
514 (30.9%) exact matches, in which:  
416 unique CDR3  
6 unique J



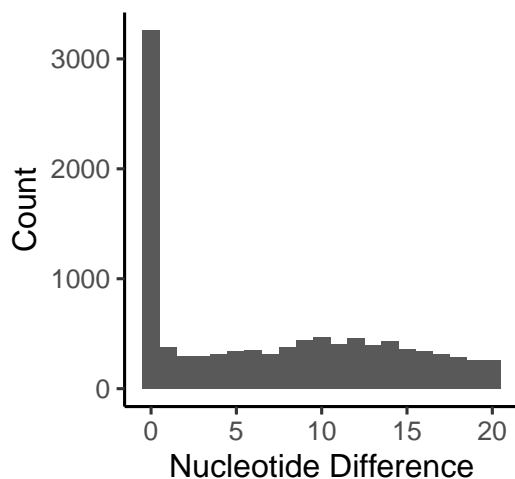
### IGHV3-21\*01\_02

5561 sequences assigned  
2264 (40.7%) exact matches, in which:  
1661 unique CDR3  
6 unique J



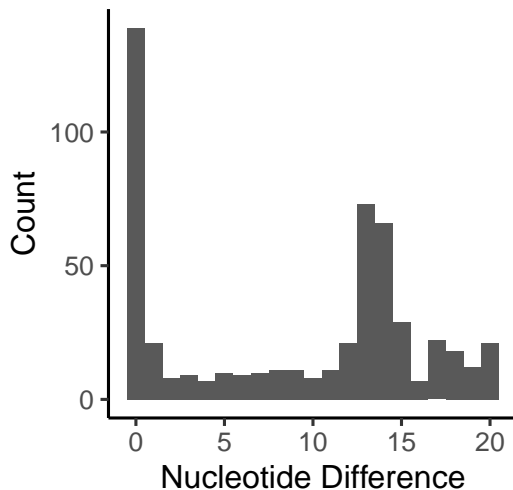
### IGHV3-23\*01\_04

12841 sequences assigned  
3259 (25.4%) exact matches, in which:  
2721 unique CDR3  
6 unique J



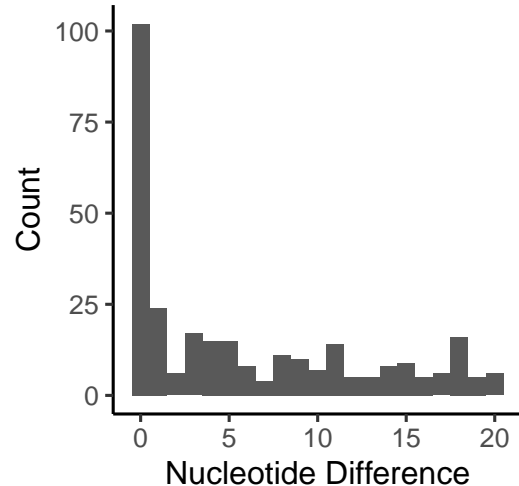
### IGHV3-30\*03\_T288C

671 sequences assigned  
139 (20.7%) exact matches, in which:  
107 unique CDR3  
6 unique J



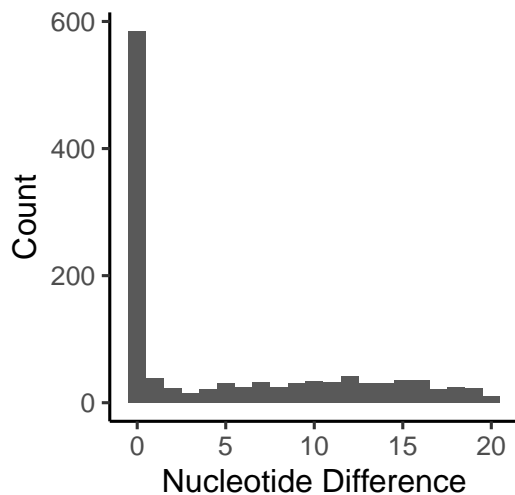
### IGHV3-43\*02

369 sequences assigned  
102 (27.6%) exact matches, in which:  
93 unique CDR3  
4 unique J



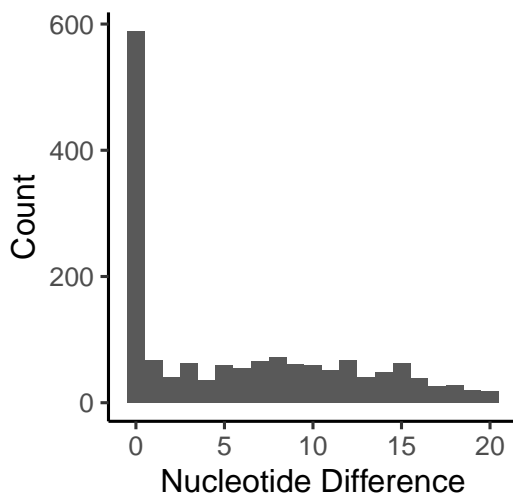
### IGHV3-30-3\*01

1322 sequences assigned  
585 (44.3%) exact matches, in which:  
517 unique CDR3  
6 unique J



