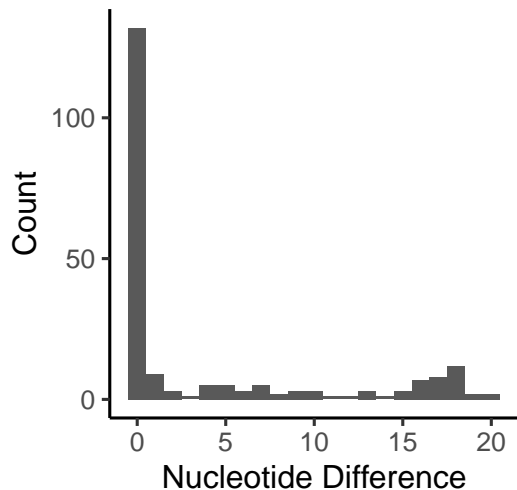


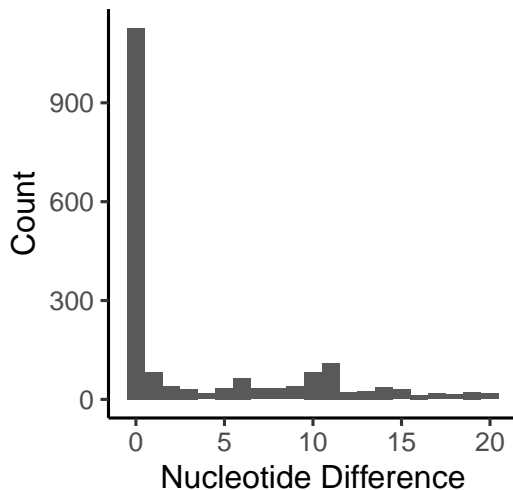
### IGHV1-2\*04

294 sequences assigned  
132 (44.9%) exact matches, in which:  
129 unique CDR3  
5 unique J



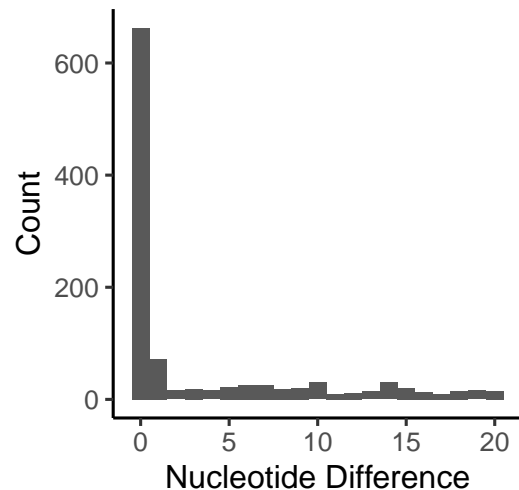
### IGHV1-18\*01

2142 sequences assigned  
1128 (52.7%) exact matches, in which:  
1100 unique CDR3  
6 unique J



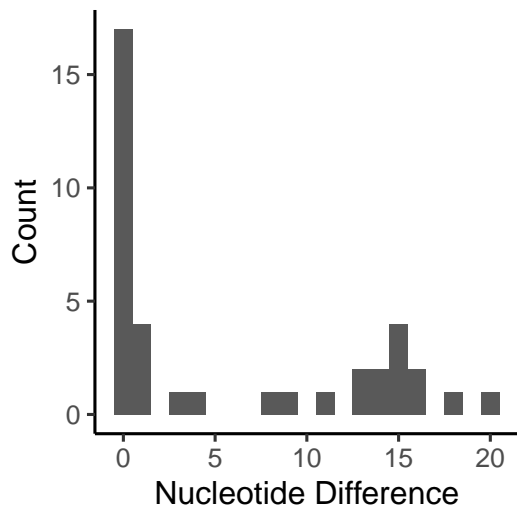
### IGHV1-46\*01

1183 sequences assigned  
663 (56%) exact matches, in which:  
652 unique CDR3  
6 unique J



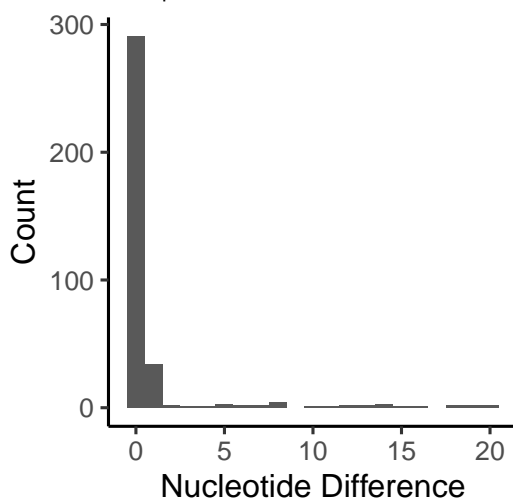
### IGHV1-2\*05

39 sequences assigned  
17 (43.6%) exact matches, in which:  
17 unique CDR3  
4 unique J



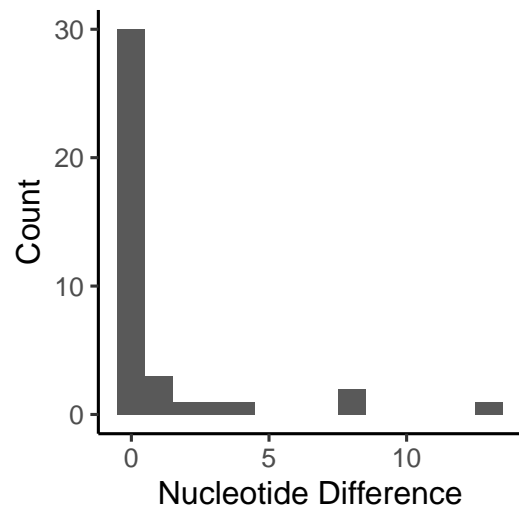
### IGHV1-24\*01

461 sequences assigned  
291 (63.1%) exact matches, in which:  
289 unique CDR3  
6 unique J



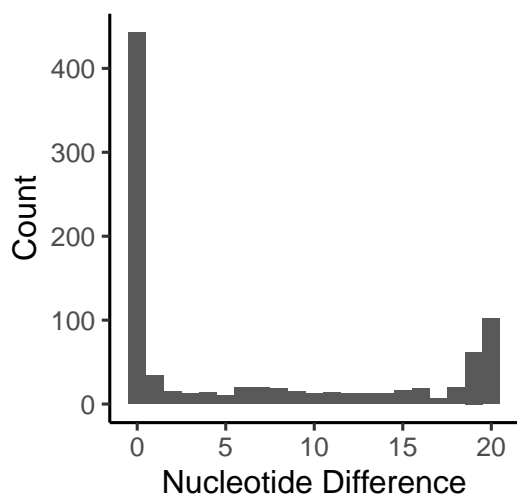
### IGHV1-58\*02

41 sequences assigned  
30 (73.2%) exact matches, in which:  
30 unique CDR3  
4 unique J



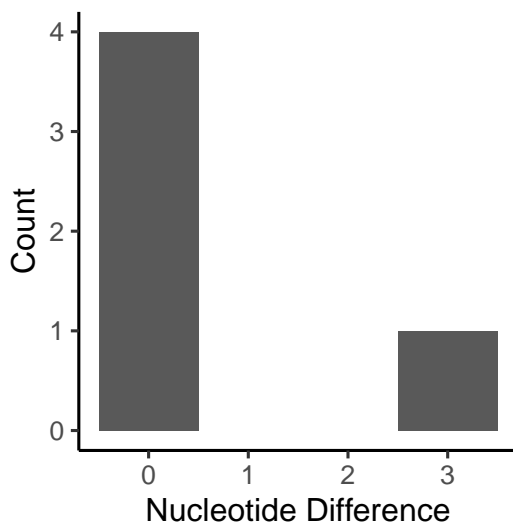
### IGHV1-3\*01\_05

1019 sequences assigned  
443 (43.5%) exact matches, in which:  
440 unique CDR3  
5 unique J



