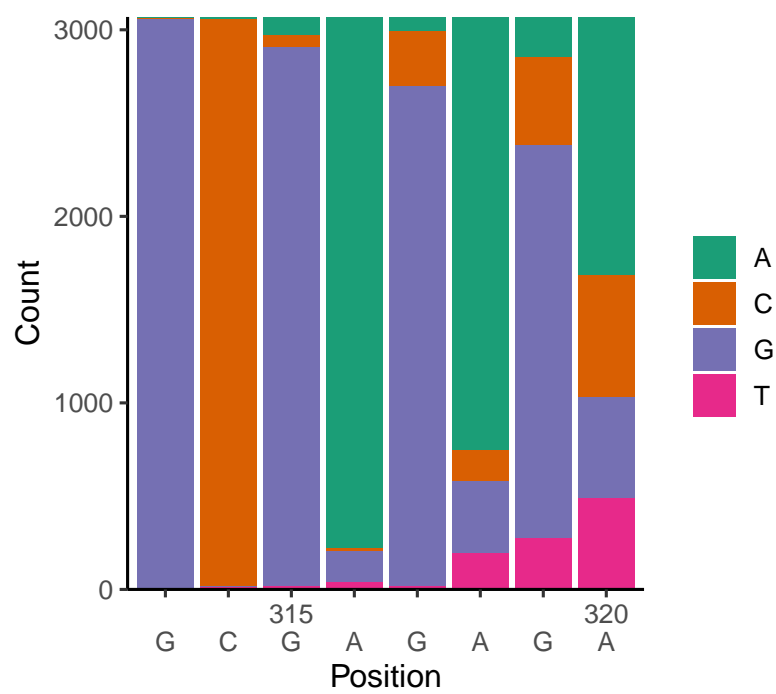


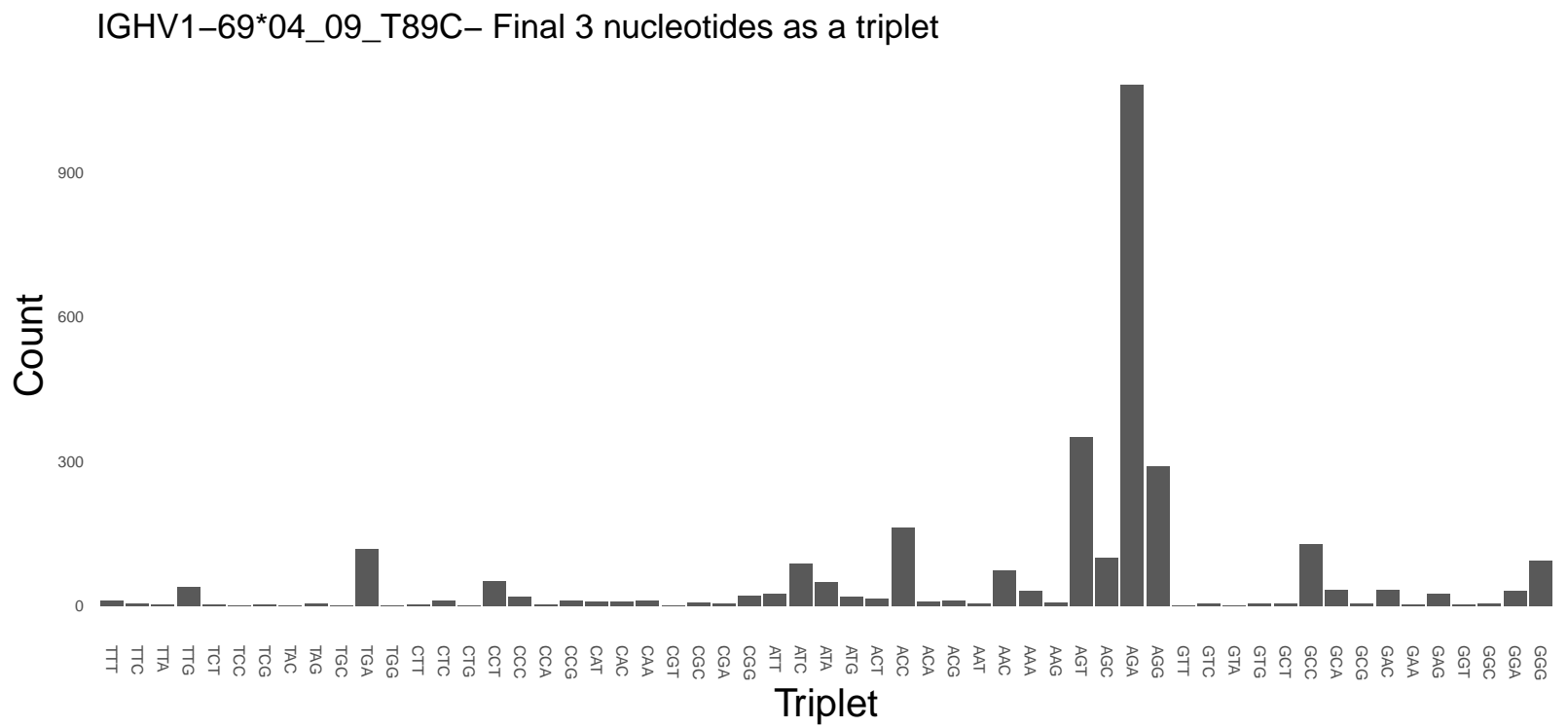
# Gene IGHV1-69\*04\_09\_T89C



Gene IGHV1-69\*04\_09\_T89C

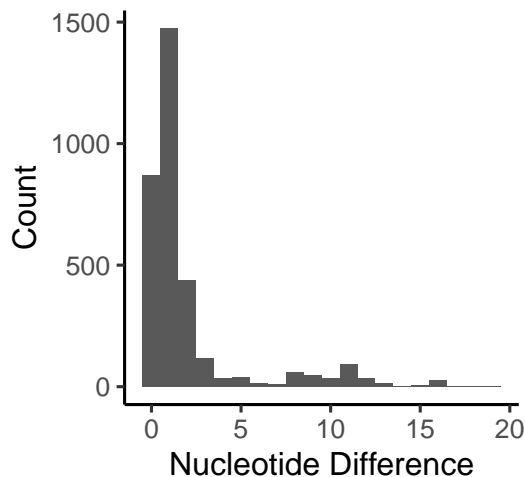


IGHV1-69\*04\_09\_T89C- Final 3 nucleotides as a triplet



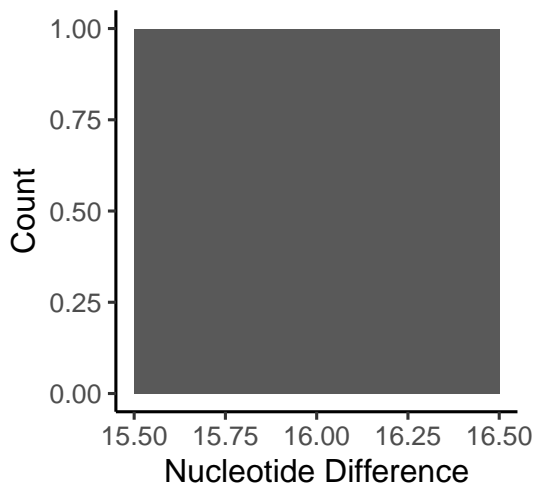
### IGHV1-2\*04

3406 sequences assigned  
869 (25.5%) exact matches, in which:  
639 unique CDR3  
5 unique J



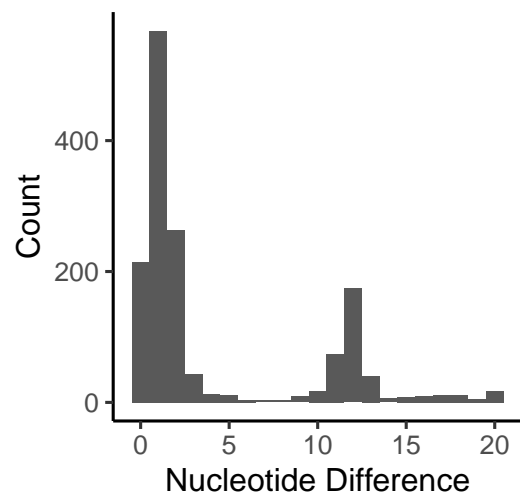
### IGHV1-8\*02

1 sequences assigned  
No exact matches.



