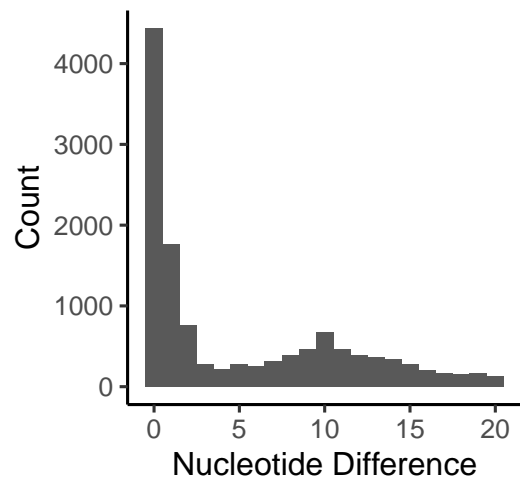


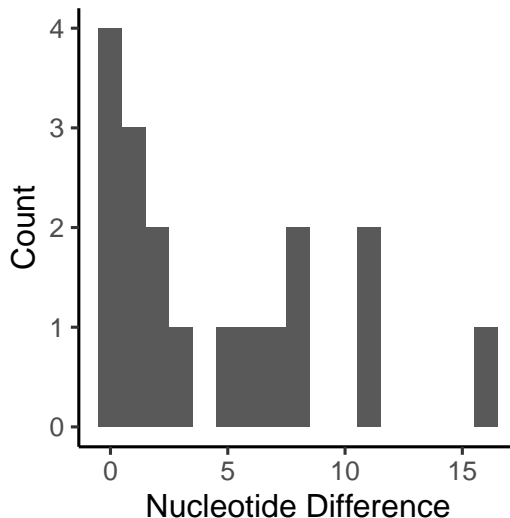
### IGHV1-2\*02

13733 sequences assigned  
4436 (32.3%) exact matches, in which:  
4210 unique CDR3  
7 unique J



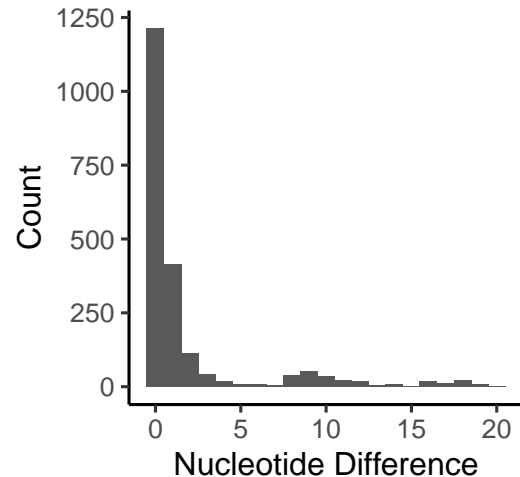
### IGHV1-8\*01

20 sequences assigned  
4 (20%) exact matches, in which:  
4 unique CDR3  
2 unique J



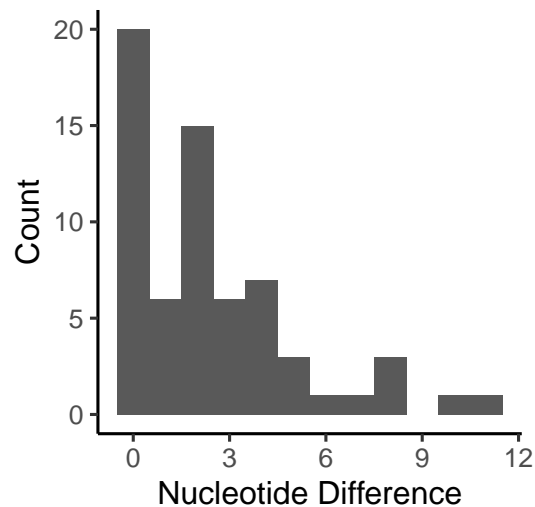
### IGHV1-24\*01

2512 sequences assigned  
1213 (48.3%) exact matches, in which:  
1179 unique CDR3  
7 unique J



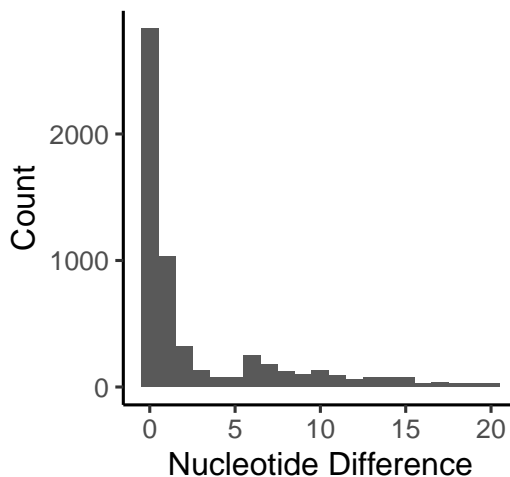
### IGHV1-3\*02

64 sequences assigned  
20 (31.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



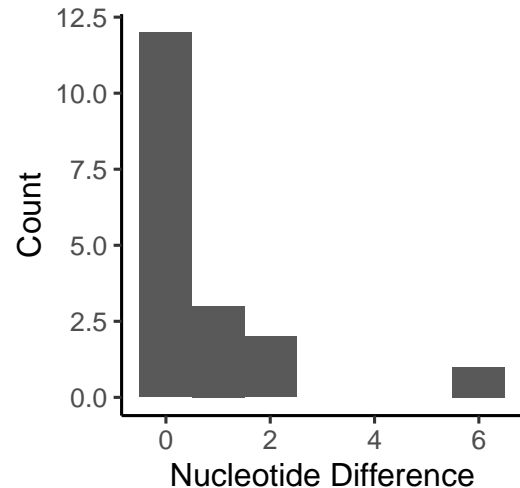
### IGHV1-18\*01

6420 sequences assigned  
2832 (44.1%) exact matches, in which:  
2715 unique CDR3  
7 unique J