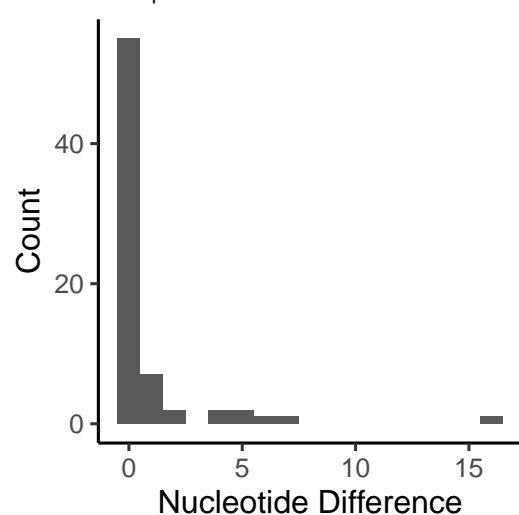
### IGHV1-45\*02

5 sequences assigned  
4 (80%) exact matches, in which:  
3 unique CDR3  
1 unique J



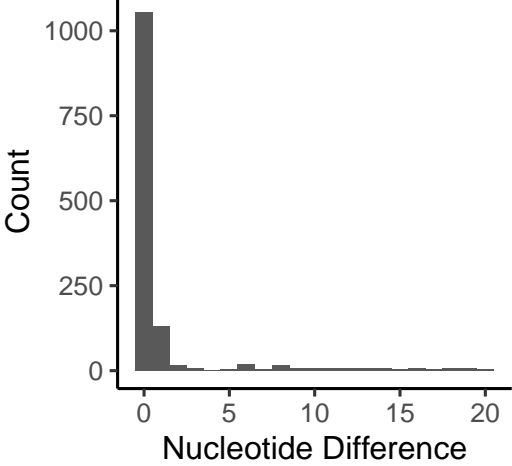
### IGHV1-58\*01\_03

74 sequences assigned  
55 (74.3%) exact matches, in which:  
52 unique CDR3  
5 unique J



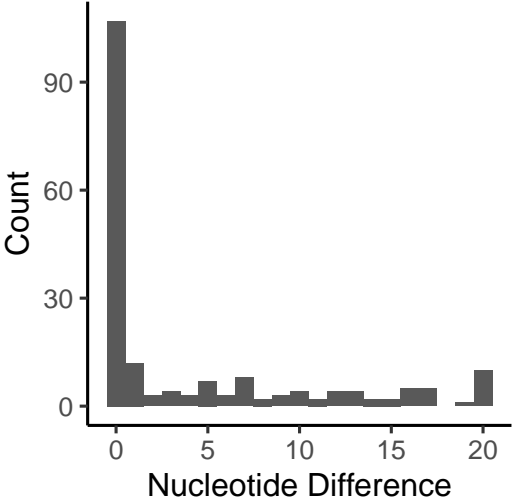
IGHV1-69\*01\_12\_13

1408 sequences assigned  
1054 (74.9%) exact matches, in which:  
1038 unique CDR3  
6 unique J



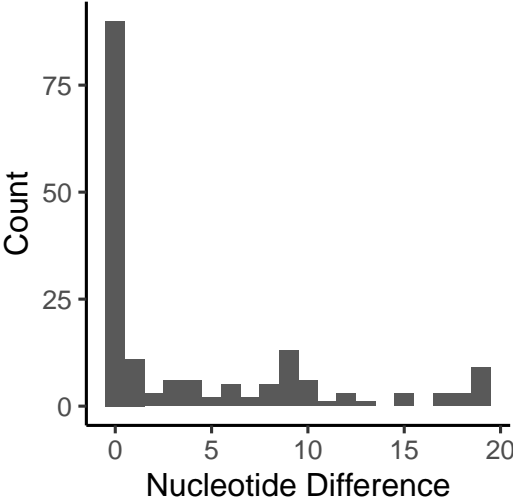
IGHV2-5\*02

281 sequences assigned  
107 (38.1%) exact matches, in which:  
105 unique CDR3  
6 unique J



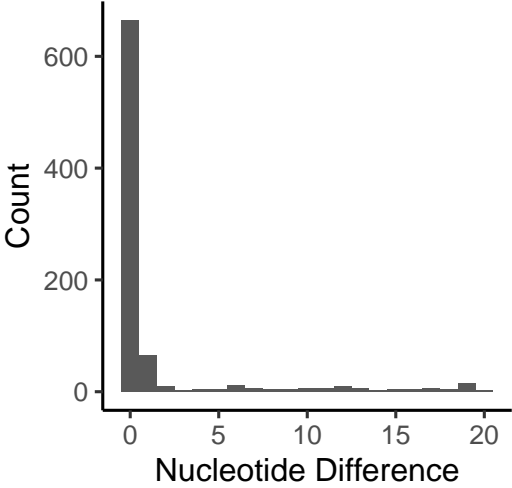
IGHV2-70\*11\_15

173 sequences assigned  
90 (52%) exact matches, in which:  
90 unique CDR3  
5 unique J



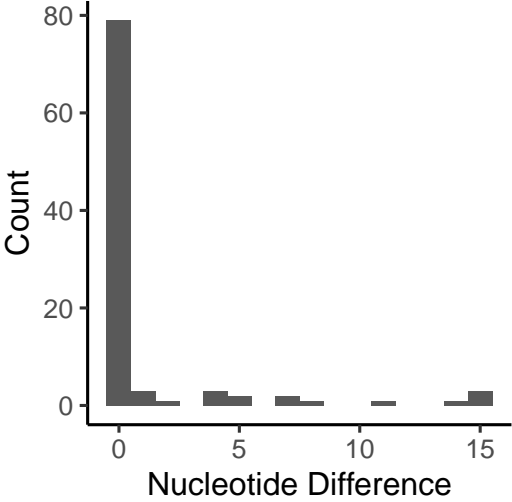
IGHV1-69\*04\_09

927 sequences assigned  
665 (71.7%) exact matches, in which:  
656 unique CDR3  
6 unique J



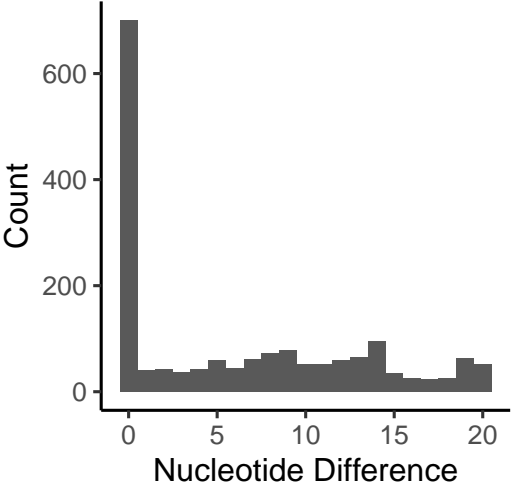
IGHV2-26\*01

96 sequences assigned  
79 (82.3%) exact matches, in which:  
75 unique CDR3  
5 unique J