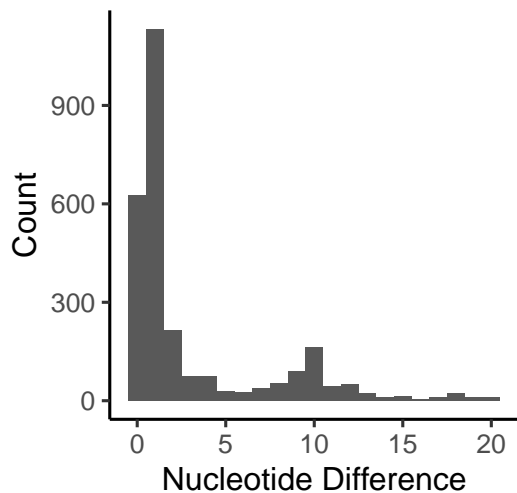
### IGHV1-24\*01

1569 sequences assigned  
215 (13.7%) exact matches, in which:  
124 unique CDR3  
5 unique J



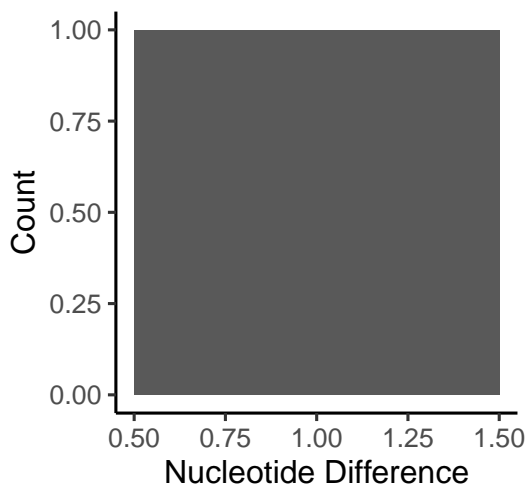
### IGHV1-3\*01\_05

2750 sequences assigned  
626 (22.8%) exact matches, in which:  
431 unique CDR3  
6 unique J



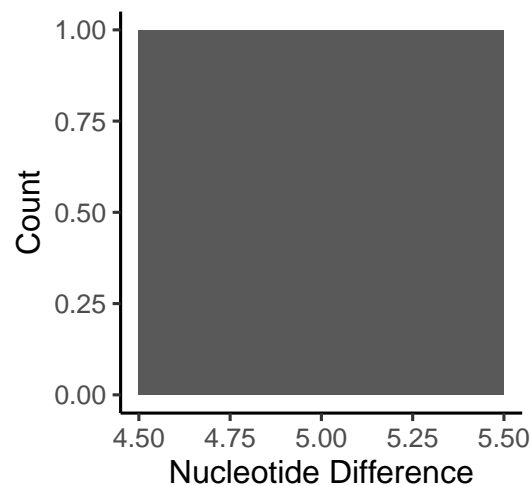
### IGHV1-8\*03

1 sequences assigned  
No exact matches.



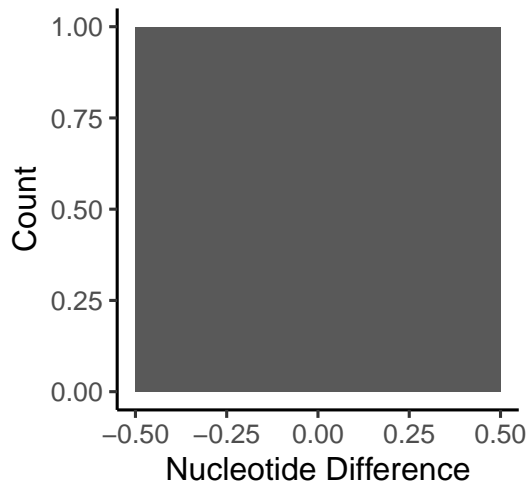
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



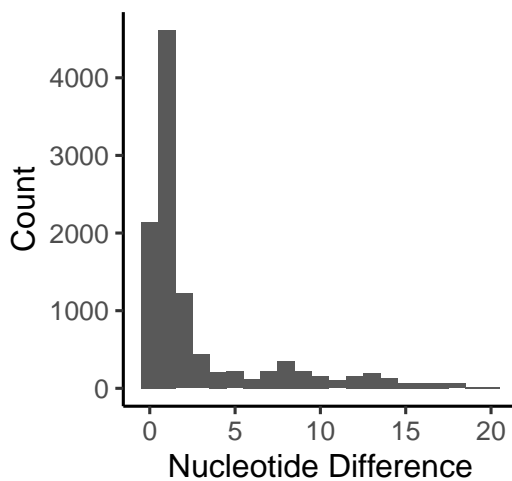
### IGHV1-8\*01

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



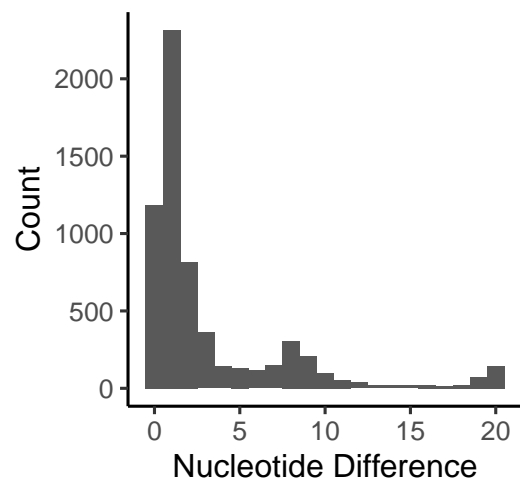
### IGHV1-18\*04

11255 sequences assigned  
2142 (19%) exact matches, in which:  
1415 unique CDR3  
6 unique J



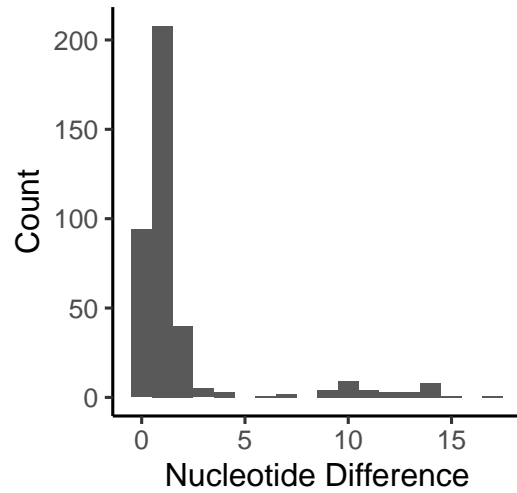
### IGHV1-46\*01

6615 sequences assigned  
1185 (17.9%) exact matches, in which:  
817 unique CDR3  
6 unique J



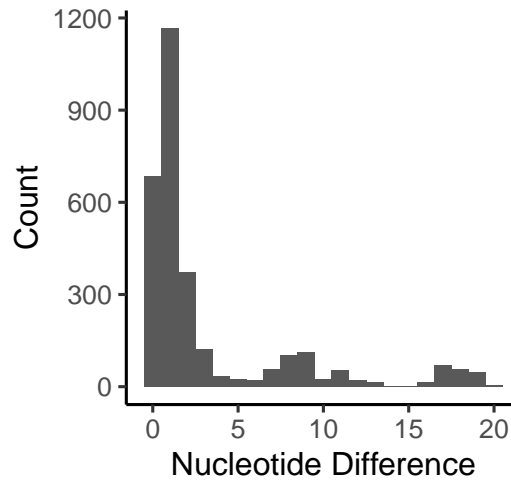
### IGHV1-58\*02

710 sequences assigned  
94 (13.2%) exact matches, in which:  
53 unique CDR3  
5 unique J



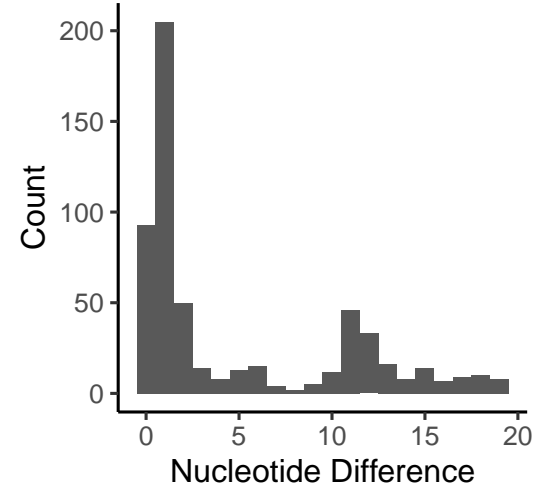
### IGHV1-69\*04\_09\_T89C

3069 sequences assigned  
685 (22.3%) exact matches, in which:  
495 unique CDR3  
6 unique J



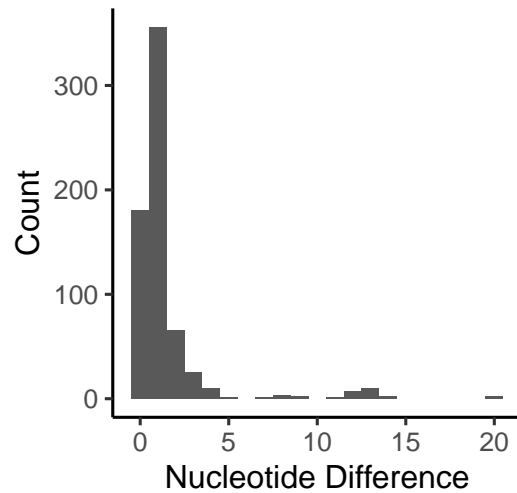
### IGHV2-70\*01

581 sequences assigned  
93 (16%) exact matches, in which:  
47 unique CDR3  
4 unique J



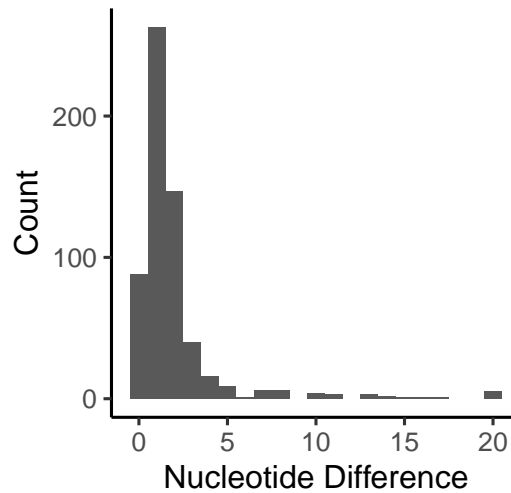
### IGHV1-58\*01\_03

667 sequences assigned  
181 (27.1%) exact matches, in which:  
115 unique CDR3  
6 unique J