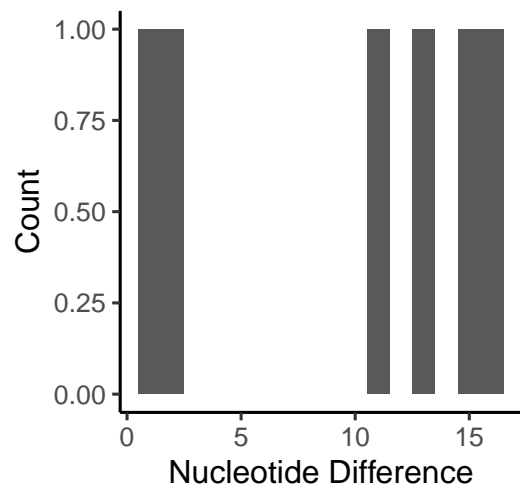
### IGHV1-45\*02

18 sequences assigned  
12 (66.7%) exact matches, in which:  
12 unique CDR3  
3 unique J



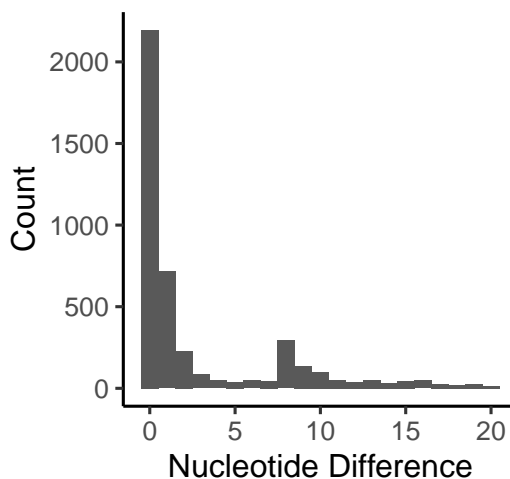
### IGHV1-3\*01\_05

9 sequences assigned  
No exact matches.



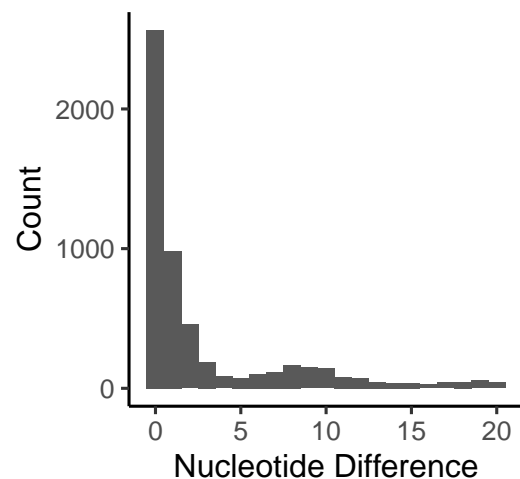
### IGHV1-18\*04

4739 sequences assigned  
2195 (46.3%) exact matches, in which:  
2105 unique CDR3  
7 unique J



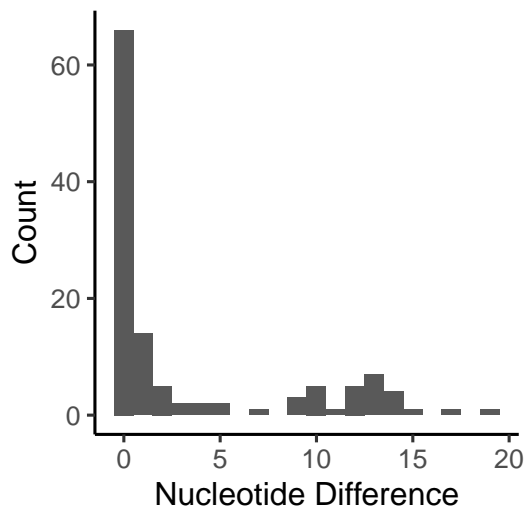
### IGHV1-46\*01

5982 sequences assigned  
2565 (42.9%) exact matches, in which:  
2459 unique CDR3  
7 unique J



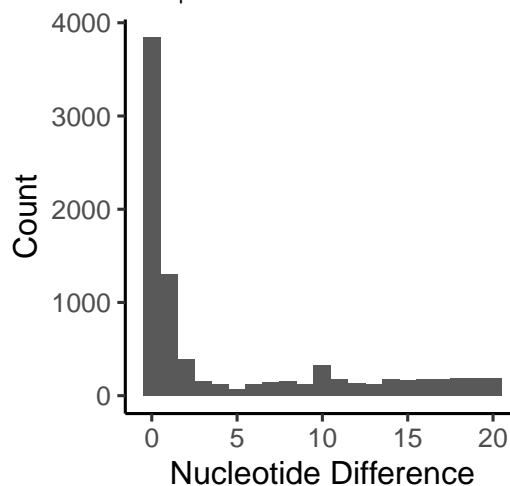
### IGHV1-58\*02

127 sequences assigned  
66 (52%) exact matches, in which:  
66 unique CDR3  
7 unique J



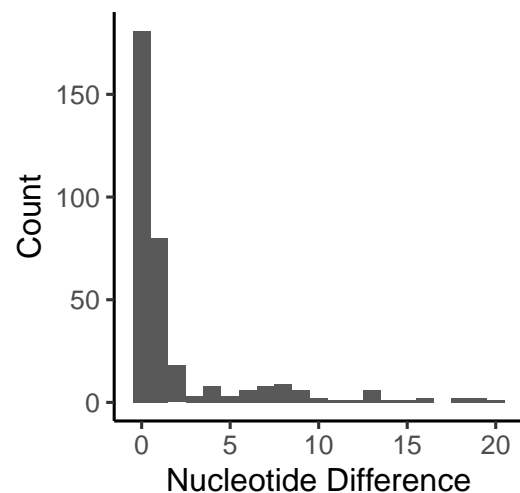
### IGHV1-69\*01\_12\_13

9845 sequences assigned  
3843 (39%) exact matches, in which:  
3718 unique CDR3  
7 unique J