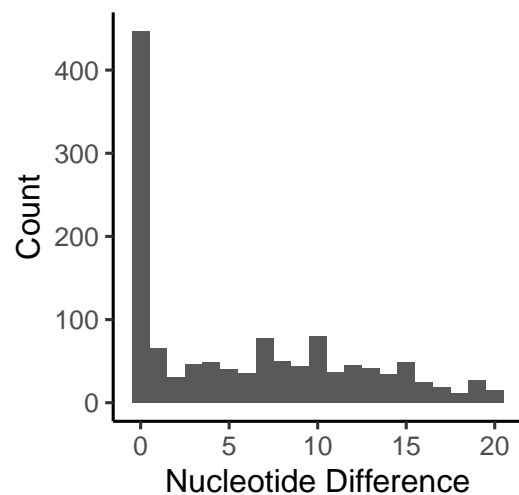
### IGHV3-33\*01

1689 sequences assigned  
589 (34.9%) exact matches, in which:  
457 unique CDR3  
6 unique J



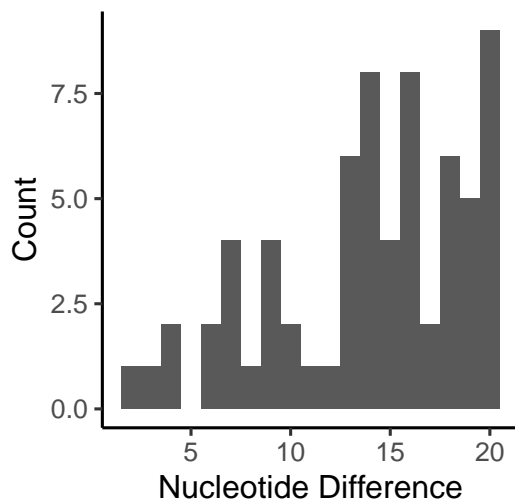
### IGHV3-48\*02

1357 sequences assigned  
447 (32.9%) exact matches, in which:  
336 unique CDR3  
6 unique J



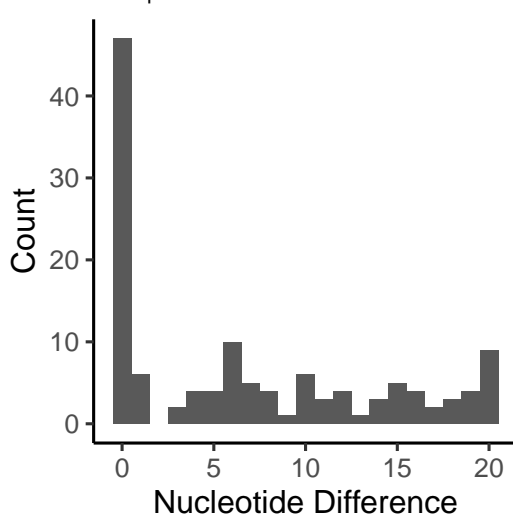
### IGHV3-30\*04

146 sequences assigned  
No exact matches.



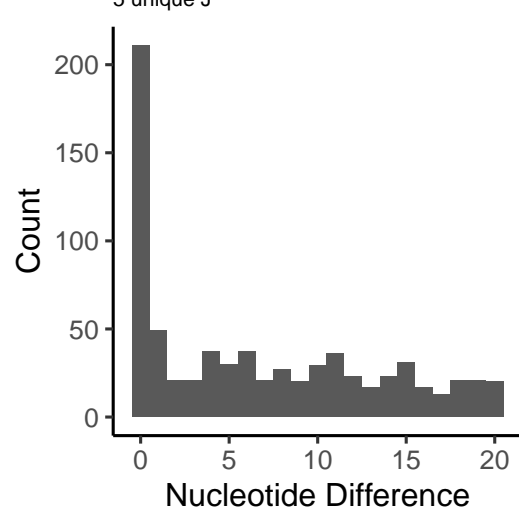
### IGHV3-43\*01

141 sequences assigned  
47 (33.3%) exact matches, in which:  
38 unique CDR3  
5 unique J



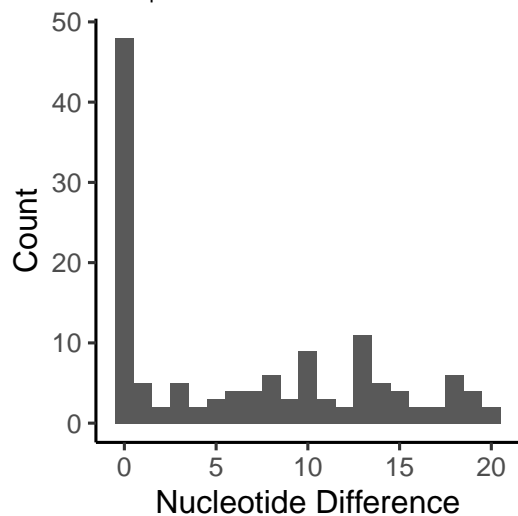
### IGHV3-48\*03

841 sequences assigned  
211 (25.1%) exact matches, in which:  
175 unique CDR3  
5 unique J



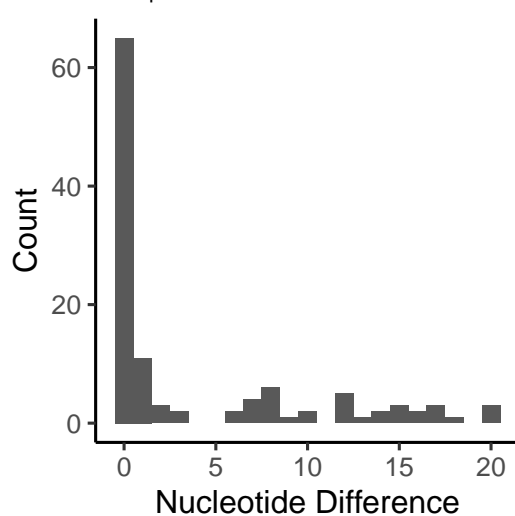
### IGHV3-49\*04

162 sequences assigned  
48 (29.6%) exact matches, in which:  
45 unique CDR3  
4 unique J