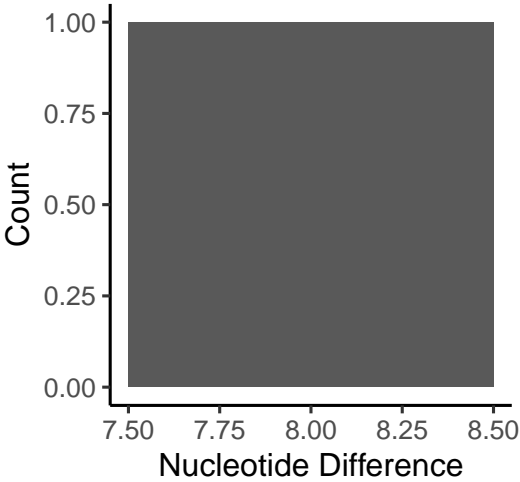
IGHV3-7\*03

1887 sequences assigned  
701 (37.1%) exact matches, in which:  
420 unique CDR3  
6 unique J



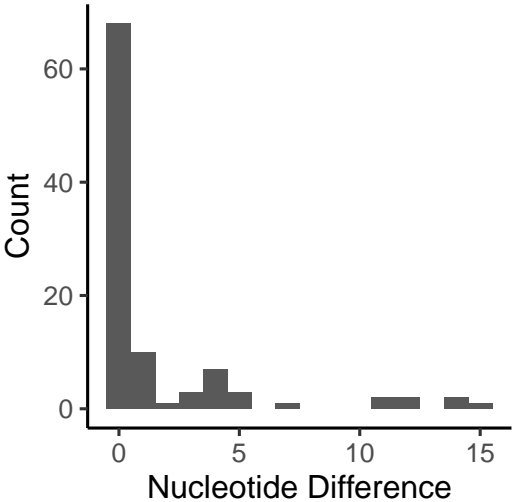
IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



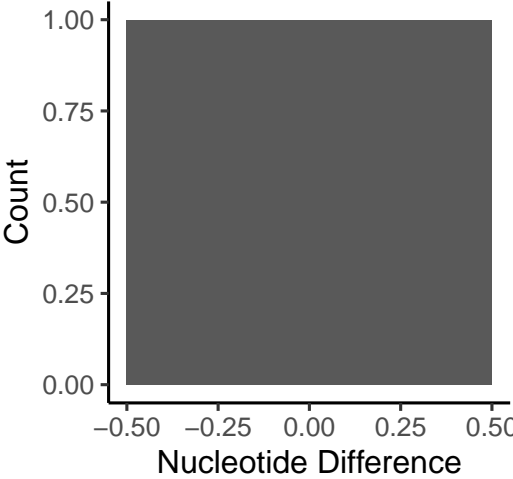
IGHV2-70\*01

104 sequences assigned  
68 (65.4%) exact matches, in which:  
66 unique CDR3  
5 unique J



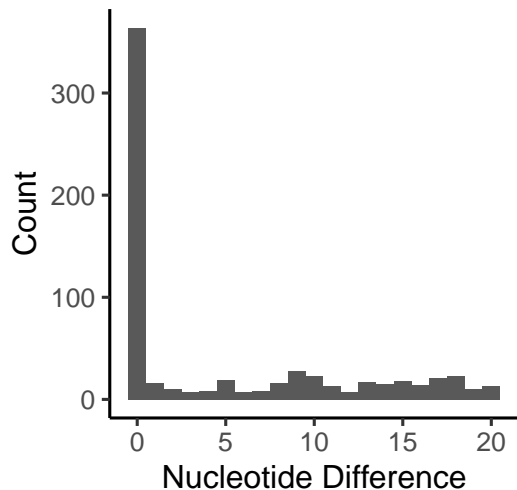
IGHV3-9\*01

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



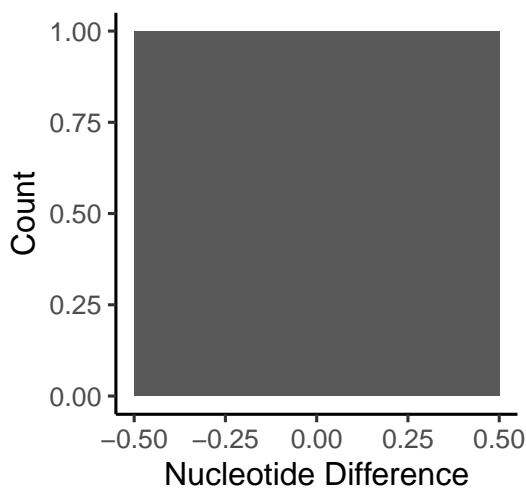
### IGHV3-11\*06

911 sequences assigned  
364 (40%) exact matches, in which:  
230 unique CDR3  
6 unique J



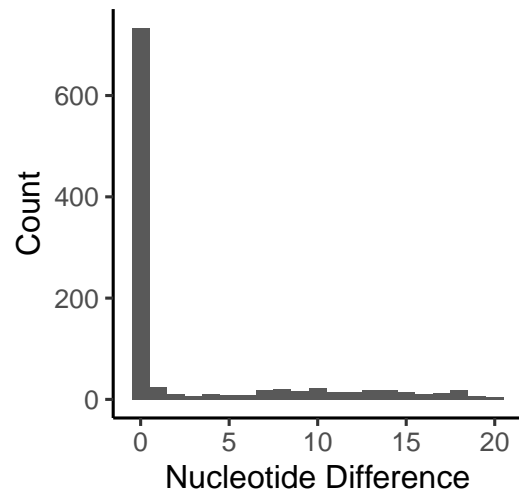
### IGHV3-19\*01

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



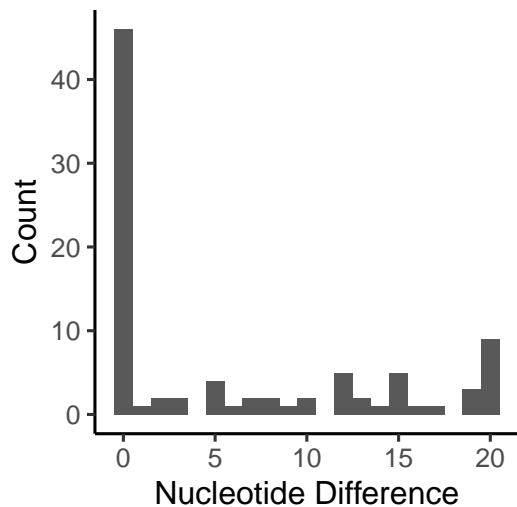
### IGHV3-30\*01

1075 sequences assigned  
734 (68.3%) exact matches, in which:  
465 unique CDR3  
6 unique J



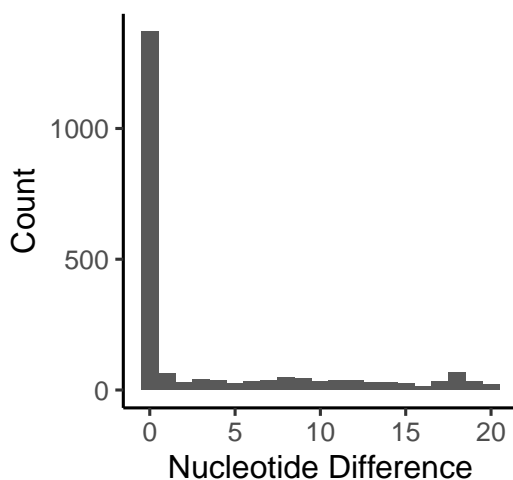
### IGHV3-13\*05

105 sequences assigned  
46 (43.8%) exact matches, in which:  
27 unique CDR3  
4 unique J