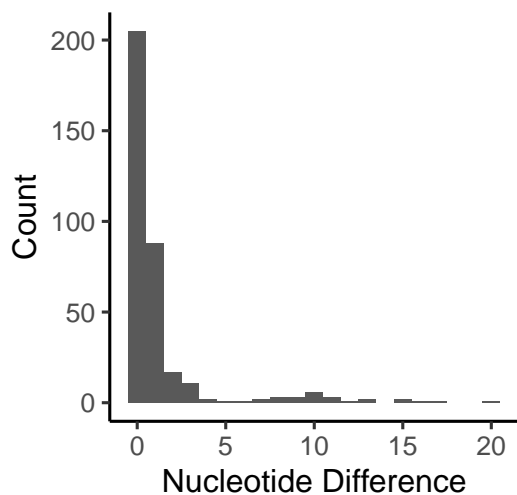
### IGHV2-70\*01

385 sequences assigned  
181 (47%) exact matches, in which:  
176 unique CDR3  
6 unique J



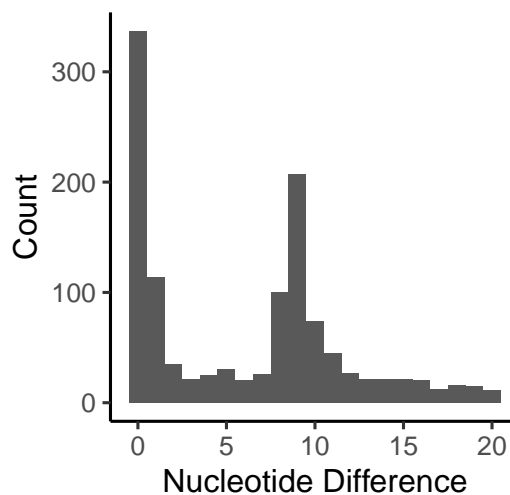
### IGHV1-58\*01\_03

357 sequences assigned  
205 (57.4%) exact matches, in which:  
199 unique CDR3  
7 unique J



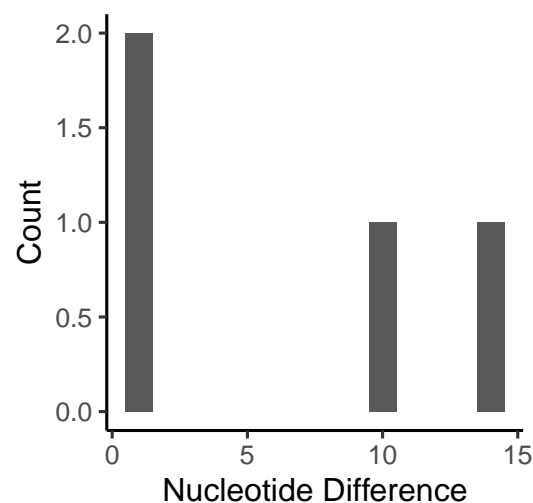
### IGHV2-5\*02

1311 sequences assigned  
337 (25.7%) exact matches, in which:  
331 unique CDR3  
7 unique J



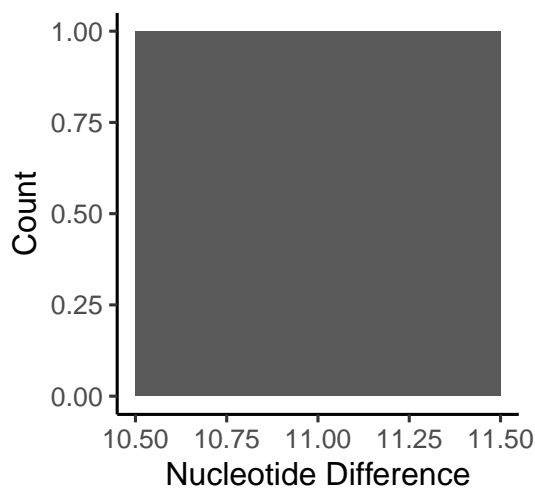
### IGHV2-70D\*04

4 sequences assigned  
No exact matches.



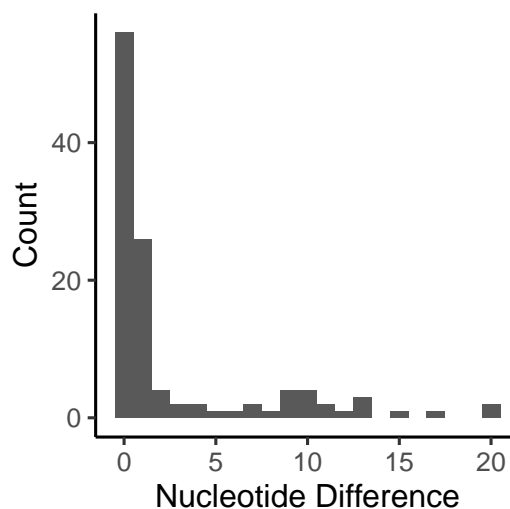
### IGHV1-69-2\*01

6 sequences assigned  
No exact matches.



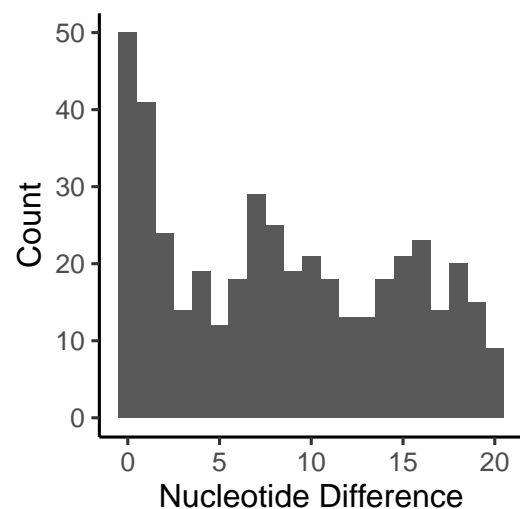
### IGHV2-26\*01

116 sequences assigned  
56 (48.3%) exact matches, in which:  
54 unique CDR3  
5 unique J