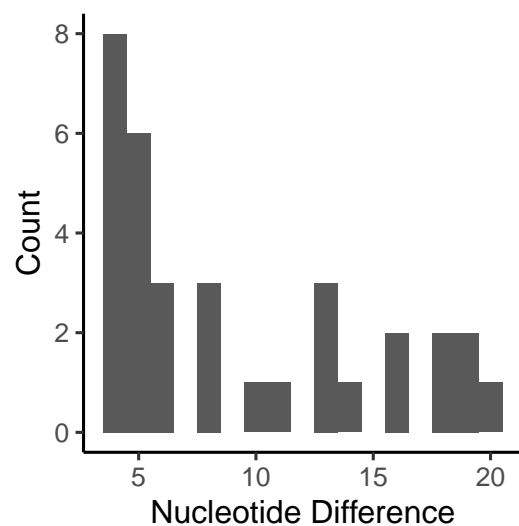
### IGHV3-53\*04

130 sequences assigned  
65 (50%) exact matches, in which:  
57 unique CDR3  
5 unique J



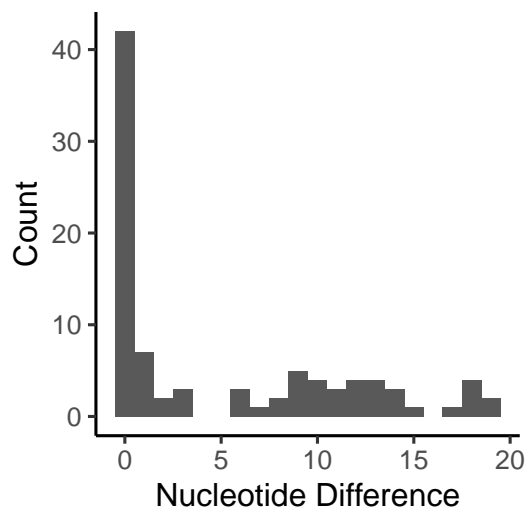
### IGHV3-64\*02\_07

43 sequences assigned  
No exact matches.



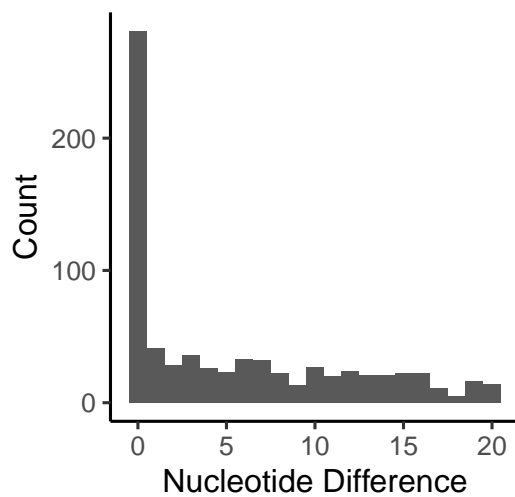
### IGHV3-49\*03\_05

97 sequences assigned  
42 (43.3%) exact matches, in which:  
39 unique CDR3  
5 unique J



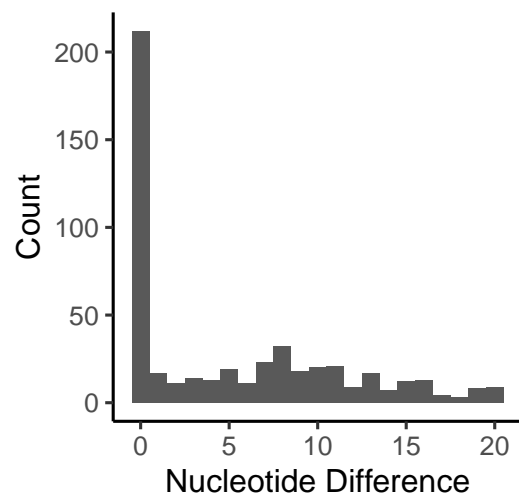
### IGHV3-53\*01\_02

816 sequences assigned  
281 (34.4%) exact matches, in which:  
237 unique CDR3  
6 unique J



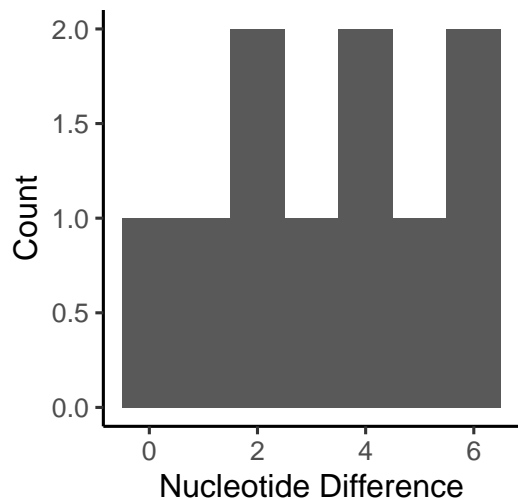
### IGHV3-66\*01

586 sequences assigned  
212 (36.2%) exact matches, in which:  
175 unique CDR3  
5 unique J