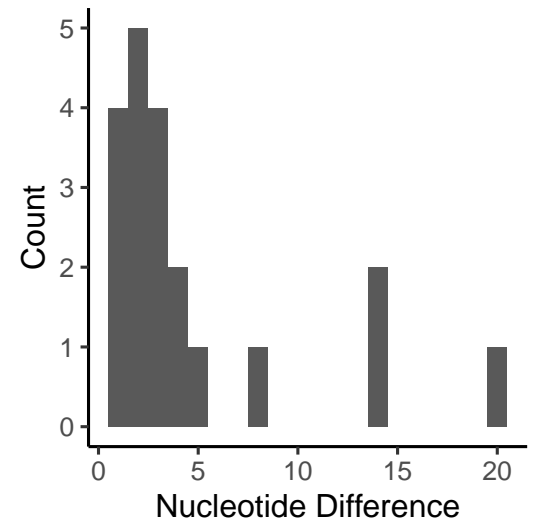
### IGHV2-5\*02

744 sequences assigned  
88 (11.8%) exact matches, in which:  
54 unique CDR3  
4 unique J



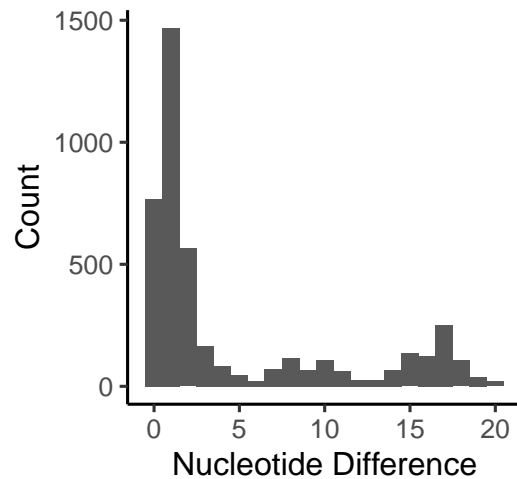
### IGHV2-70\*12

99 sequences assigned  
No exact matches.



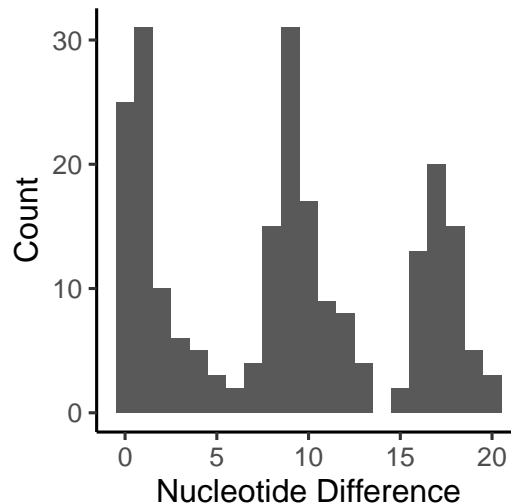
### IGHV1-69\*01\_12\_13

4556 sequences assigned  
767 (16.8%) exact matches, in which:  
566 unique CDR3  
6 unique J



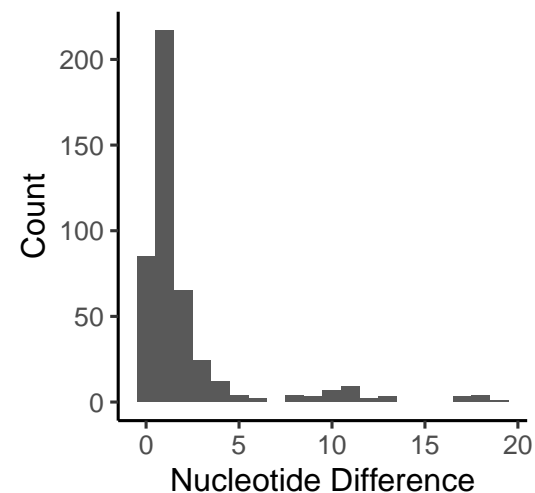
### IGHV2-26\*01

236 sequences assigned  
25 (10.6%) exact matches, in which:  
14 unique CDR3  
3 unique J



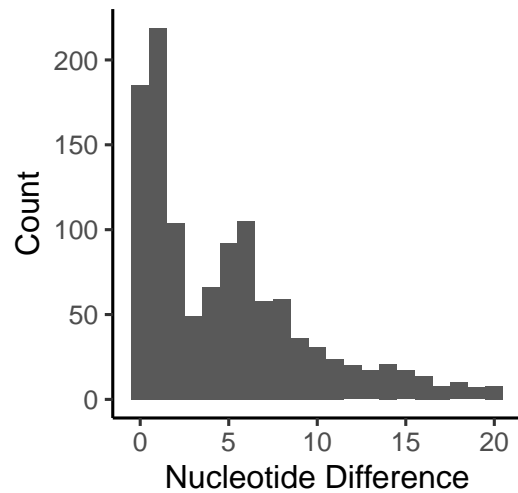
### IGHV2-70\*11\_15

460 sequences assigned  
85 (18.5%) exact matches, in which:  
49 unique CDR3  
6 unique J



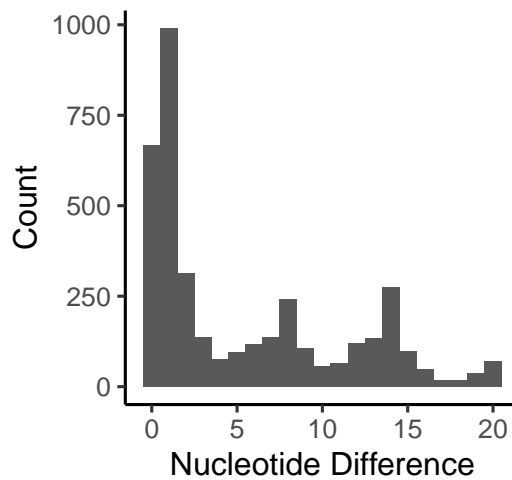
### IGHV3-7\*01

1181 sequences assigned  
185 (15.7%) exact matches, in which:  
137 unique CDR3  
5 unique J



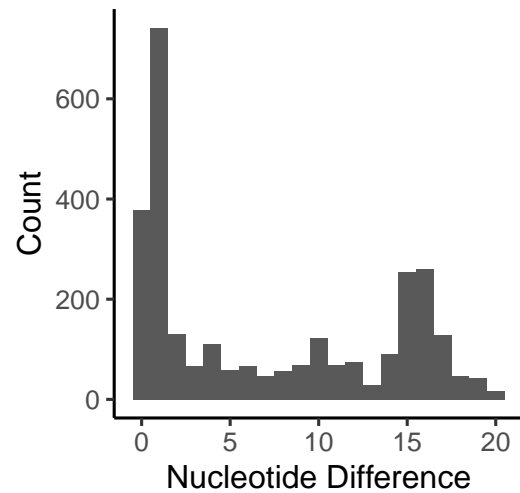
### IGHV3-11\*06

4027 sequences assigned  
666 (16.5%) exact matches, in which:  
400 unique CDR3  
6 unique J



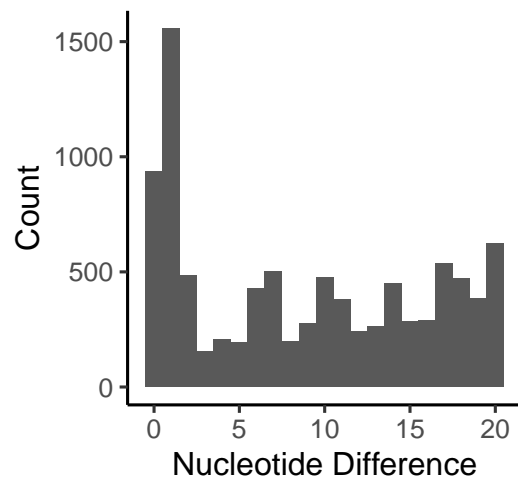
### IGHV3-15\*01\_02

3061 sequences assigned  
378 (12.3%) exact matches, in which:  
202 unique CDR3  
6 unique J



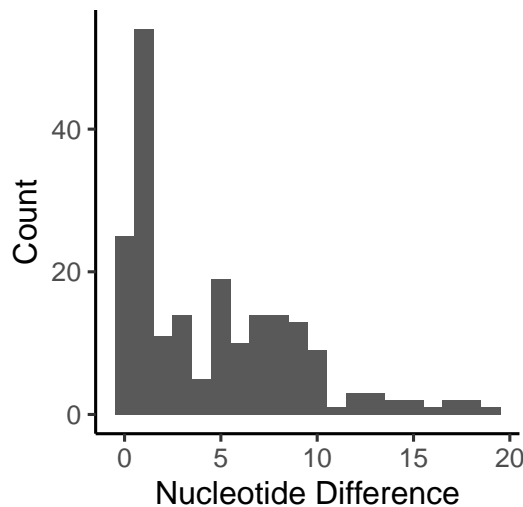
### IGHV3-7\*03

11280 sequences assigned  
936 (8.3%) exact matches, in which:  
589 unique CDR3  
6 unique J