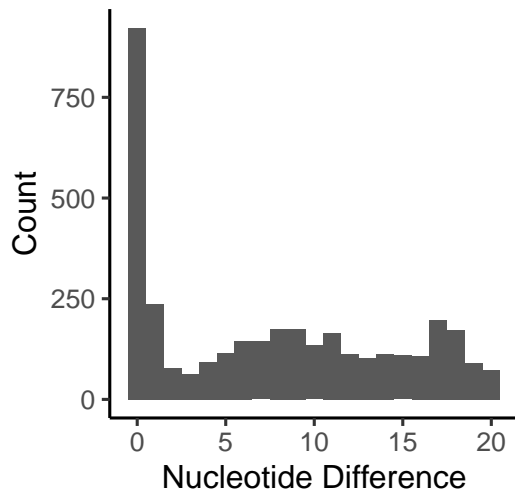
### IGHV3-7\*01

523 sequences assigned  
50 (9.6%) exact matches, in which:  
50 unique CDR3  
5 unique J



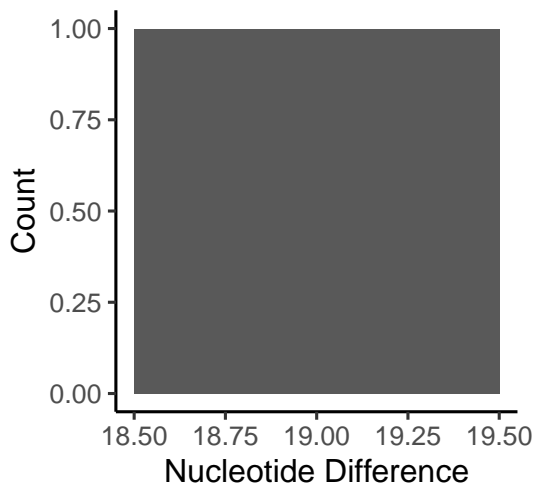
### IGHV3-7\*03

4411 sequences assigned  
923 (20.9%) exact matches, in which:  
752 unique CDR3  
7 unique J



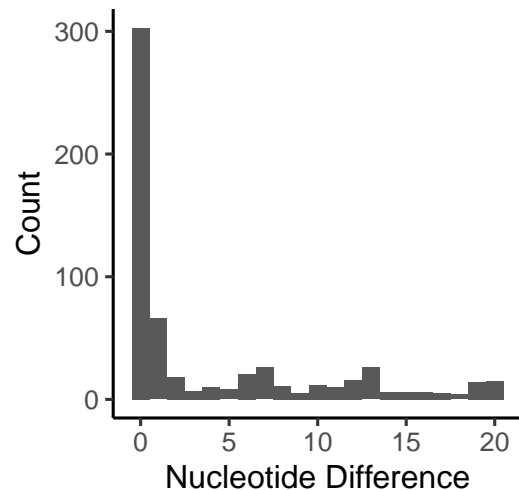
### IGHV3-9\*02

1 sequences assigned  
No exact matches.



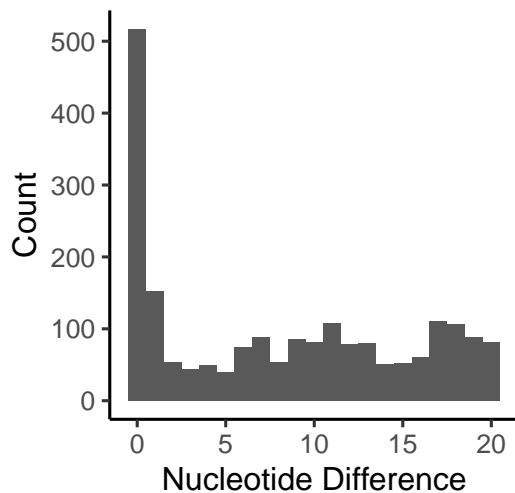
### IGHV3-13\*04

624 sequences assigned  
303 (48.6%) exact matches, in which:  
229 unique CDR3  
6 unique J



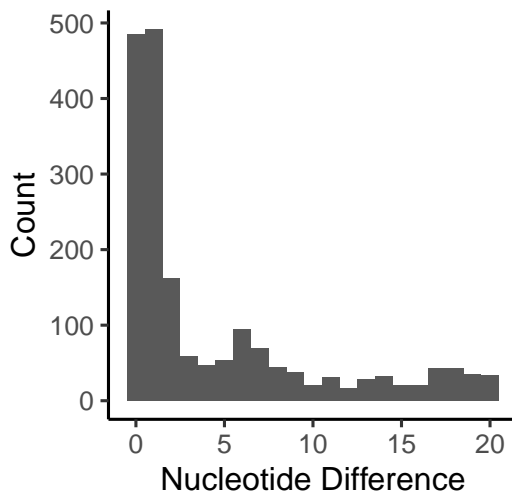
### IGHV3-7\*05

2643 sequences assigned  
517 (19.6%) exact matches, in which:  
426 unique CDR3  
7 unique J



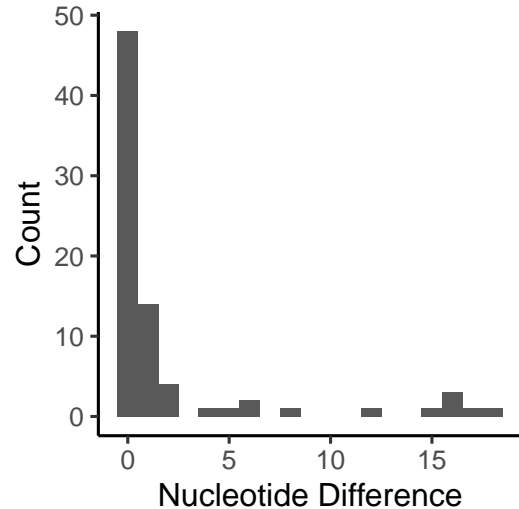
### IGHV3-11\*06

2978 sequences assigned  
485 (16.3%) exact matches, in which:  
414 unique CDR3  
7 unique J