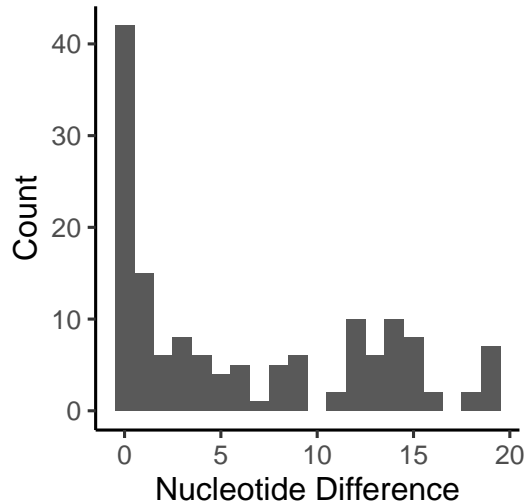
### IGHV3-52\*01\_03

10 sequences assigned  
1 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



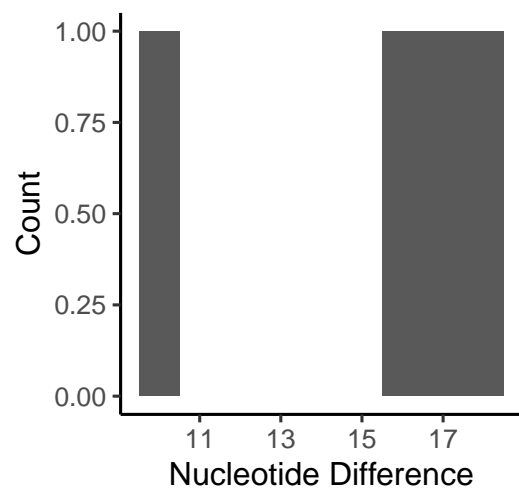
### IGHV3-64\*01

154 sequences assigned  
42 (27.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



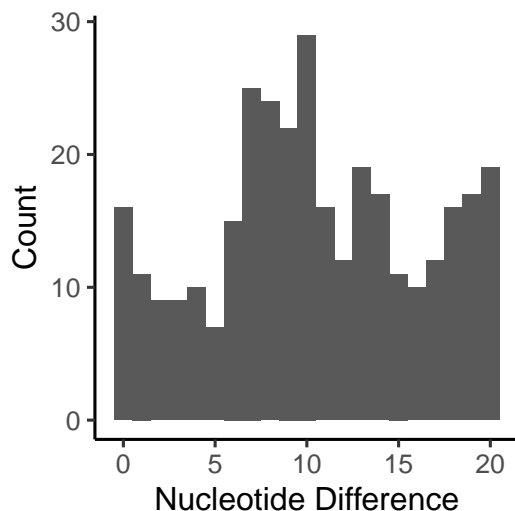
### IGHV3-69-1\*01

16 sequences assigned  
No exact matches.



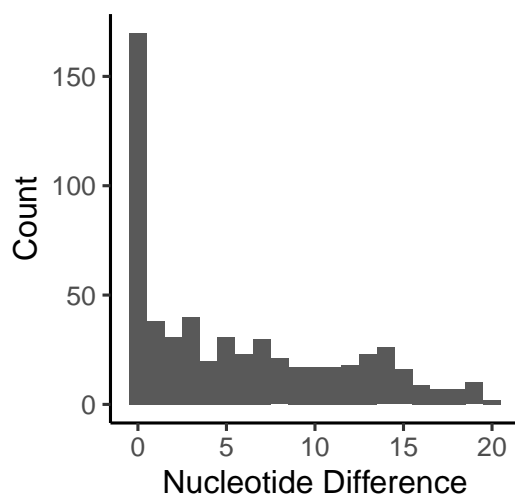
### IGHV3-72\*01

388 sequences assigned  
16 (4.1%) exact matches, in which:  
12 unique CDR3  
4 unique J



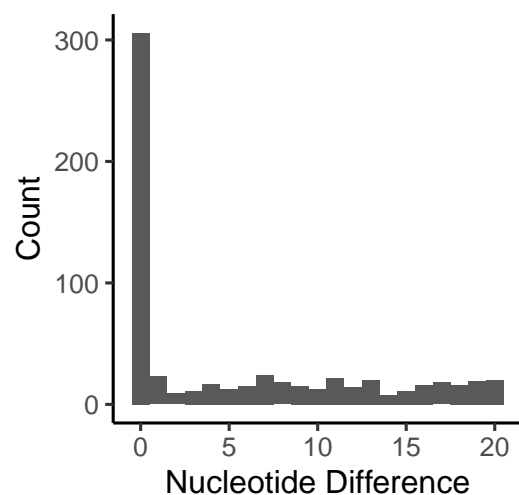
### IGHV3-74\*01\_02

639 sequences assigned  
170 (26.6%) exact matches, in which:  
132 unique CDR3  
6 unique J



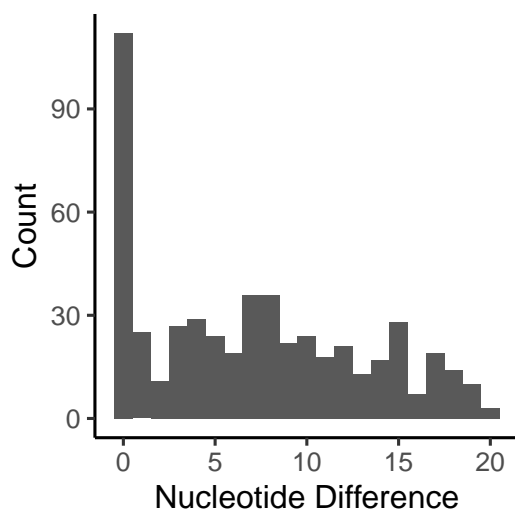
### IGHV4-4\*07

700 sequences assigned  
306 (43.7%) exact matches, in which:  
292 unique CDR3  
6 unique J