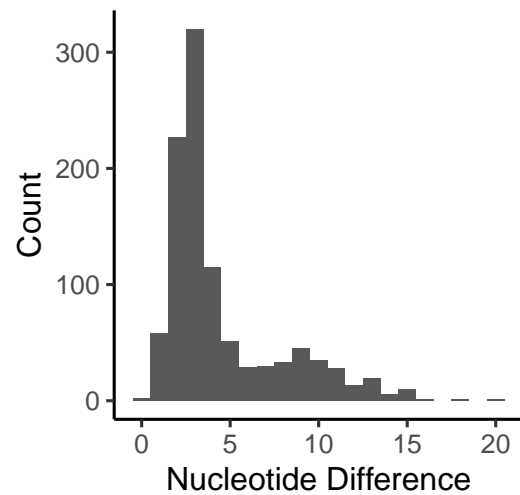
### IGHV3-11\*03\_05

271 sequences assigned  
25 (9.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



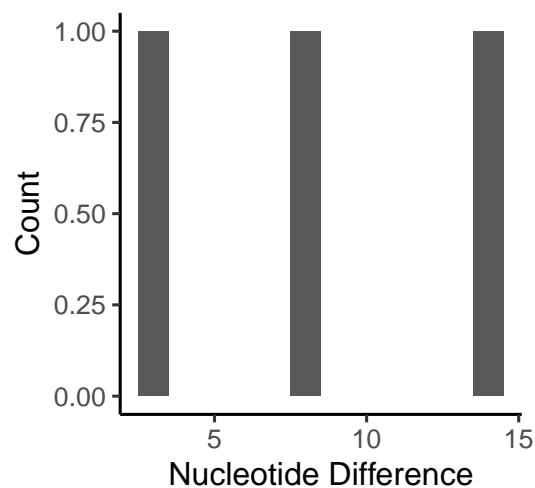
### IGHV3-20\*03\_04

1180 sequences assigned  
2 (0.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



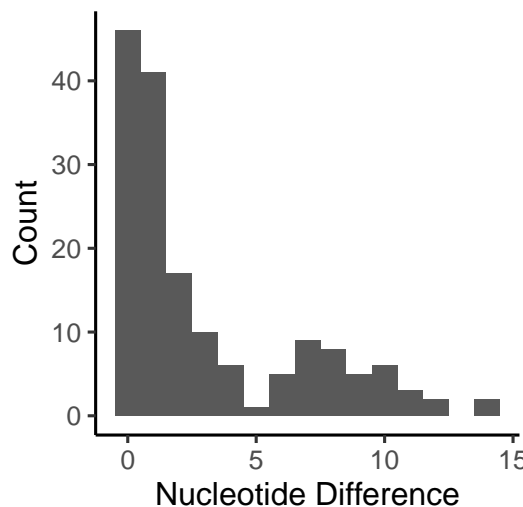
### IGHV3-9\*01

5 sequences assigned  
No exact matches.



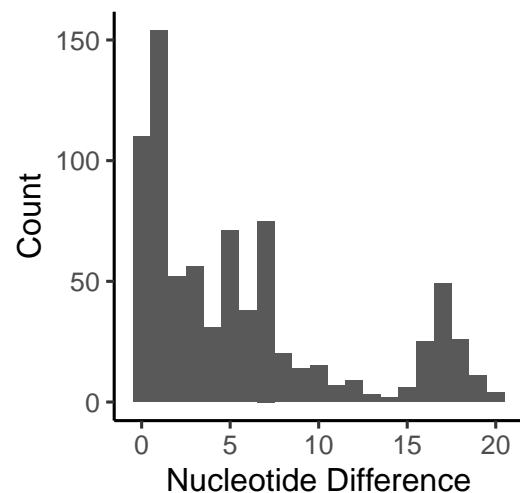
### IGHV3-13\*05

165 sequences assigned  
46 (27.9%) exact matches, in which:  
40 unique CDR3  
5 unique J



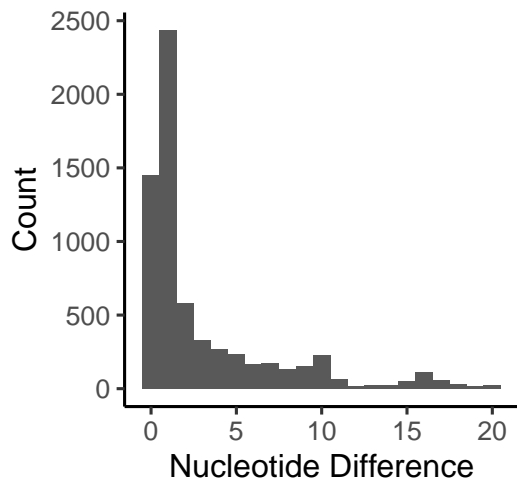
### IGHV3-21\*04

804 sequences assigned  
110 (13.7%) exact matches, in which:  
83 unique CDR3  
6 unique J



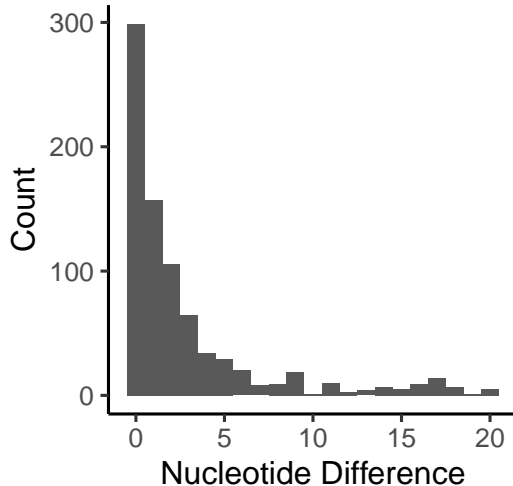
### IGHV3-21\*01\_02

7774 sequences assigned  
1453 (18.7%) exact matches, in which:  
842 unique CDR3  
6 unique J



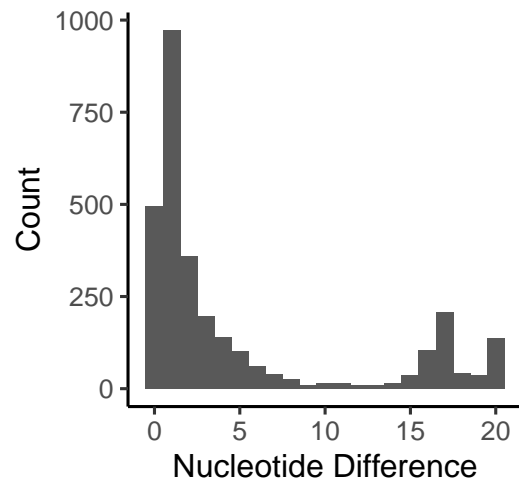
### IGHV3-30\*03

881 sequences assigned  
299 (33.9%) exact matches, in which:  
225 unique CDR3  
6 unique J



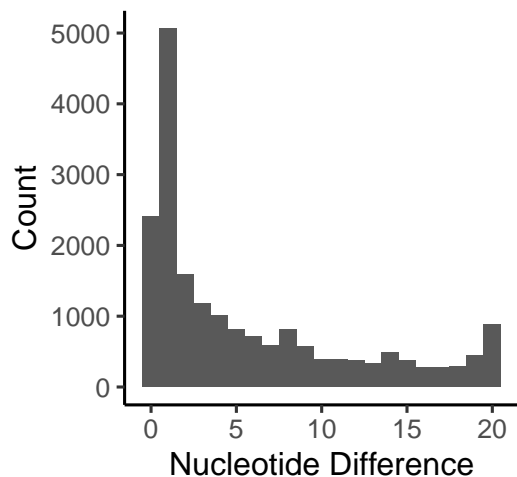
### IGHV3-33\*01

3641 sequences assigned  
495 (13.6%) exact matches, in which:  
323 unique CDR3  
6 unique J



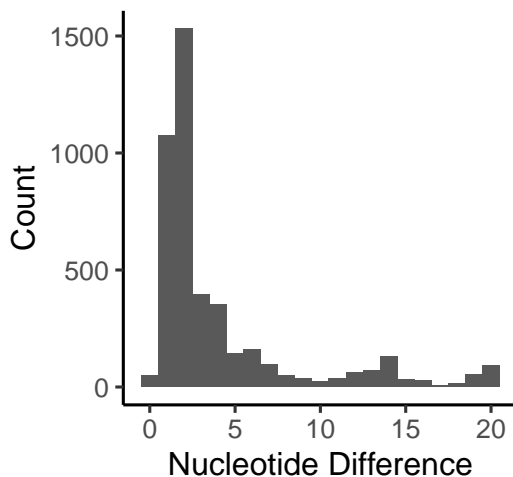
### IGHV3-23\*01\_04

25948 sequences assigned  
2415 (9.3%) exact matches, in which:  
1359 unique CDR3  
6 unique J



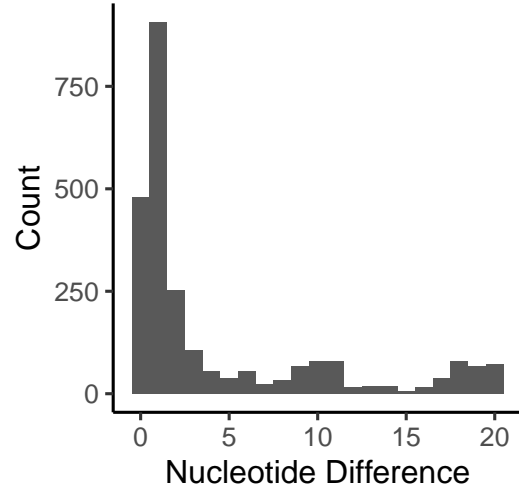
### IGHV3-30\*04

5326 sequences assigned  
51 (1%) exact matches, in which:  
39 unique CDR3  
5 unique J