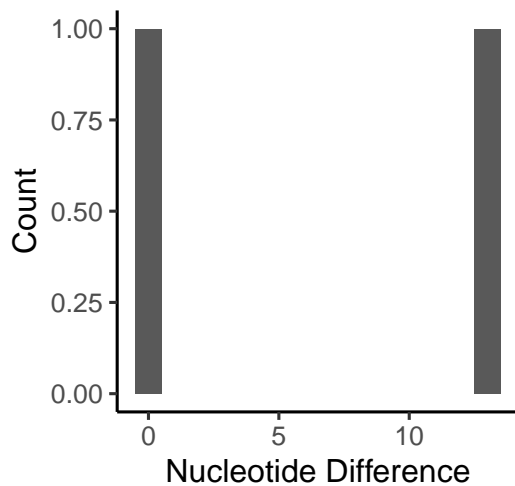
### IGHV3-13\*05

98 sequences assigned  
48 (49%) exact matches, in which:  
36 unique CDR3  
4 unique J



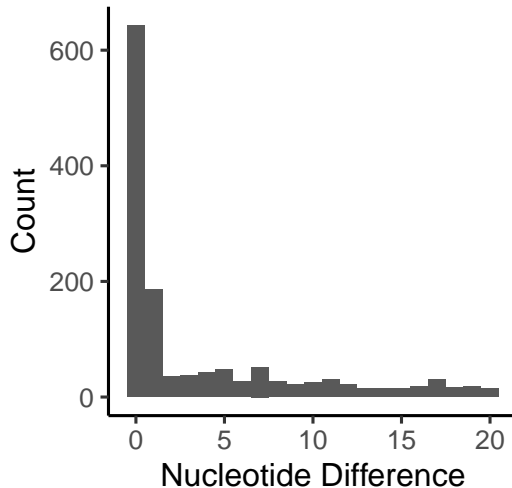
### IGHV3-9\*01

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



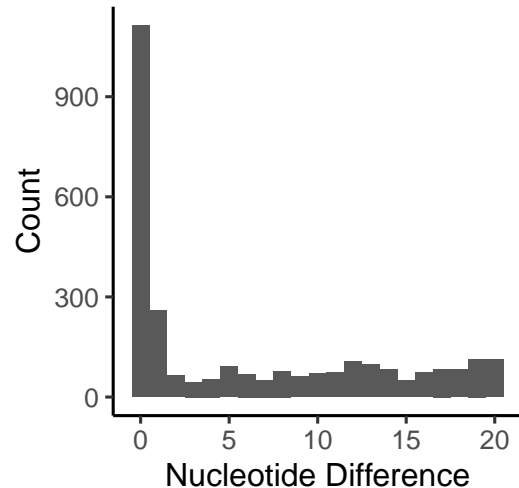
### IGHV3-11\*03\_05

1906 sequences assigned  
643 (33.7%) exact matches, in which:  
525 unique CDR3  
7 unique J



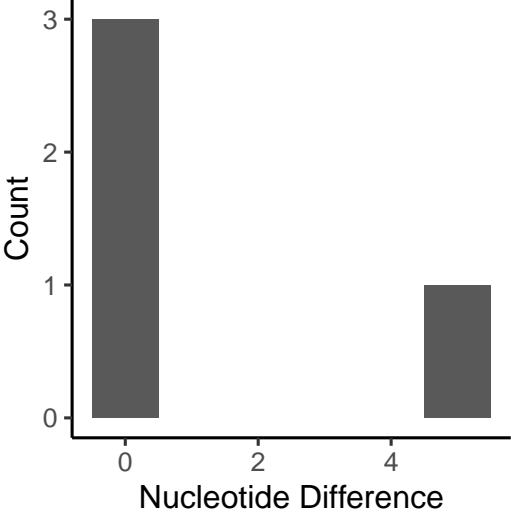
### IGHV3-15\*01\_02

3812 sequences assigned  
1114 (29.2%) exact matches, in which:  
961 unique CDR3  
7 unique J



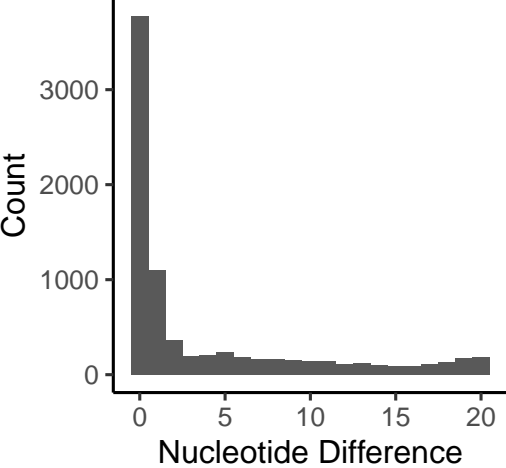
IGHV3-19\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
1 unique J



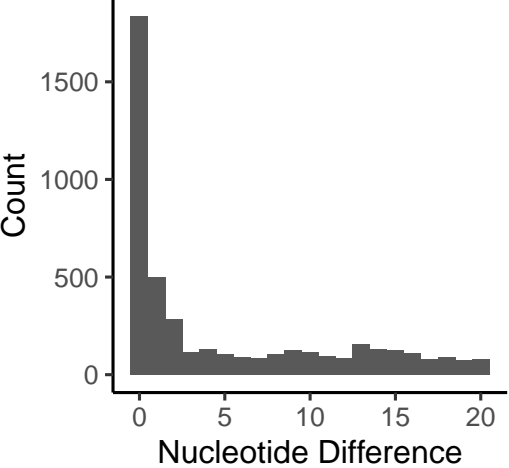
IGHV3-21\*01\_02

11673 sequences assigned  
3771 (32.3%) exact matches, in which:  
2989 unique CDR3  
7 unique J