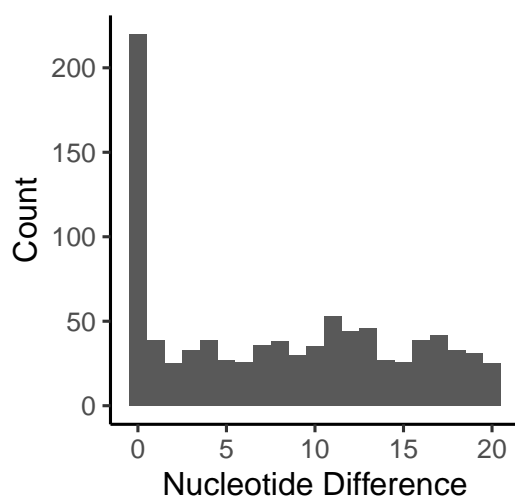
### IGHV3-73\*01\_02

573 sequences assigned  
112 (19.5%) exact matches, in which:  
64 unique CDR3  
4 unique J



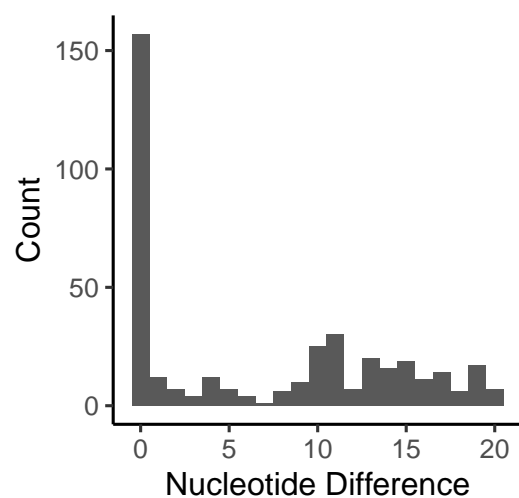
### IGHV3-74\*01\_02\_G297A

1055 sequences assigned  
220 (20.9%) exact matches, in which:  
163 unique CDR3  
6 unique J



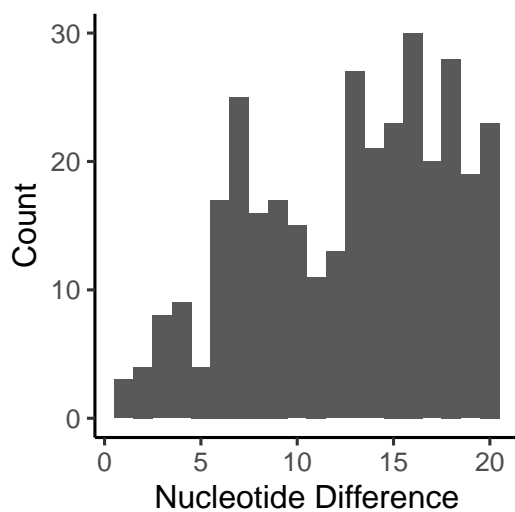
### IGHV4-4\*02\_03

432 sequences assigned  
157 (36.3%) exact matches, in which:  
146 unique CDR3  
6 unique J



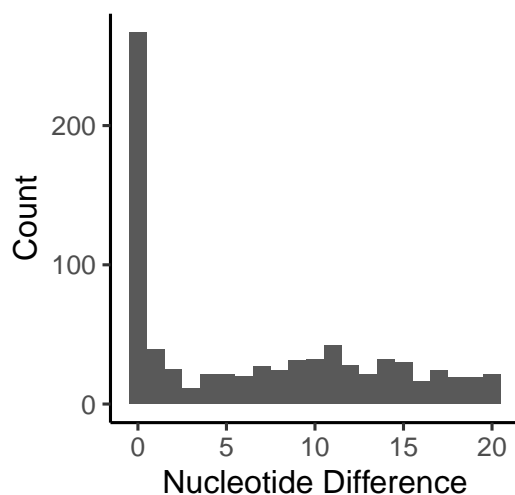
### IGHV3-74\*03

459 sequences assigned  
No exact matches.



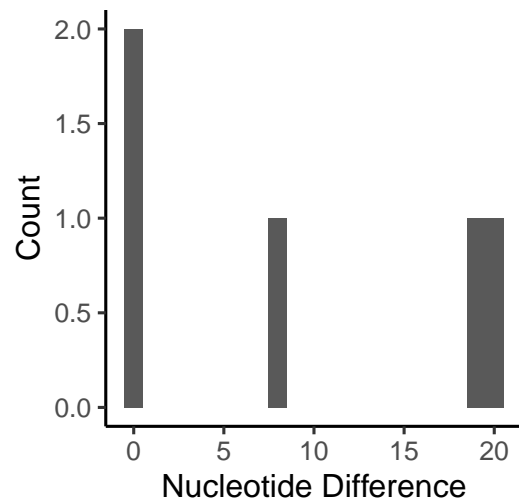
### IGHV3-64D\*06

877 sequences assigned  
267 (30.4%) exact matches, in which:  
239 unique CDR3  
6 unique J