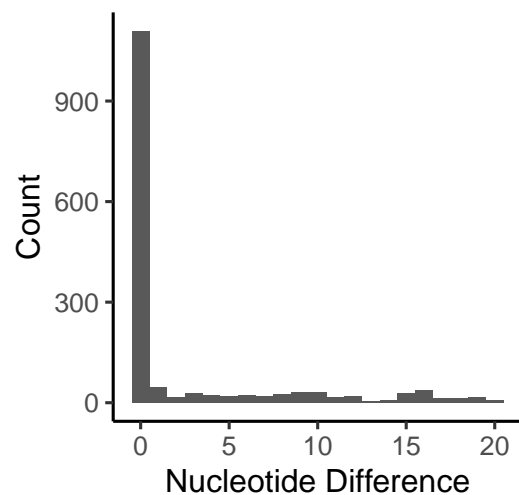
### IGHV3-21\*01\_02

2293 sequences assigned  
1370 (59.7%) exact matches, in which:  
824 unique CDR3  
6 unique J



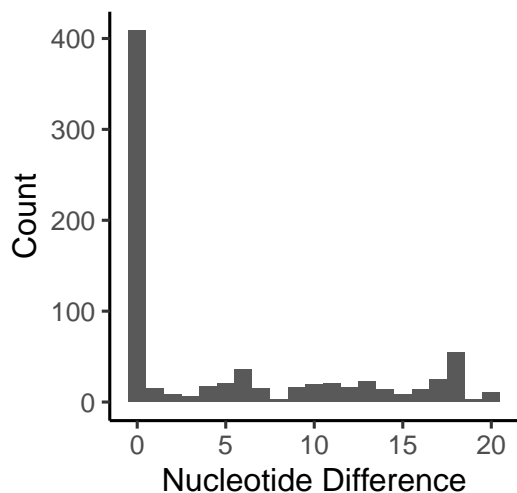
### IGHV3-30-3\*01

1714 sequences assigned  
1109 (64.7%) exact matches, in which:  
680 unique CDR3  
6 unique J



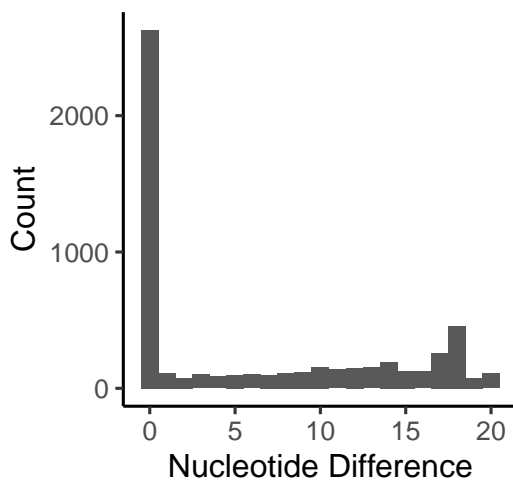
### IGHV3-15\*01\_02

844 sequences assigned  
409 (48.5%) exact matches, in which:  
271 unique CDR3  
6 unique J



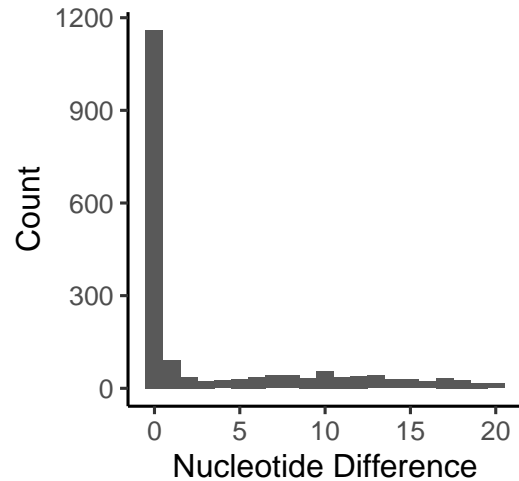
### IGHV3-23\*01\_04

6809 sequences assigned  
2628 (38.6%) exact matches, in which:  
1561 unique CDR3  
6 unique J



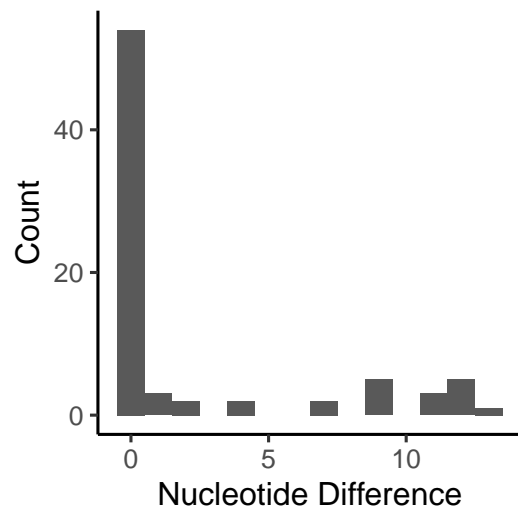
### IGHV3-33\*01

2056 sequences assigned  
1160 (56.4%) exact matches, in which:  
729 unique CDR3  
6 unique J



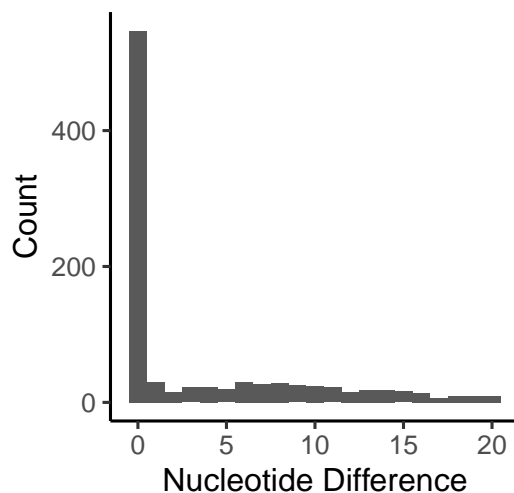
### IGHV3-43\*01

87 sequences assigned  
54 (62.1%) exact matches, in which:  
31 unique CDR3  
4 unique J



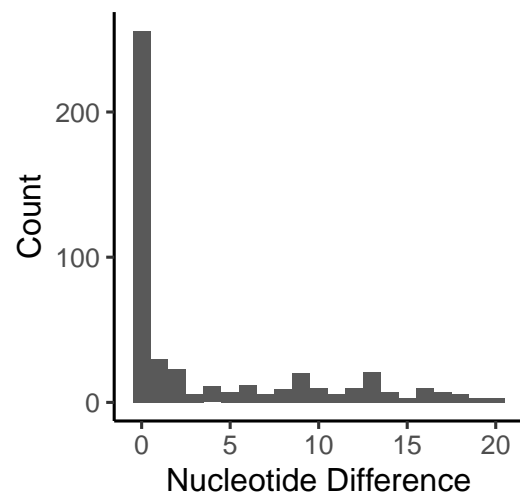
### IGHV3-48\*03

1166 sequences assigned  
547 (46.9%) exact matches, in which:  
347 unique CDR3  
6 unique J



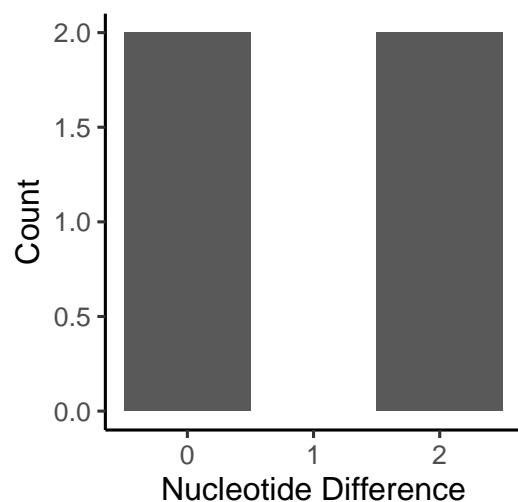
### IGHV3-53\*01\_02

513 sequences assigned  
256 (49.9%) exact matches, in which:  
152 unique CDR3  
6 unique J