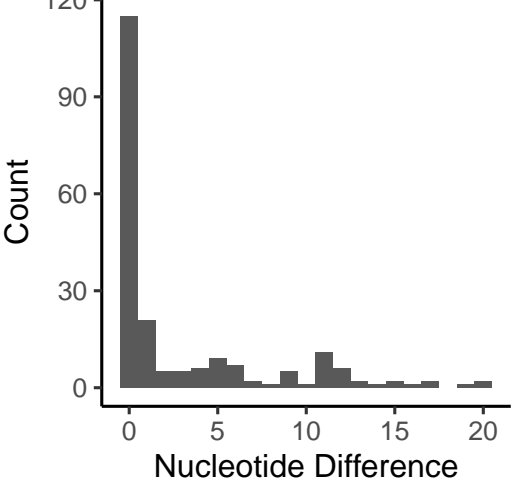
IGHV3-33\*08

5330 sequences assigned  
1835 (34.4%) exact matches, in which:  
1550 unique CDR3  
7 unique J



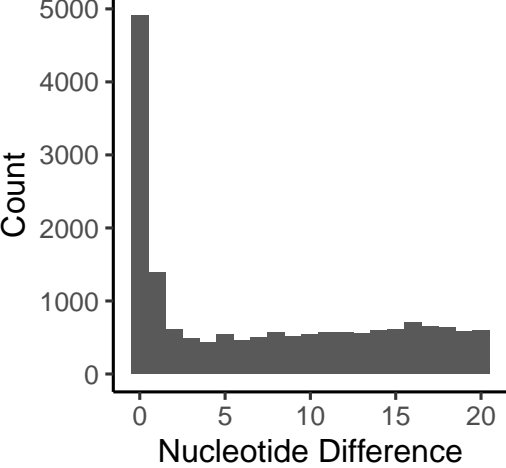
IGHV3-20\*01\_02

205 sequences assigned  
115 (56.1%) exact matches, in which:  
89 unique CDR3  
7 unique J



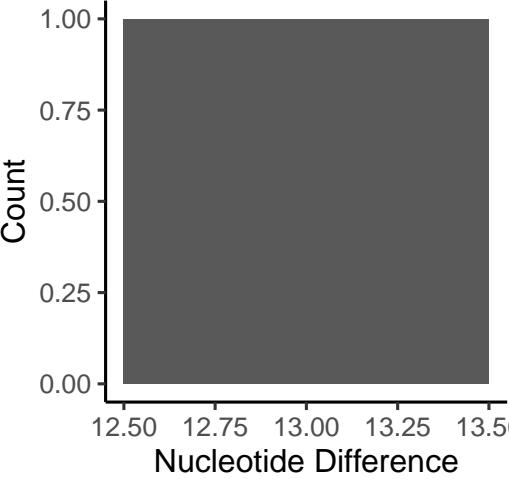
IGHV3-23\*01\_04

22585 sequences assigned  
4906 (21.7%) exact matches, in which:  
3893 unique CDR3  
7 unique J



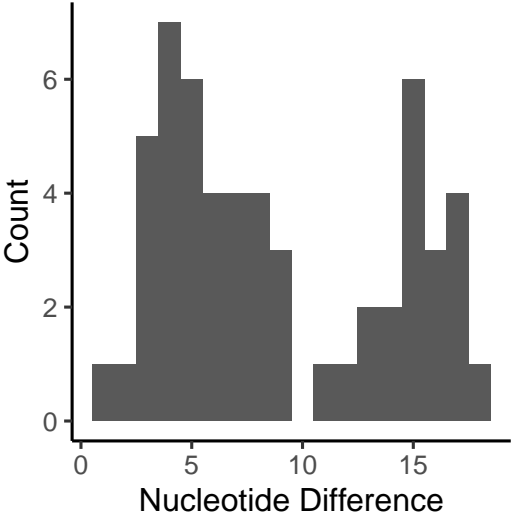
IGHV3-35\*01

1 sequences assigned  
No exact matches.



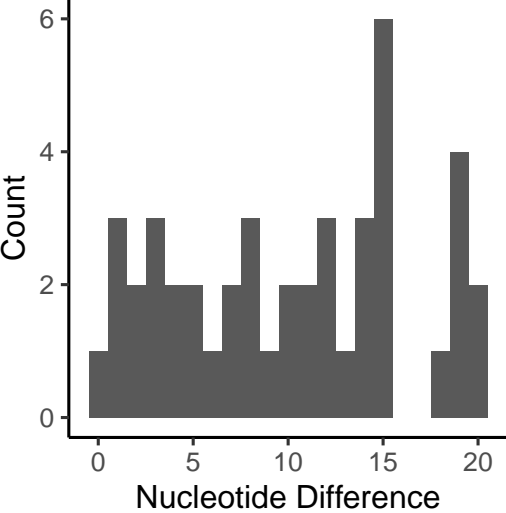
IGHV3-20\*03\_04

106 sequences assigned  
No exact matches.



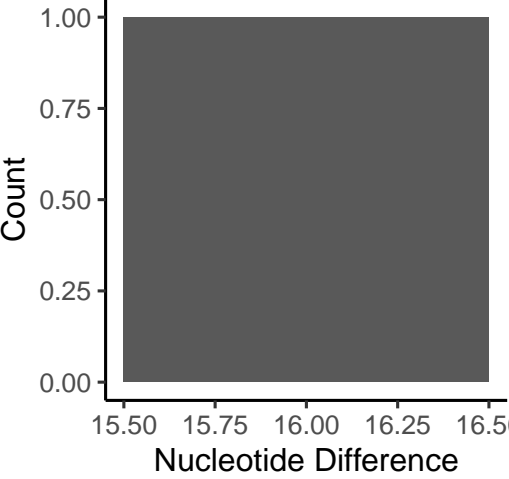
IGHV3-30-5\*01

210 sequences assigned  
1 (0.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



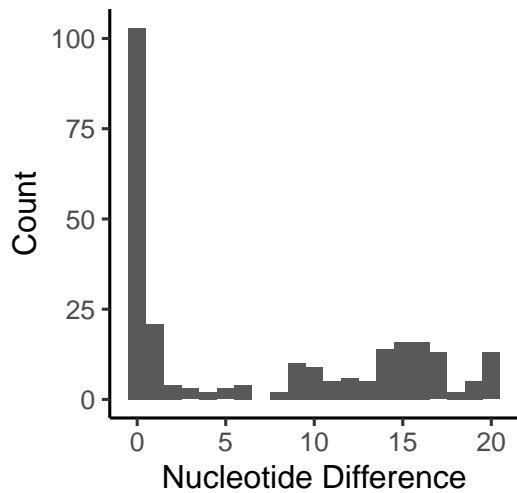
IGHV3-38\*03

2 sequences assigned  
No exact matches.