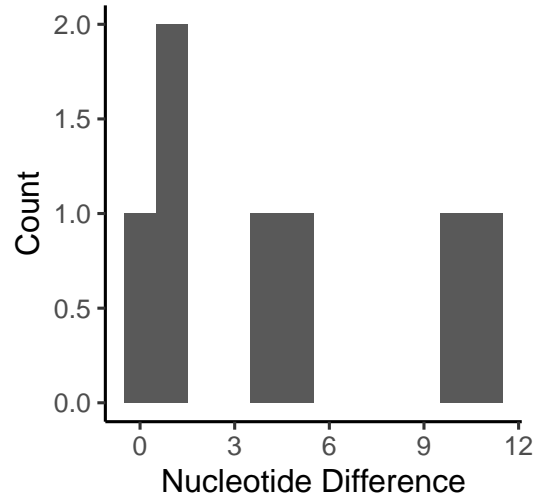
### IGHV4-28\*03

5 sequences assigned  
2 (40%) exact matches, in which:  
1 unique CDR3  
1 unique J



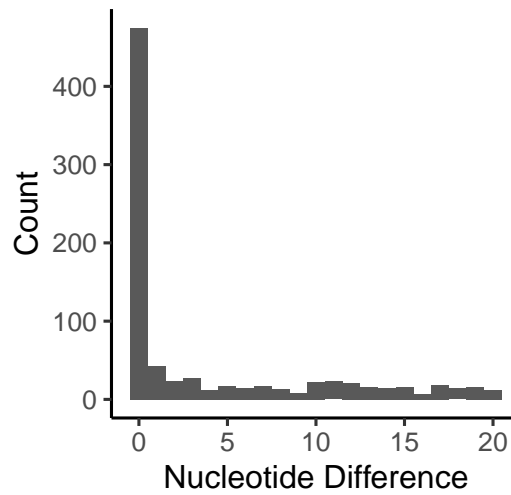
### IGHV4-28\*01\_07

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



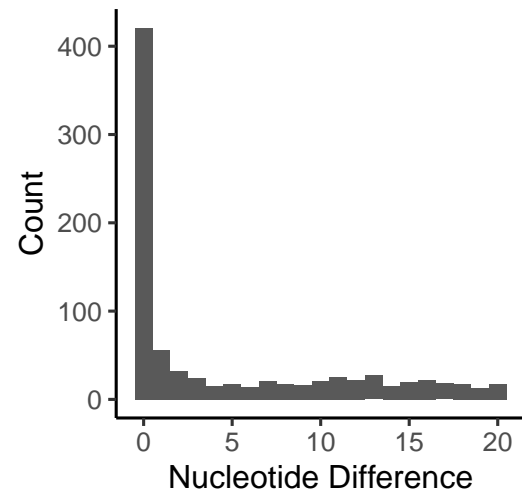
### IGHV4-31\*02

924 sequences assigned  
475 (51.4%) exact matches, in which:  
439 unique CDR3  
6 unique J



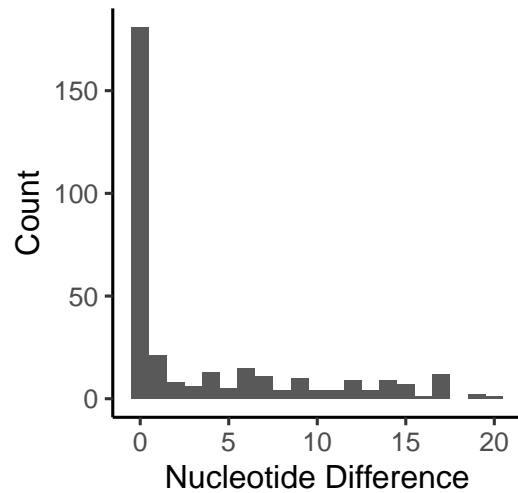
### IGHV4-59\*08

1018 sequences assigned  
421 (41.4%) exact matches, in which:  
397 unique CDR3  
6 unique J



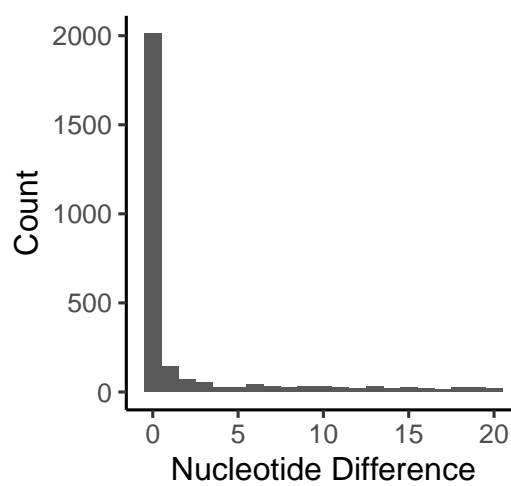
### IGHV4-30-2\*01

365 sequences assigned  
181 (49.6%) exact matches, in which:  
167 unique CDR3  
6 unique J



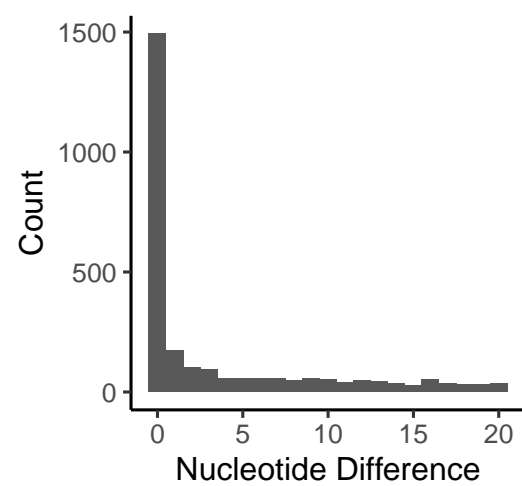
### IGHV4-34\*01\_02

2908 sequences assigned  
2011 (69.2%) exact matches, in which:  
1915 unique CDR3  
6 unique J