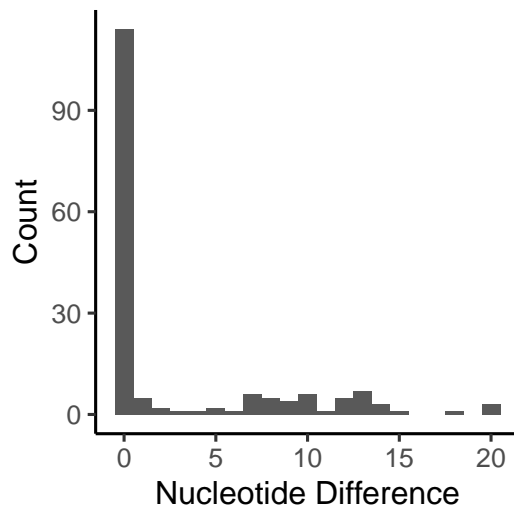
### IGHV3-47\*02

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



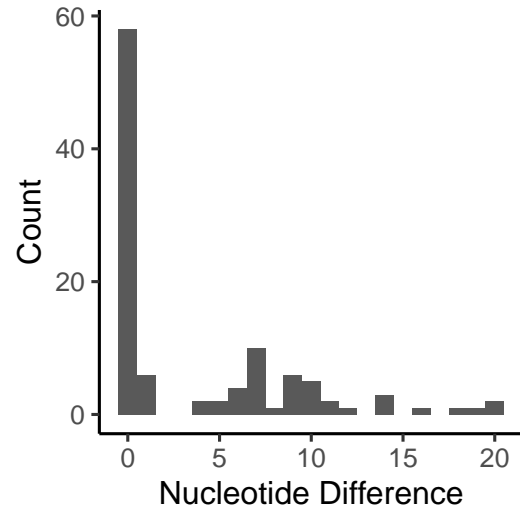
### IGHV3-49\*04

174 sequences assigned  
114 (65.5%) exact matches, in which:  
75 unique CDR3  
5 unique J



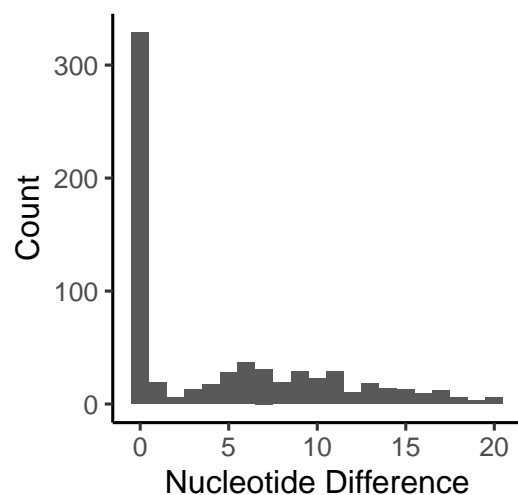
### IGHV3-64\*01

141 sequences assigned  
58 (41.1%) exact matches, in which:  
33 unique CDR3  
4 unique J



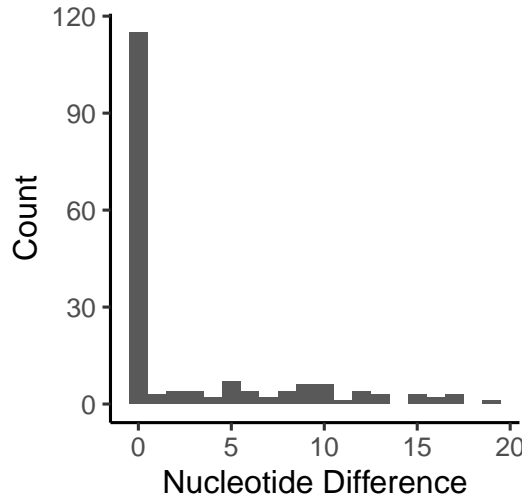
### IGHV3-48\*01

757 sequences assigned  
329 (43.5%) exact matches, in which:  
201 unique CDR3  
6 unique J



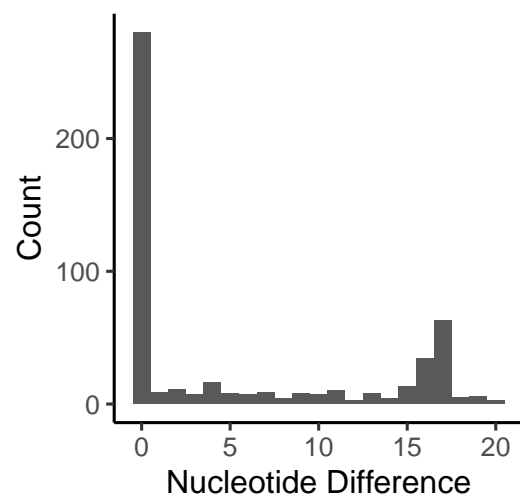
### IGHV3-49\*03\_05

181 sequences assigned  
115 (63.5%) exact matches, in which:  
79 unique CDR3  
5 unique J



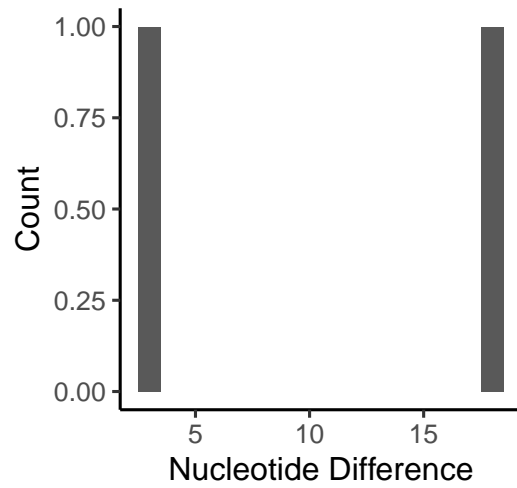
### IGHV3-66\*01

544 sequences assigned  
280 (51.5%) exact matches, in which:  
170 unique CDR3  
5 unique J



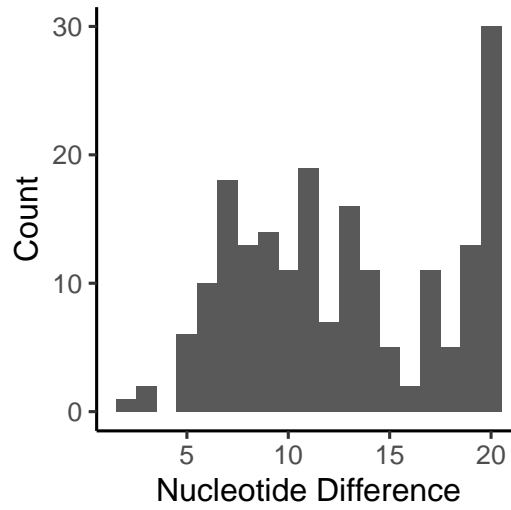
### IGHV3-69-1\*01

69 sequences assigned  
No exact matches.



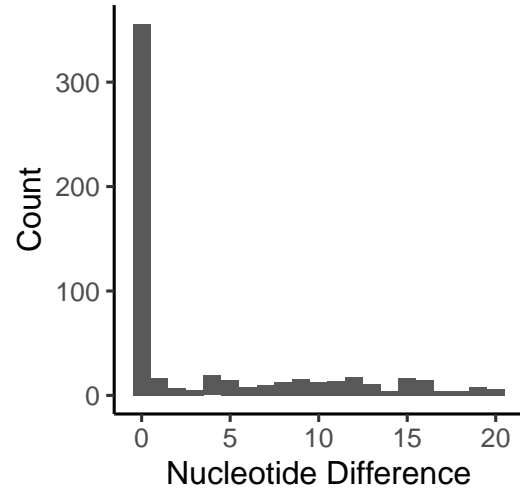
### IGHV3-74\*03

340 sequences assigned  
No exact matches.