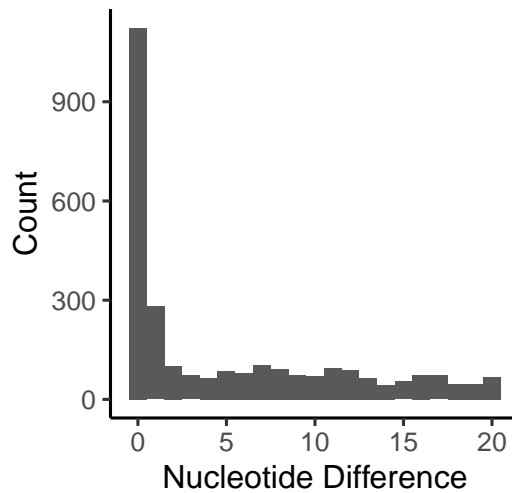
### IGHV3-43\*01

298 sequences assigned  
103 (34.6%) exact matches, in which:  
89 unique CDR3  
7 unique J



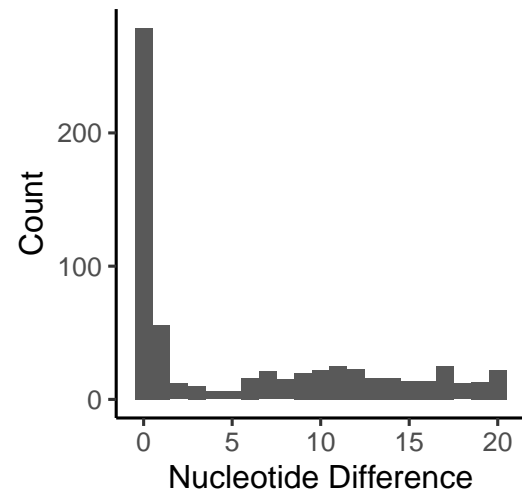
### IGHV3-48\*02

3613 sequences assigned  
1124 (31.1%) exact matches, in which:  
910 unique CDR3  
7 unique J



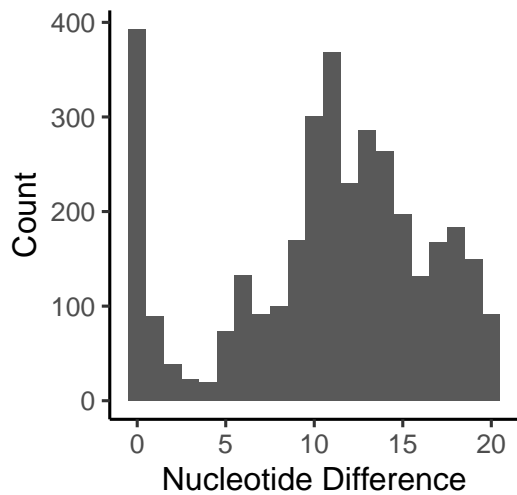
### IGHV3-49\*04

3709 sequences assigned  
279 (7.5%) exact matches, in which:  
240 unique CDR3  
6 unique J



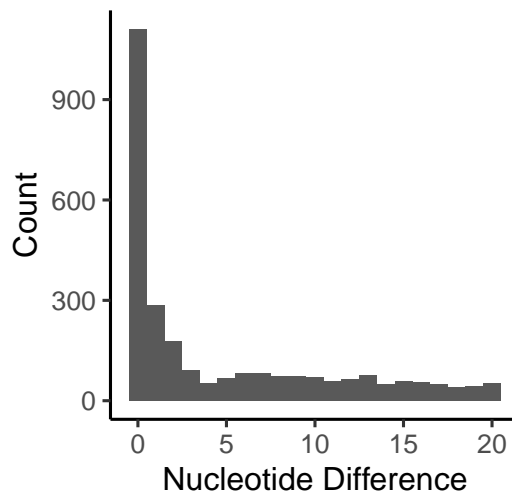
### IGHV3-43\*02

4093 sequences assigned  
393 (9.6%) exact matches, in which:  
317 unique CDR3  
7 unique J



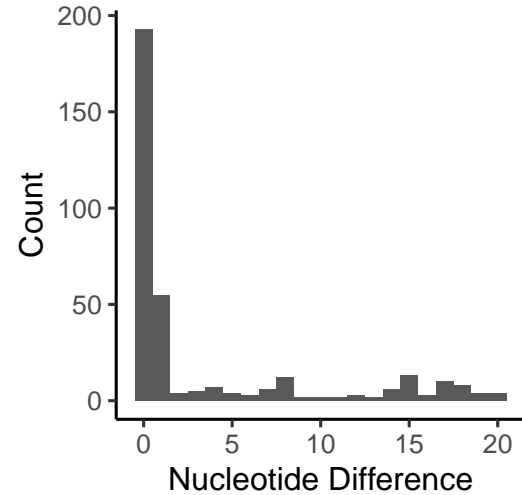
### IGHV3-48\*03

3179 sequences assigned  
1111 (34.9%) exact matches, in which:  
928 unique CDR3  
7 unique J



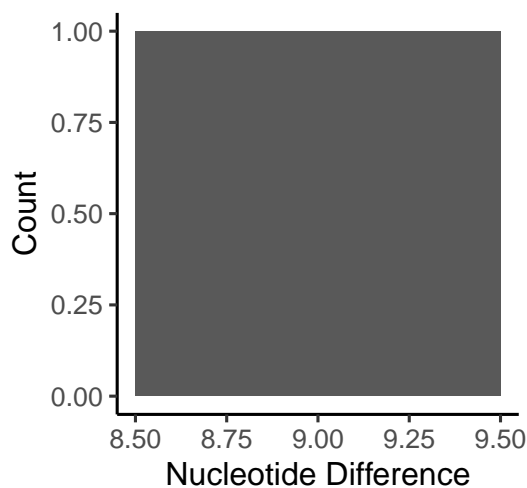
### IGHV3-49\*03\_05

432 sequences assigned  
193 (44.7%) exact matches, in which:  
168 unique CDR3  
6 unique J