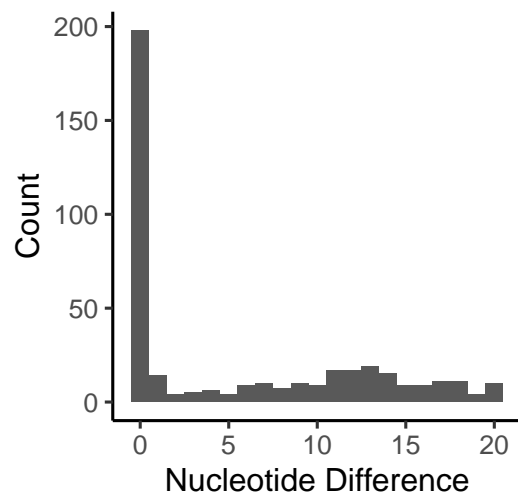
### IGHV4-59\*02\_G88A

3044 sequences assigned  
1493 (49%) exact matches, in which:  
1349 unique CDR3  
6 unique J



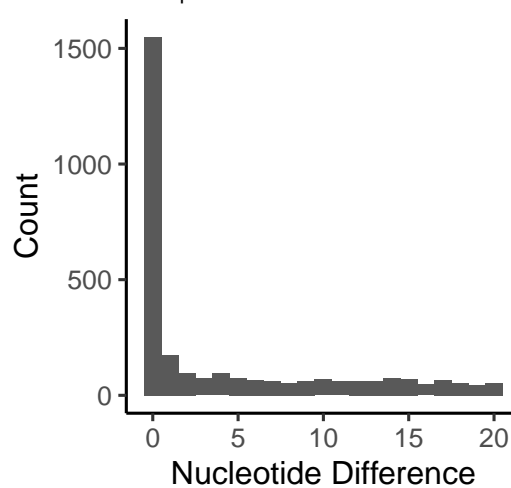
### IGHV4-30-4\*01

494 sequences assigned  
198 (40.1%) exact matches, in which:  
184 unique CDR3  
6 unique J



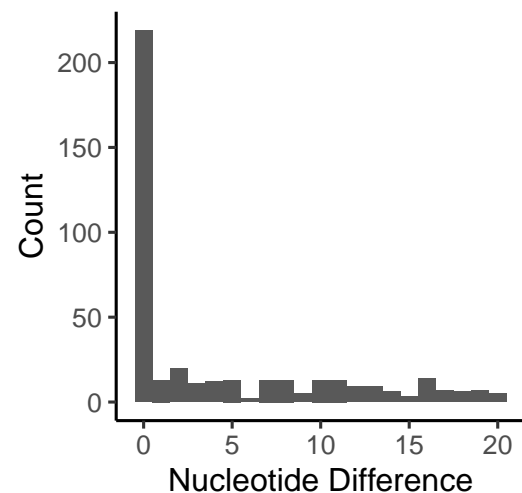
### IGHV4-39\*02\_C258G

3402 sequences assigned  
1549 (45.5%) exact matches, in which:  
1376 unique CDR3  
6 unique J



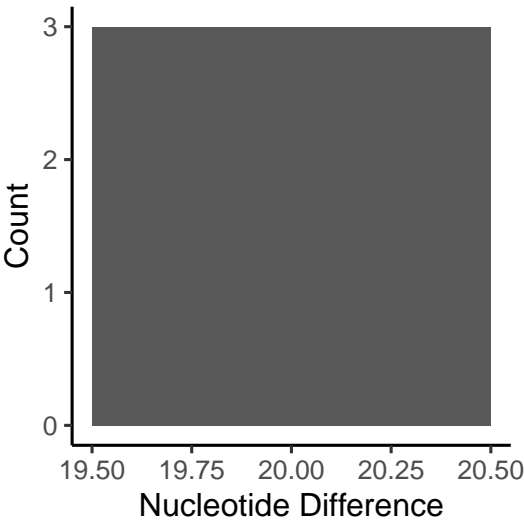
### IGHV4-61\*01

466 sequences assigned  
219 (47%) exact matches, in which:  
201 unique CDR3  
6 unique J



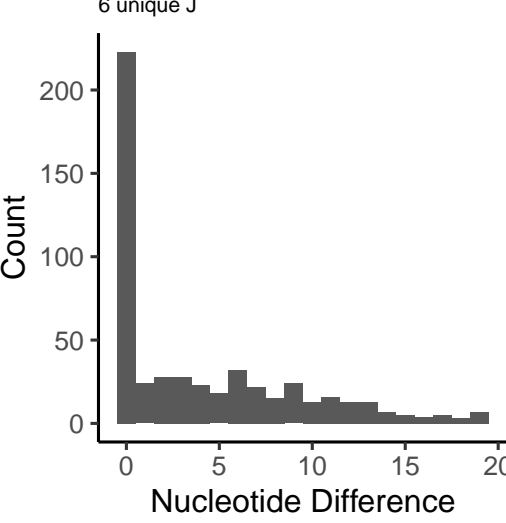
IGHV4/OR15-8\*01

6 sequences assigned  
No exact matches.