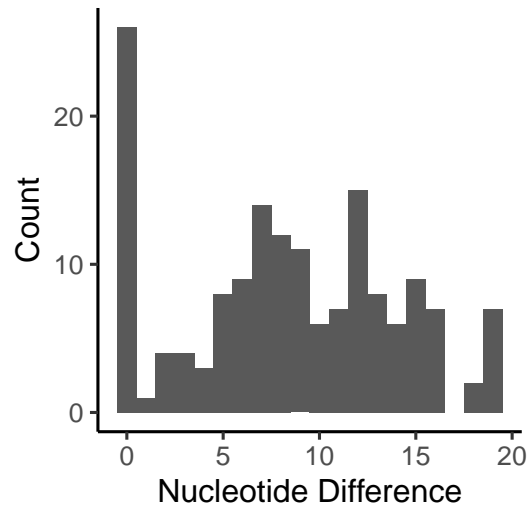
### IGHV3-64D\*06

679 sequences assigned  
356 (52.4%) exact matches, in which:  
200 unique CDR3  
6 unique J



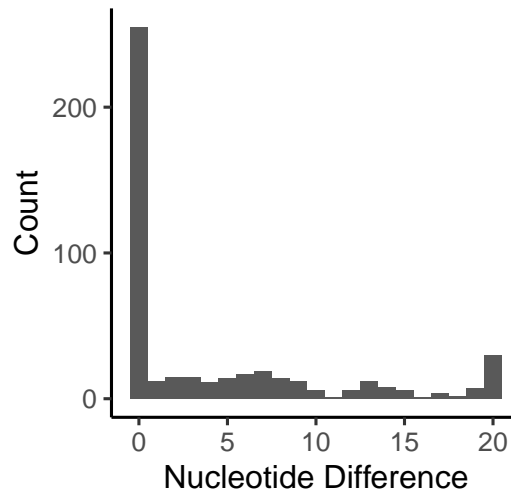
### IGHV3-72\*01

170 sequences assigned  
26 (15.3%) exact matches, in which:  
15 unique CDR3  
5 unique J



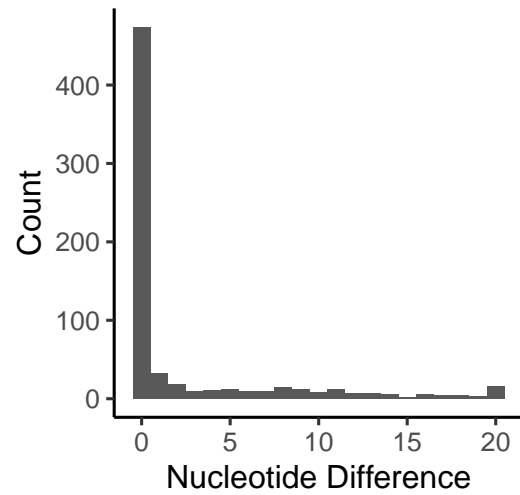
### IGHV3-74\*01\_02

539 sequences assigned  
255 (47.3%) exact matches, in which:  
149 unique CDR3  
6 unique J



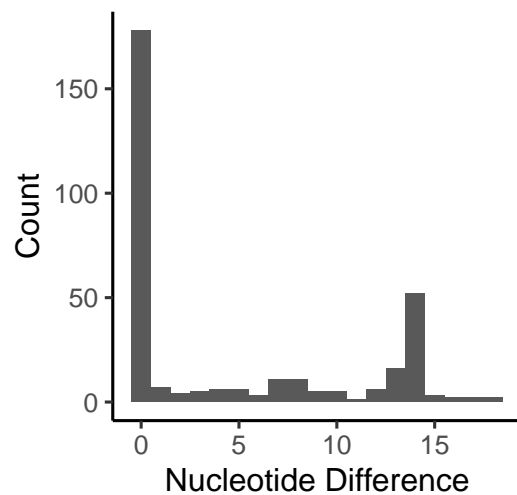
### IGHV4-4\*02\_03

939 sequences assigned  
474 (50.5%) exact matches, in which:  
454 unique CDR3  
6 unique J



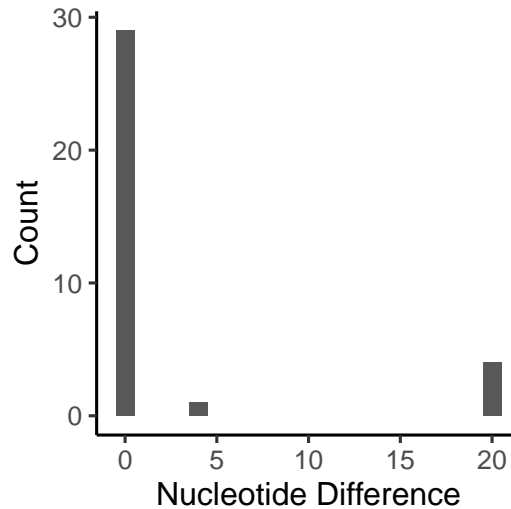
### IGHV3-73\*01\_02

477 sequences assigned  
178 (37.3%) exact matches, in which:  
117 unique CDR3  
6 unique J



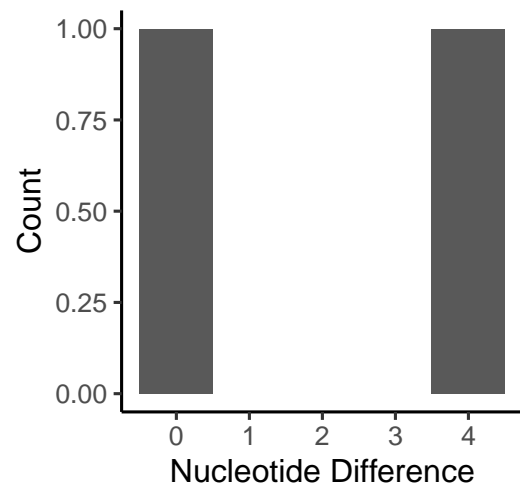
### IGHV3-43D\*04

36 sequences assigned  
29 (80.6%) exact matches, in which:  
19 unique CDR3  
3 unique J