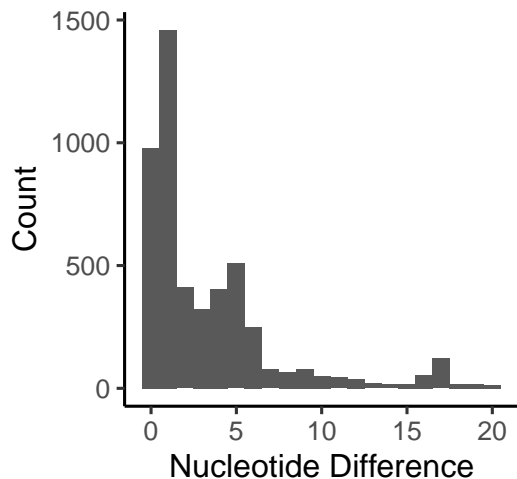
### IGHV3-33\*06

2599 sequences assigned  
480 (18.5%) exact matches, in which:  
285 unique CDR3  
6 unique J



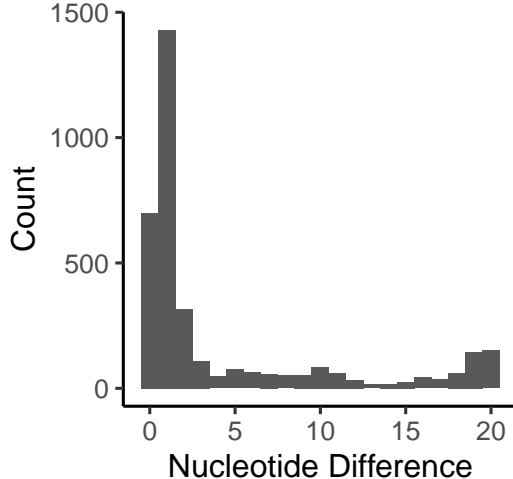
### IGHV3-30-3\*01

5297 sequences assigned  
978 (18.5%) exact matches, in which:  
628 unique CDR3  
6 unique J



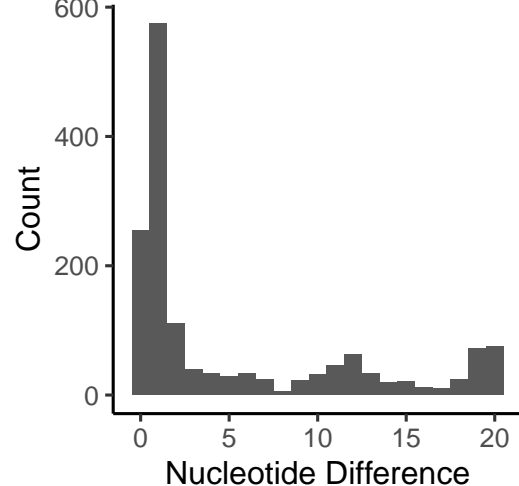
### IGHV3-30\*18

4328 sequences assigned  
700 (16.2%) exact matches, in which:  
377 unique CDR3  
5 unique J



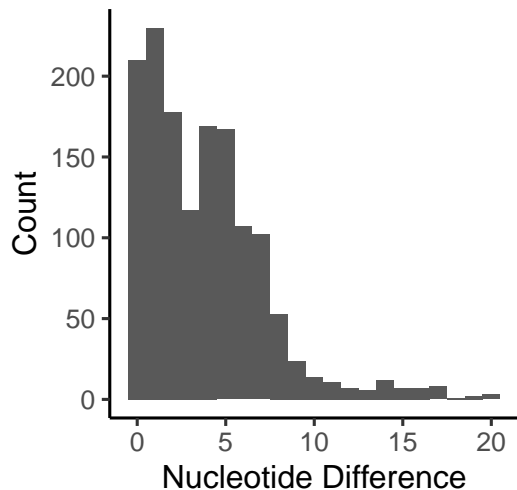
### IGHV3-43\*01

1630 sequences assigned  
255 (15.6%) exact matches, in which:  
128 unique CDR3  
5 unique J



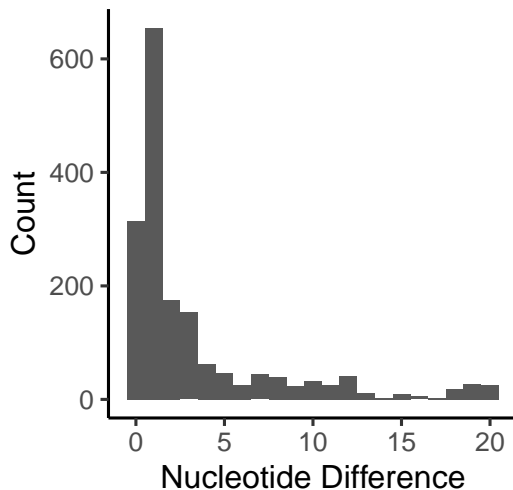
### IGHV3-48\*01

1447 sequences assigned  
210 (14.5%) exact matches, in which:  
146 unique CDR3  
5 unique J



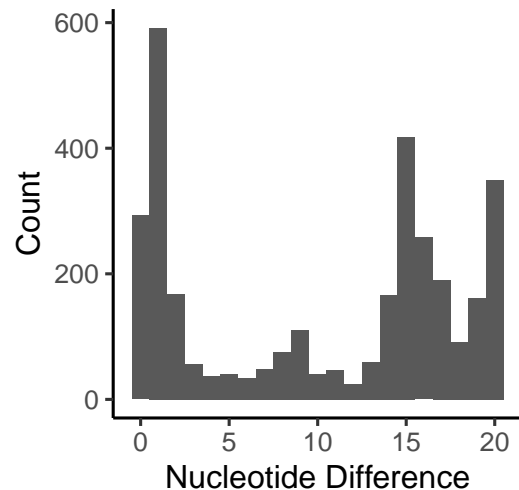
### IGHV3-49\*04

1818 sequences assigned  
315 (17.3%) exact matches, in which:  
168 unique CDR3  
5 unique J



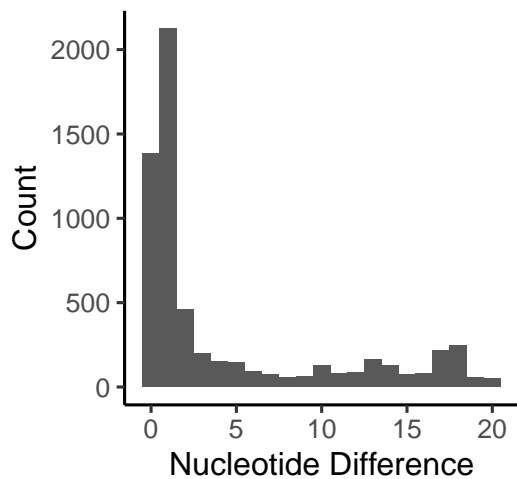
### IGHV3-66\*01

4397 sequences assigned  
293 (6.7%) exact matches, in which:  
197 unique CDR3  
5 unique J



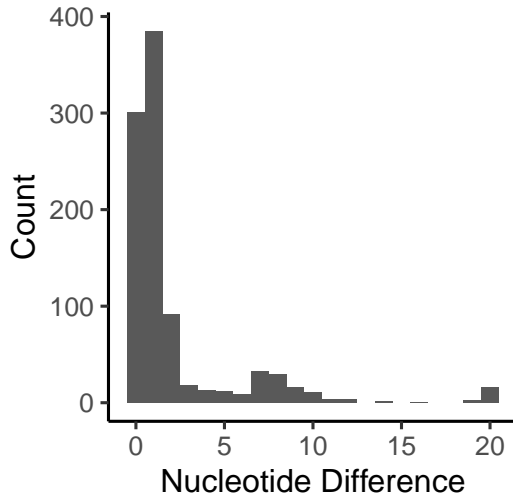
### IGHV3-48\*02

7213 sequences assigned  
1384 (19.2%) exact matches, in which:  
759 unique CDR3  
6 unique J



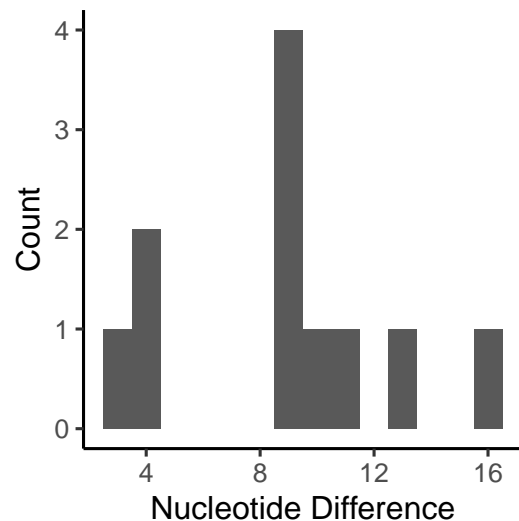
### IGHV3-53\*04

1049 sequences assigned  
301 (28.7%) exact matches, in which:  
217 unique CDR3  
5 unique J



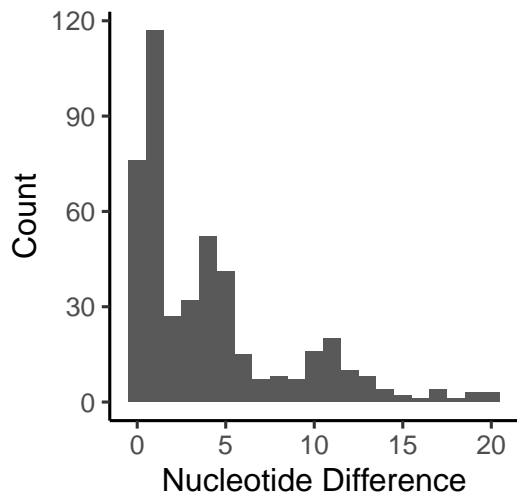
### IGHV3-69-1\*01

47 sequences assigned  
No exact matches.