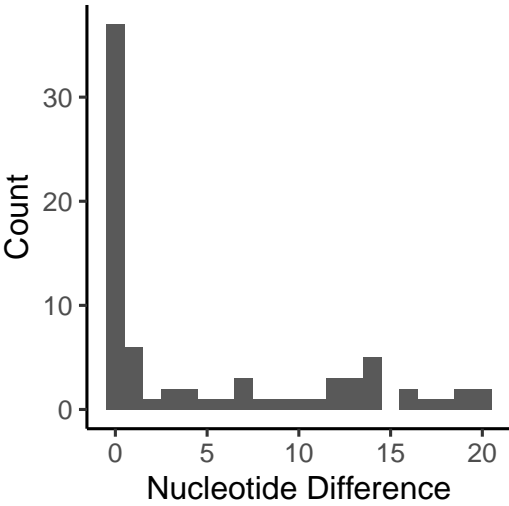
IGHV6-1\*01\_02

550 sequences assigned  
223 (40.5%) exact matches, in which:  
220 unique CDR3  
6 unique J



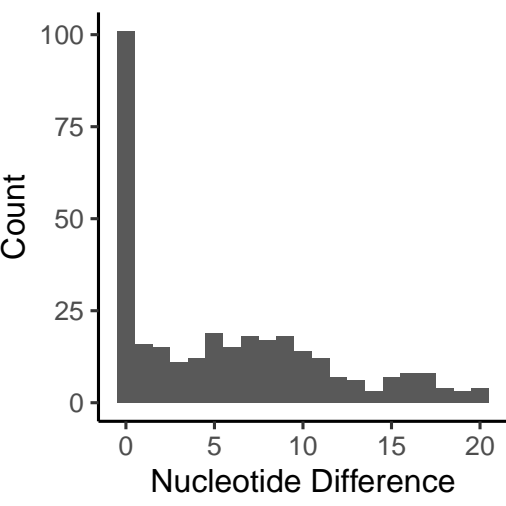
IGHV5-10-1\*01\_03

91 sequences assigned  
37 (40.7%) exact matches, in which:  
37 unique CDR3  
4 unique J



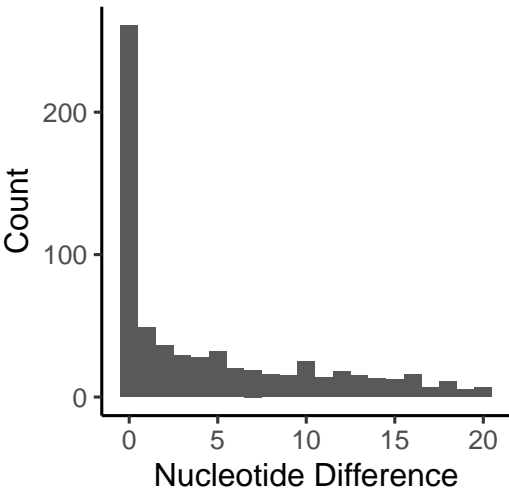
IGHV7-4-1\*02

326 sequences assigned  
101 (31%) exact matches, in which:  
100 unique CDR3  
5 unique J



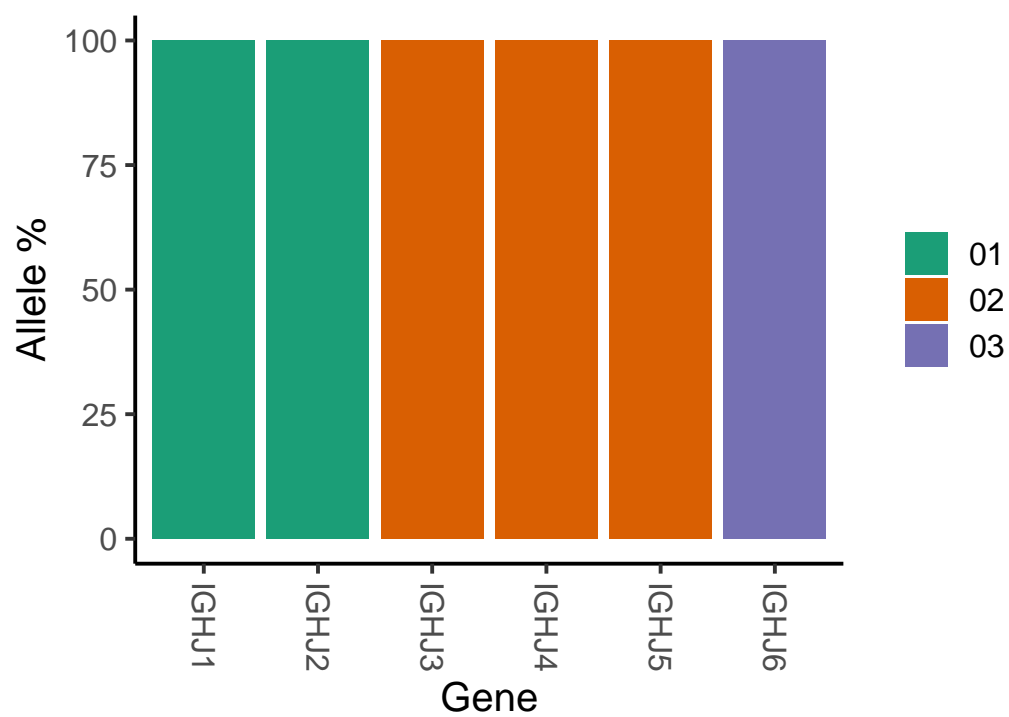
IGHV5-51\*07\_A128G

677 sequences assigned  
261 (38.6%) exact matches, in which:  
259 unique CDR3  
6 unique J





Allele Usage



Warning – no inferred sequences found.