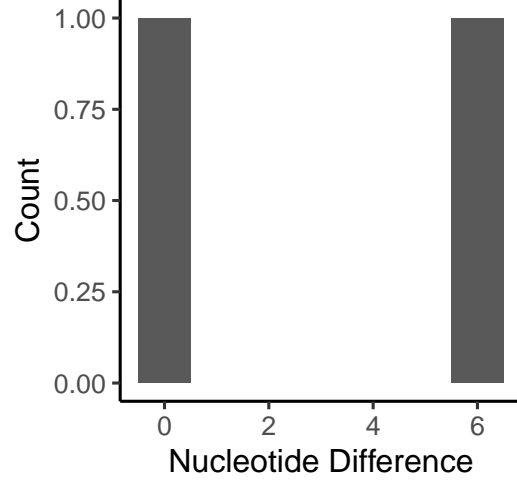
### IGHV4-28\*01\_07

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



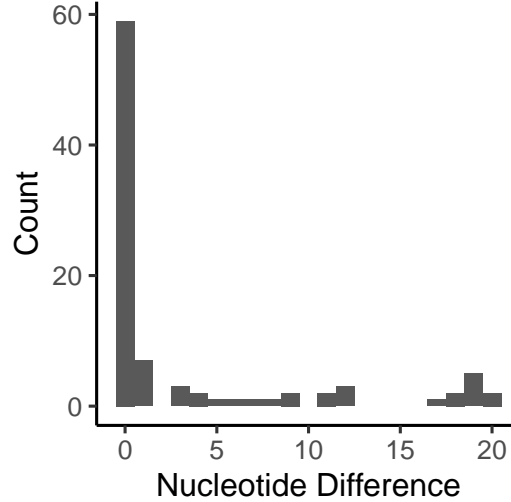
### IGHV4-28\*02\_05

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



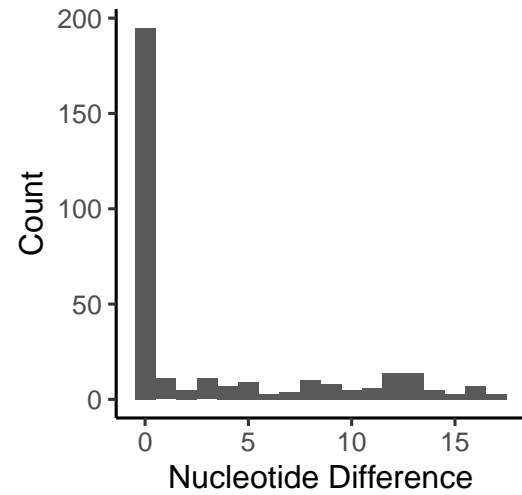
### IGHV4-31\*01

96 sequences assigned  
59 (61.5%) exact matches, in which:  
58 unique CDR3  
5 unique J



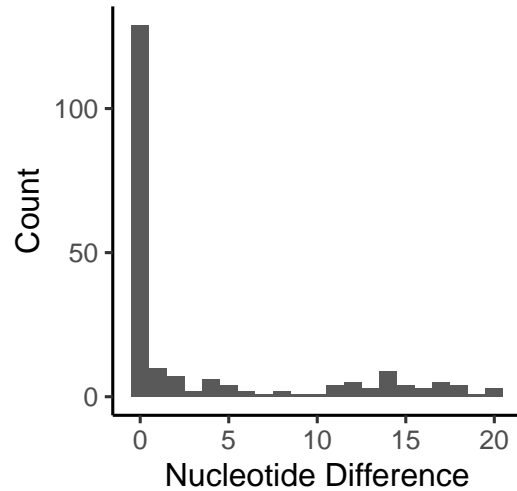
### IGHV4-38-2\*02\_A70G

743 sequences assigned  
195 (26.2%) exact matches, in which:  
190 unique CDR3  
6 unique J



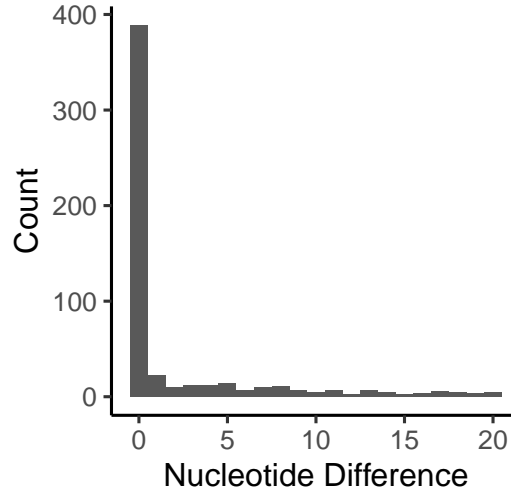
### IGHV4-30-2\*01

288 sequences assigned  
129 (44.8%) exact matches, in which:  
121 unique CDR3  
5 unique J



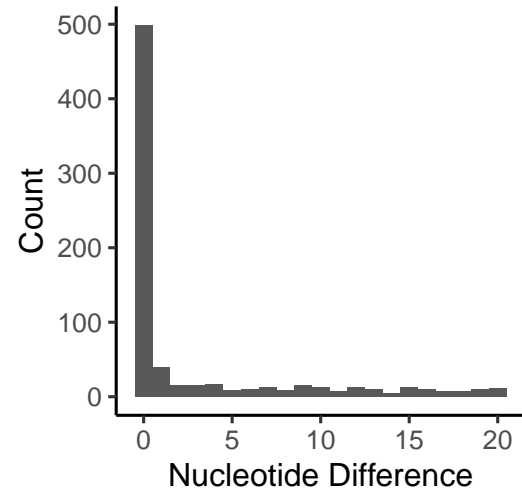
### IGHV4-31\*02

618 sequences assigned  
389 (62.9%) exact matches, in which:  
379 unique CDR3  
6 unique J



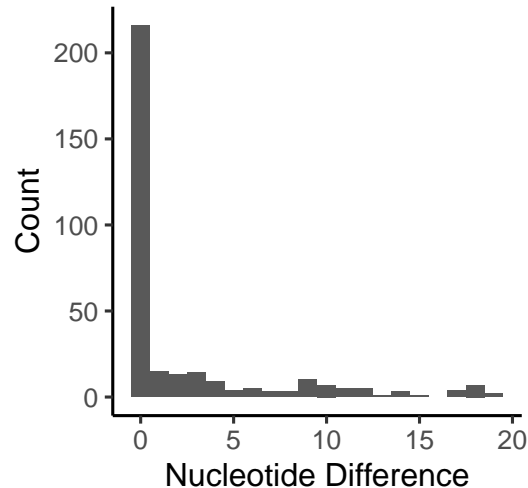
### IGHV4-39\*02\_C258G

991 sequences assigned  
499 (50.4%) exact matches, in which:  
486 unique CDR3  
6 unique J



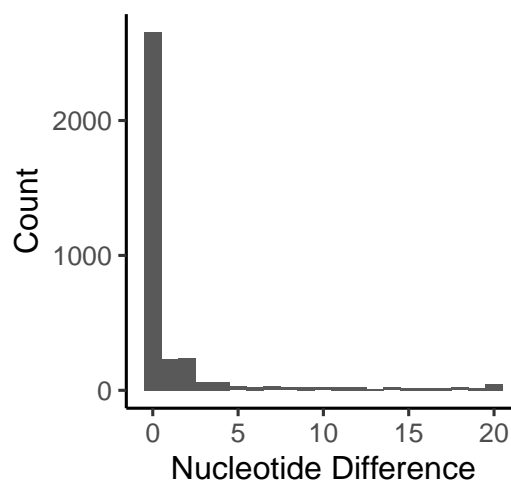
### IGHV4-30-4\*01

374 sequences assigned  
216 (57.8%) exact matches, in which:  
210 unique CDR3  
6 unique J



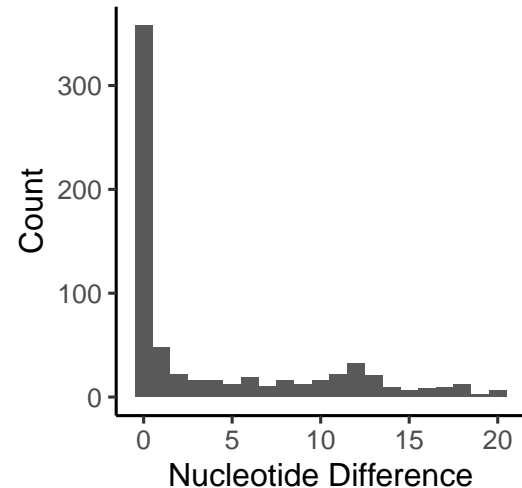
### IGHV4-34\*01\_02

3929 sequences assigned  
2656 (67.6%) exact matches, in which:  
2560 unique CDR3  
6 unique J