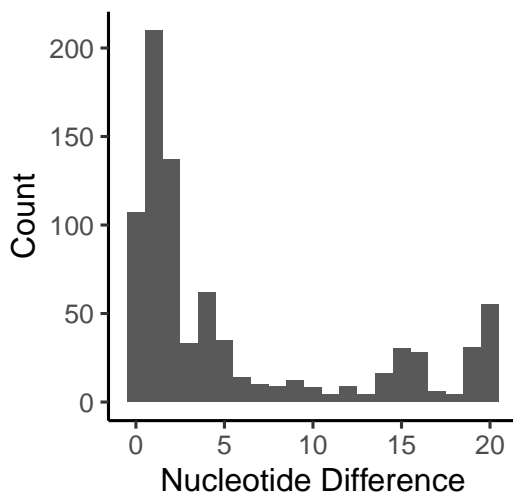
### IGHV3-48\*04

468 sequences assigned  
76 (16.2%) exact matches, in which:  
51 unique CDR3  
6 unique J



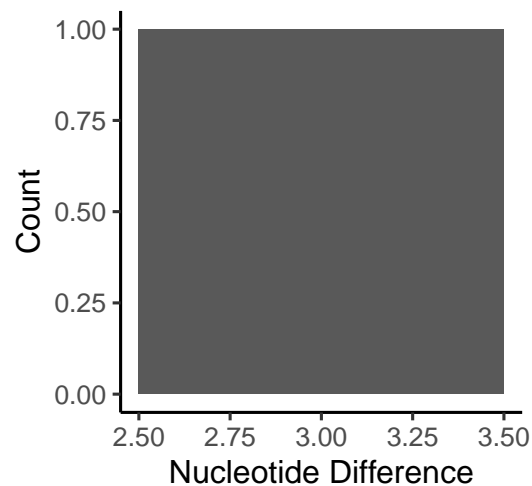
### IGHV3-64\*01

895 sequences assigned  
107 (12%) exact matches, in which:  
66 unique CDR3  
6 unique J



### IGHV3-71\*03

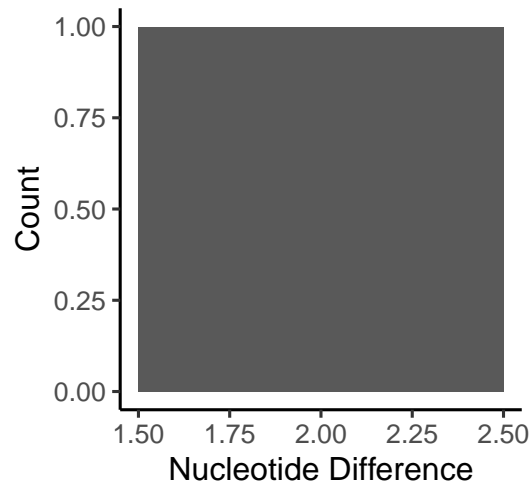
1 sequences assigned  
No exact matches.





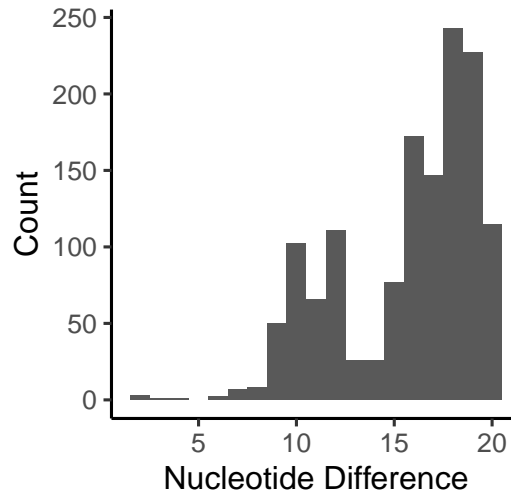
### IGHV3-71\*01\_04

1 sequences assigned  
No exact matches.



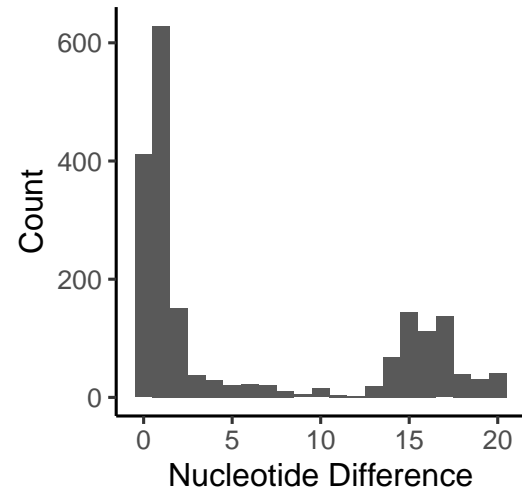
### IGHV3-74\*03

1838 sequences assigned  
No exact matches.



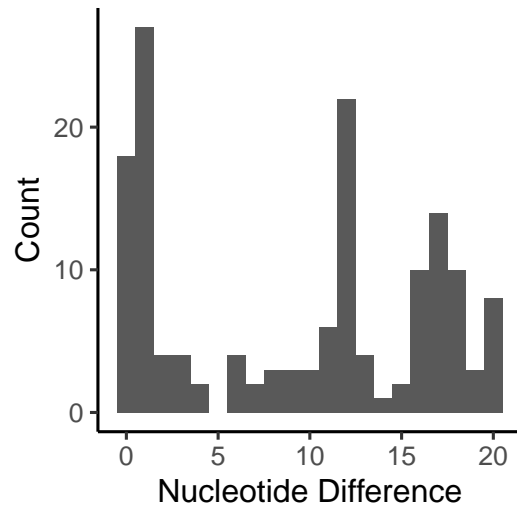
### IGHV3-64D\*06

2046 sequences assigned  
411 (20.1%) exact matches, in which:  
238 unique CDR3  
6 unique J



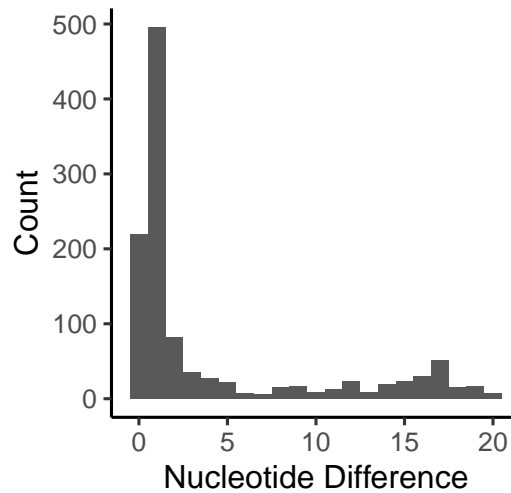
### IGHV3-72\*01

465 sequences assigned  
18 (3.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



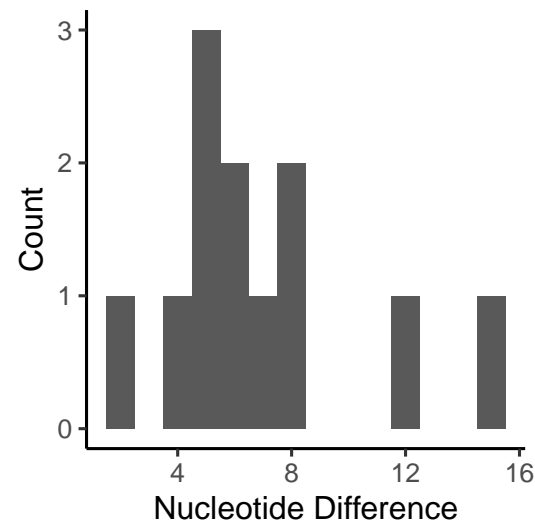
### IGHV3-74\*01\_02

1171 sequences assigned  
219 (18.7%) exact matches, in which:  
116 unique CDR3  
4 unique J



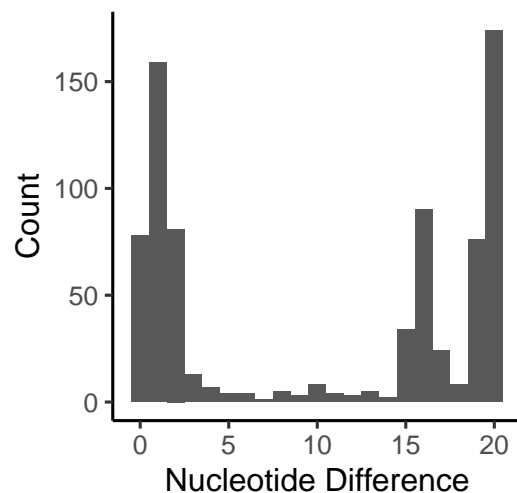
### IGHV3-NL1\*01

12 sequences assigned  
No exact matches.