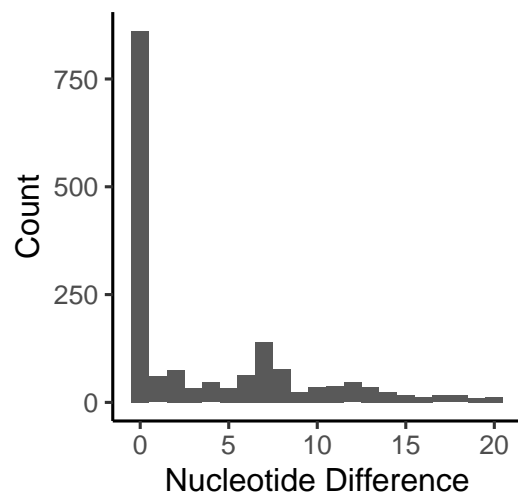
### IGHV4-59\*08

1029 sequences assigned  
358 (34.8%) exact matches, in which:  
349 unique CDR3  
6 unique J



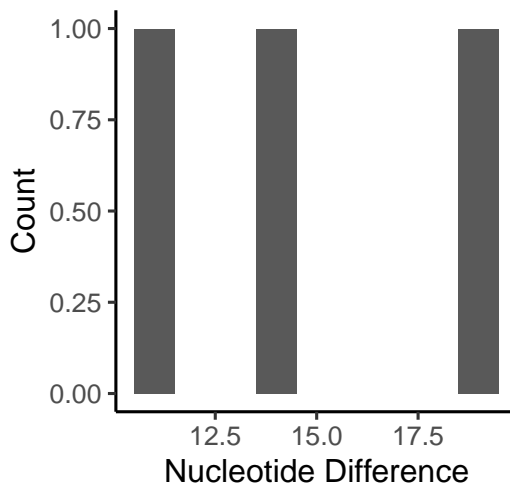
### IGHV4–59\*02\_G88A

1918 sequences assigned  
862 (44.9%) exact matches, in which:  
854 unique CDR3  
6 unique J



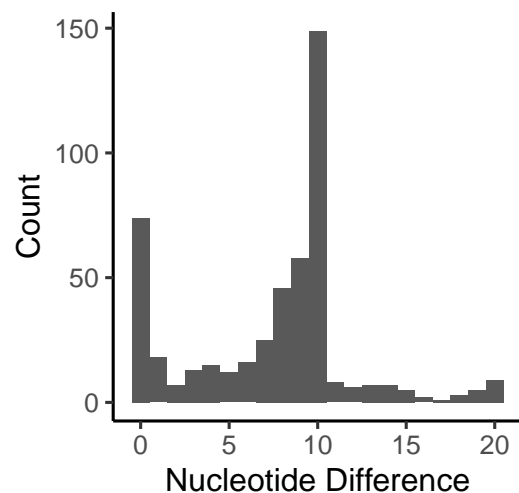
### IGHV4/OR15–8\*02

6 sequences assigned  
No exact matches.



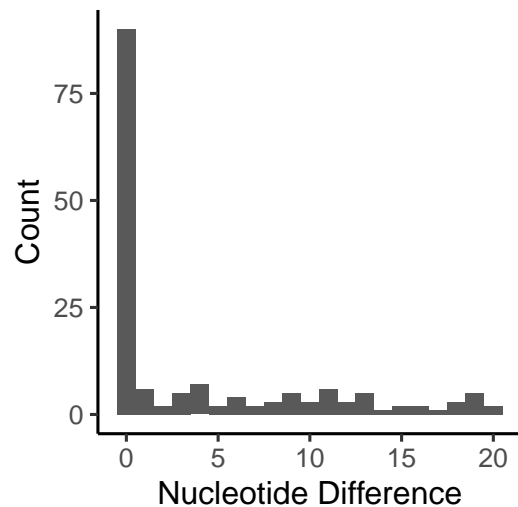
### IGHV6–1\*01\_02

522 sequences assigned  
74 (14.2%) exact matches, in which:  
73 unique CDR3  
5 unique J



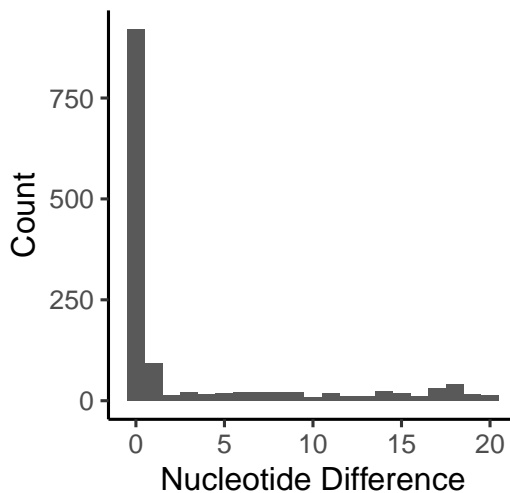
### IGHV4–61\*01

246 sequences assigned  
90 (36.6%) exact matches, in which:  
87 unique CDR3  
5 unique J



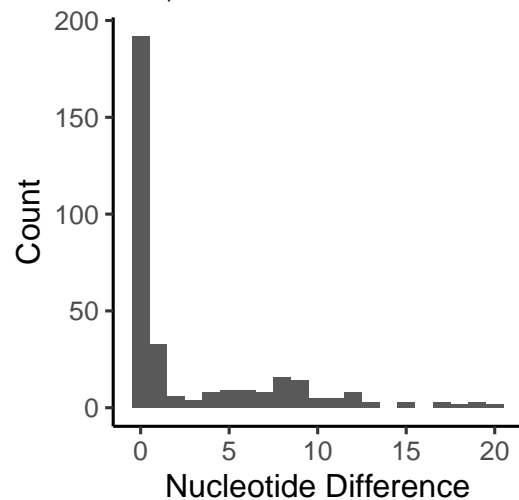
### IGHV5–10–1\*01\_03

1588 sequences assigned  
921 (58%) exact matches, in which:  
831 unique CDR3  
6 unique J



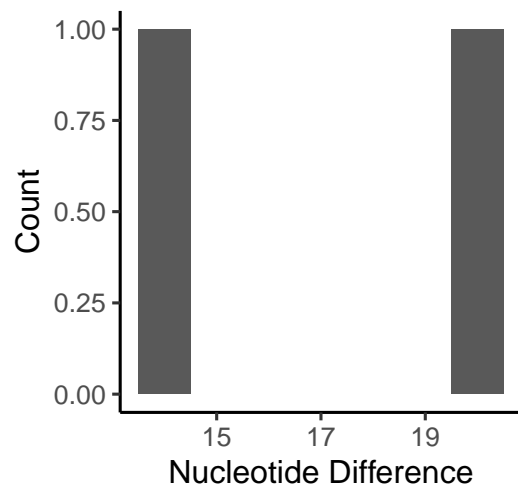
### IGHV7–4–1\*02

352 sequences assigned  
192 (54.5%) exact matches, in which:  
189 unique CDR3  
4 unique J



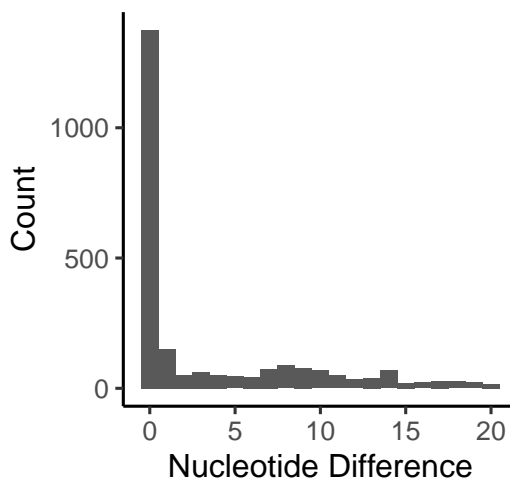
### IGHV4/OR15–8\*01

5 sequences assigned  
No exact matches.



### IGHV5–51\*07\_A128G

2993 sequences assigned  
1375 (45.9%) exact matches, in which:  
1225 unique CDR3  
6 unique J







Warning – no inferred sequences found.