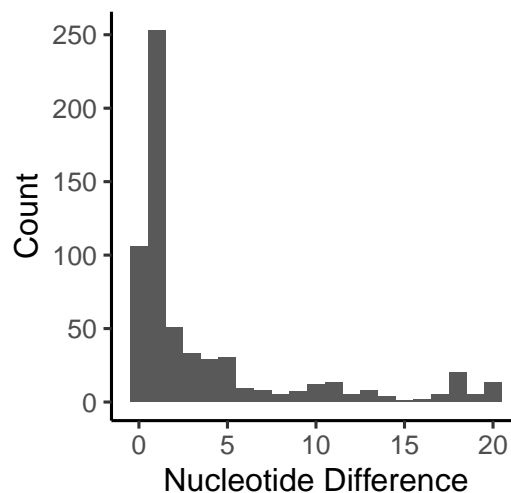
### IGHV3-73\*01\_02

1063 sequences assigned  
78 (7.3%) exact matches, in which:  
43 unique CDR3  
4 unique J



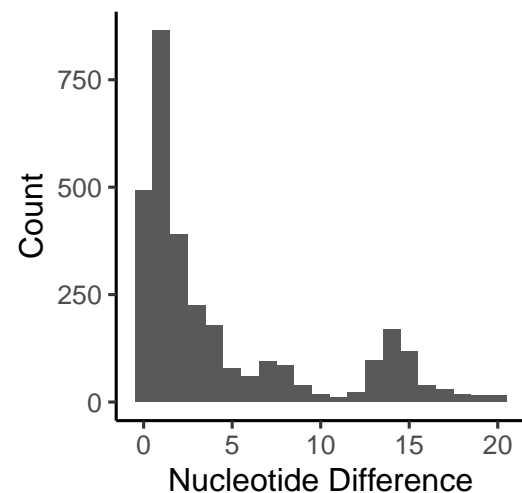
### IGHV3-43D\*03

806 sequences assigned  
106 (13.2%) exact matches, in which:  
54 unique CDR3  
4 unique J



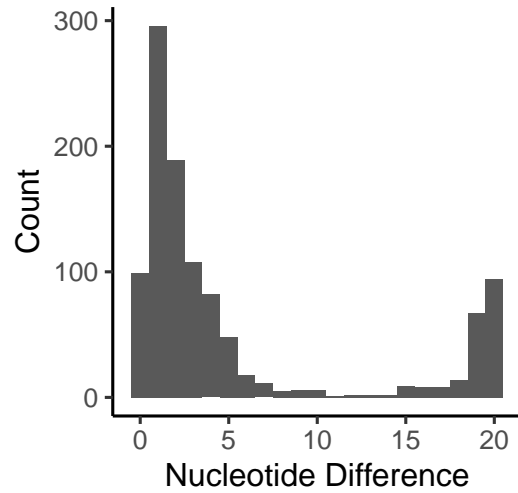
### IGHV4-4\*02\_03

4088 sequences assigned  
492 (12%) exact matches, in which:  
360 unique CDR3  
6 unique J



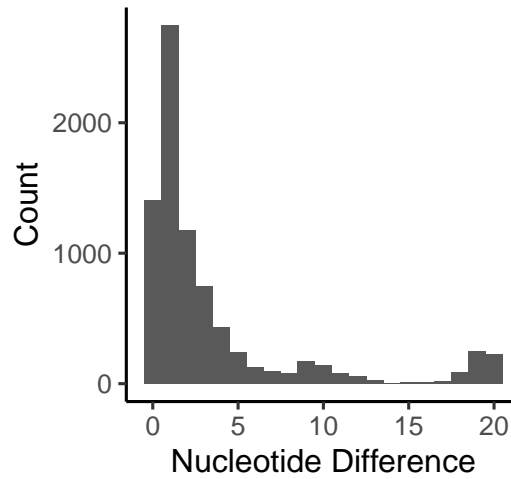
### IGHV4-30-2\*01

1371 sequences assigned  
99 (7.2%) exact matches, in which:  
68 unique CDR3  
6 unique J



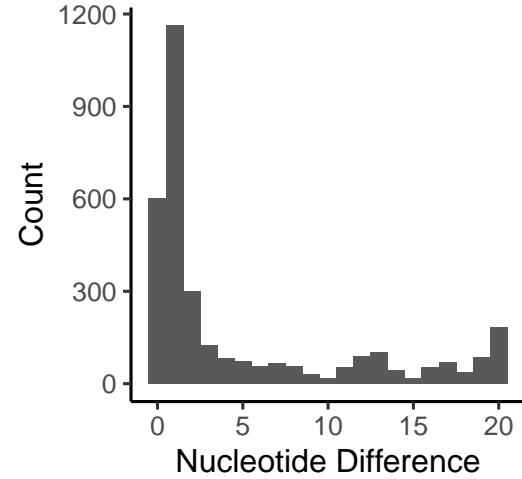
### IGHV4-34\*01\_02

9956 sequences assigned  
1406 (14.1%) exact matches, in which:  
948 unique CDR3  
6 unique J



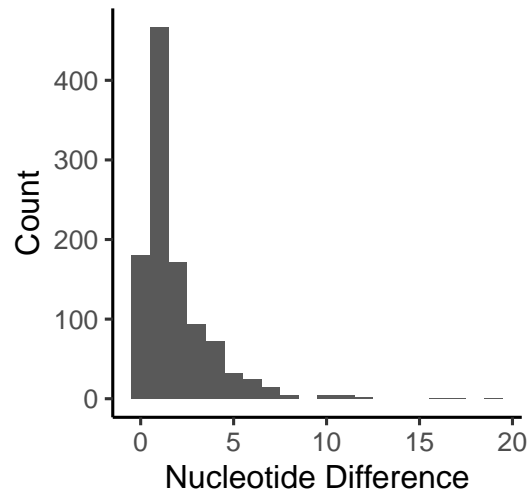
### IGHV4-59\*08

3581 sequences assigned  
601 (16.8%) exact matches, in which:  
417 unique CDR3  
6 unique J



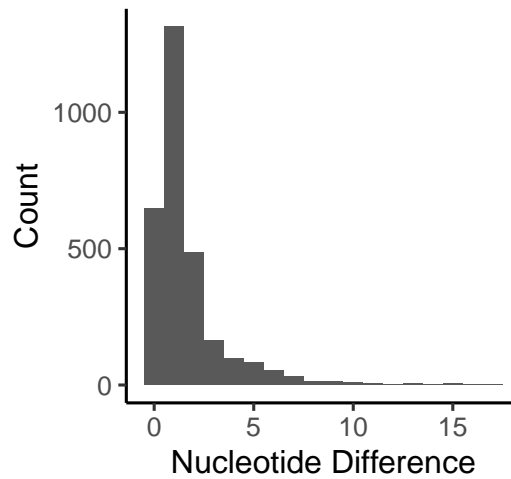
### IGHV4-30-4\*01

1075 sequences assigned  
180 (16.7%) exact matches, in which:  
111 unique CDR3  
5 unique J



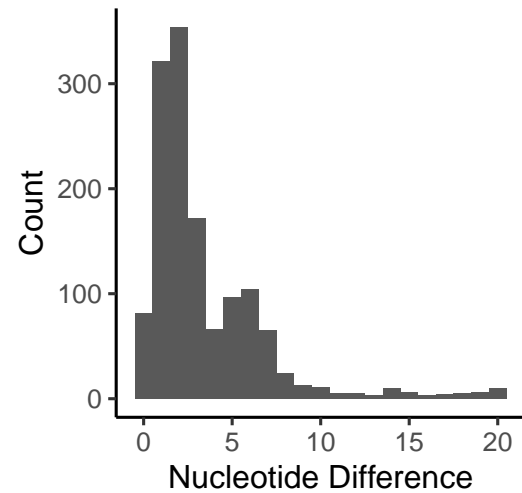
### IGHV4-38-2\*02

3643 sequences assigned  
646 (17.7%) exact matches, in which:  
445 unique CDR3  
6 unique J



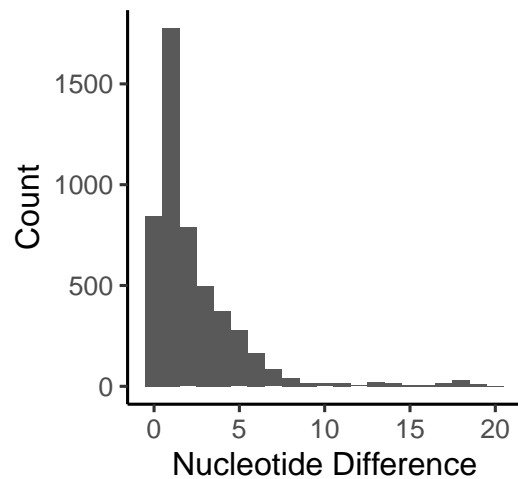
### IGHV4-59\*12

1829 sequences assigned  
81 (4.4%) exact matches, in which:  
78 unique CDR3  
5 unique J



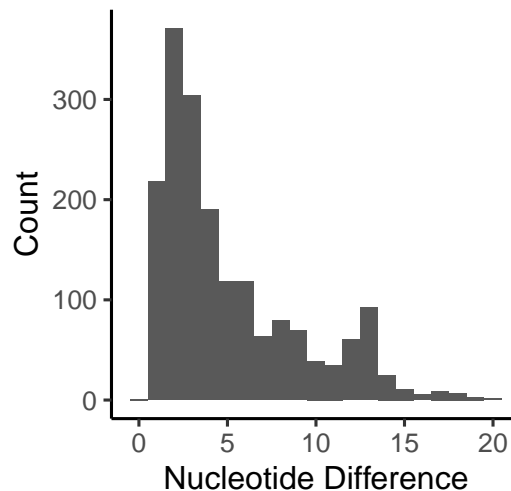
### IGHV4-31\*02

5818 sequences assigned  
846 (14.5%) exact matches, in which:  
595 unique CDR3  
6 unique J



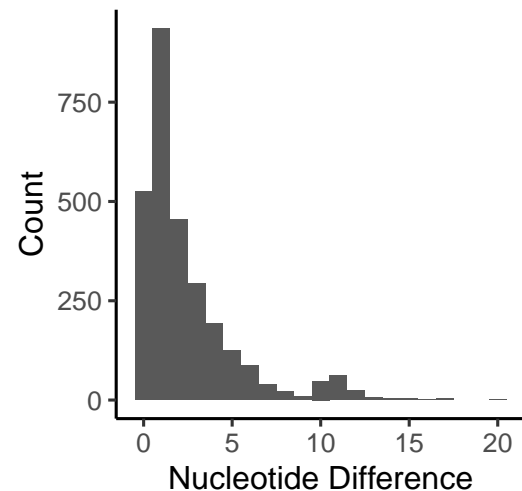
### IGHV4-39\*07

2032 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



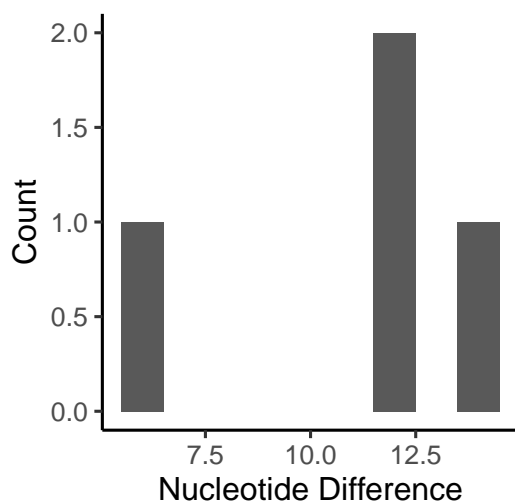
### IGHV4-61\*01

2905 sequences assigned  
524 (18%) exact matches, in which:  
393 unique CDR3  
6 unique J



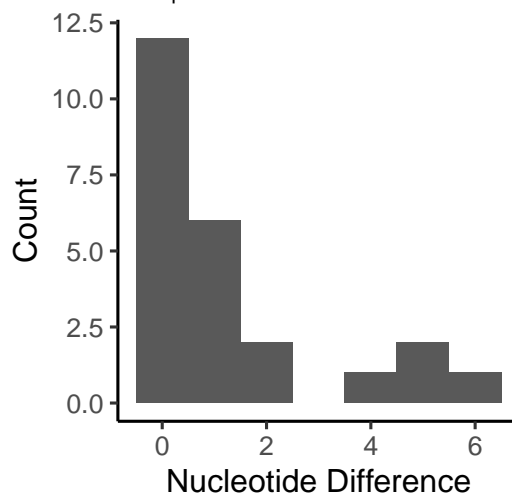
### IGHV4/OR15–8\*01

11 sequences assigned  
No exact matches.



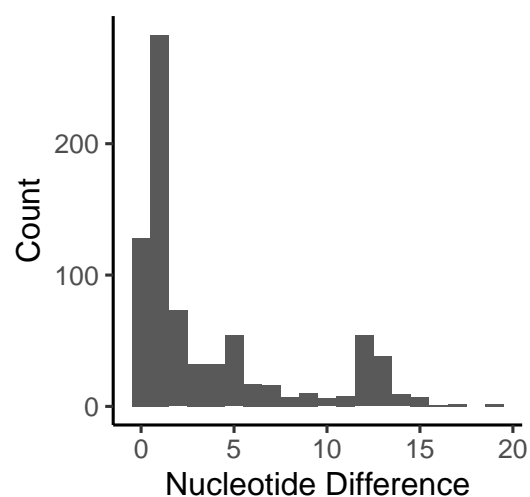
### IGHV5–51\*04

30 sequences assigned  
12 (40%) exact matches, in which:  
12 unique CDR3  
3 unique J



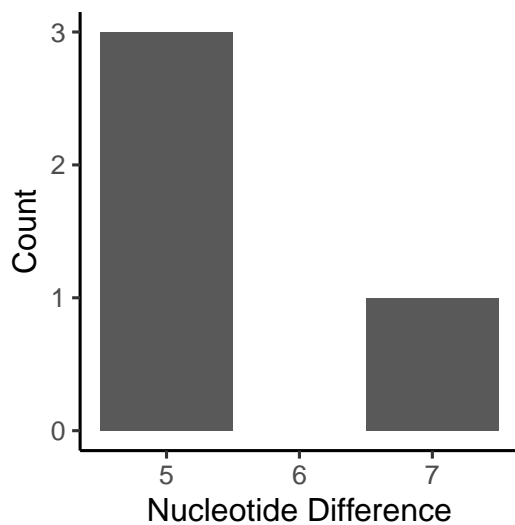
### IGHV6–1\*01\_02

786 sequences assigned  
128 (16.3%) exact matches, in which:  
86 unique CDR3  
5 unique J



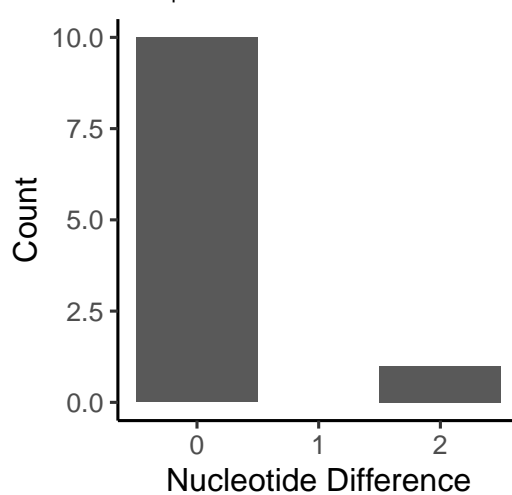
### IGHV4/OR15–8\*02

25 sequences assigned  
No exact matches.



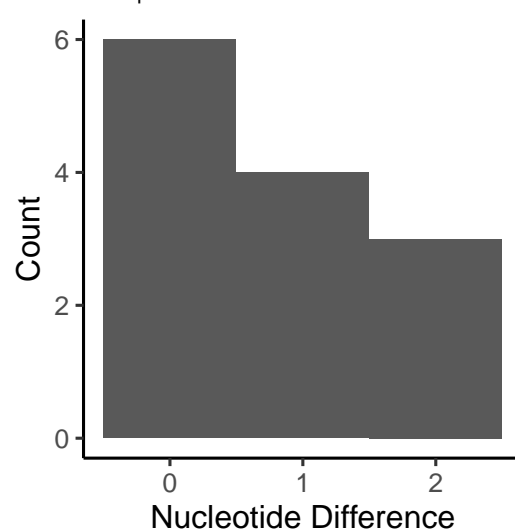
### IGHV5–51\*06

13 sequences assigned  
10 (76.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



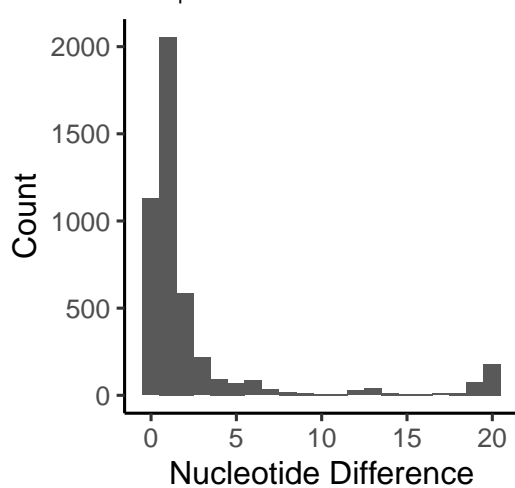
### IGHV7–4–1\*01

13 sequences assigned  
6 (46.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



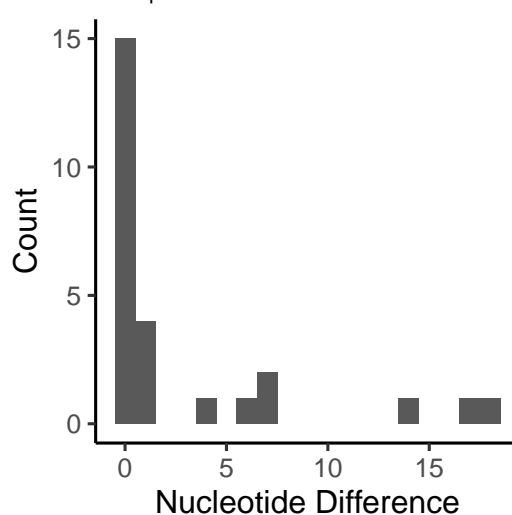
### IGHV5–10–1\*01\_03

5210 sequences assigned  
1129 (21.7%) exact matches, in which:  
634 unique CDR3  
6 unique J



### IGHV5–51\*07

35 sequences assigned  
15 (42.9%) exact matches, in which:  
14 unique CDR3  
5 unique J



IGHV1-69\*04\_09\_T89C