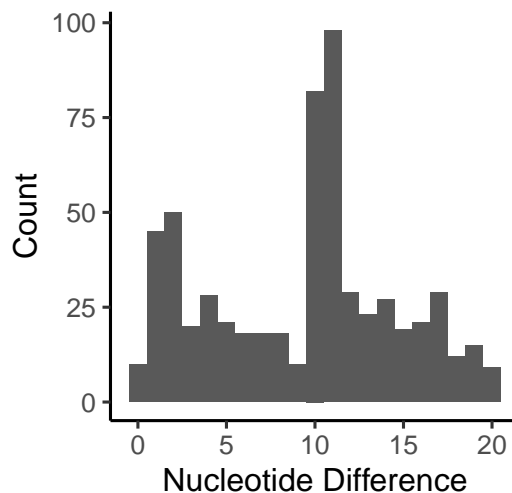
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



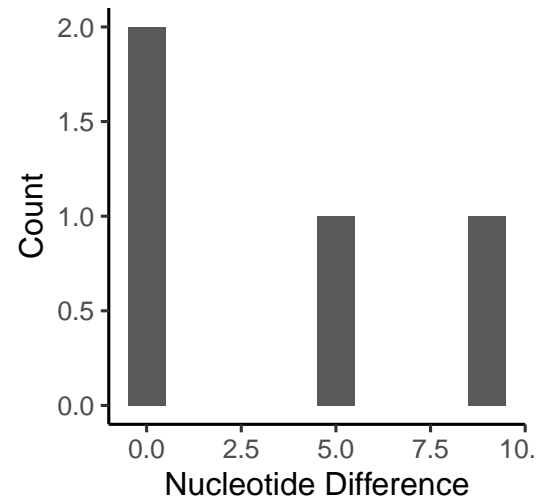
### IGHV3-48\*04

736 sequences assigned  
10 (1.4%) exact matches, in which:  
10 unique CDR3  
3 unique J



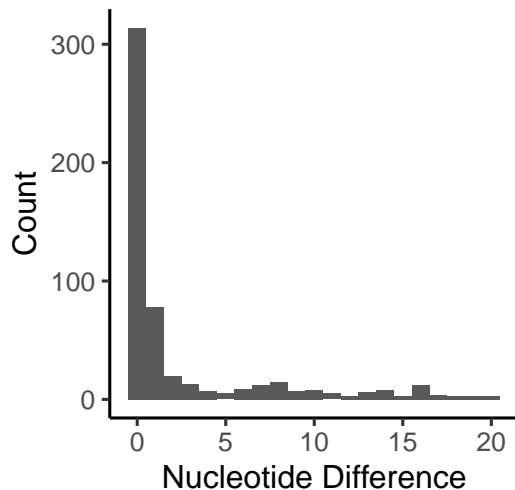
### IGHV3-52\*01\_03

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



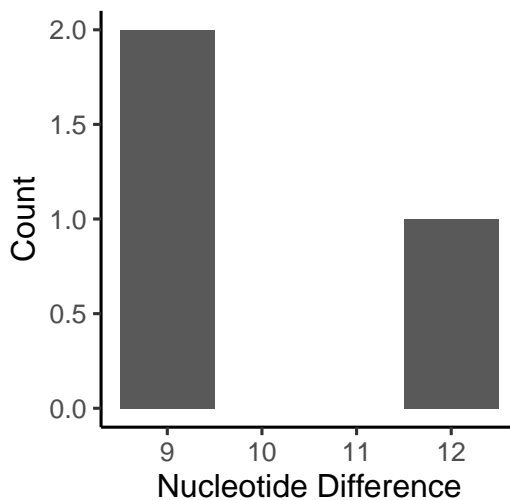
### IGHV3-53\*04

564 sequences assigned  
314 (55.7%) exact matches, in which:  
252 unique CDR3  
7 unique J



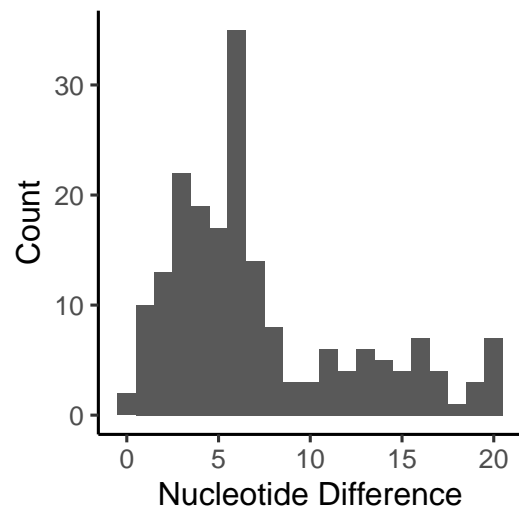
### IGHV3-62\*03

3 sequences assigned  
No exact matches.



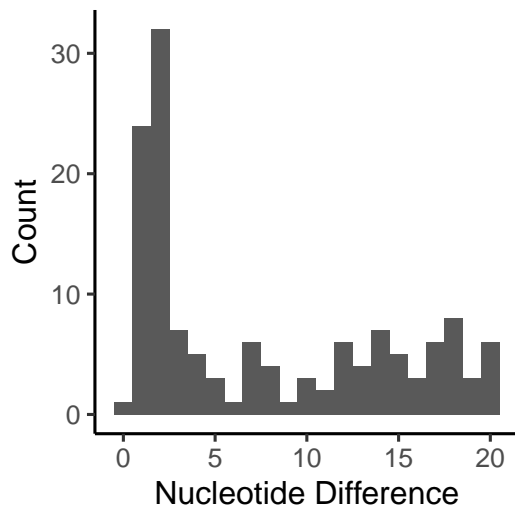
### IGHV3-64\*04

225 sequences assigned  
2 (0.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



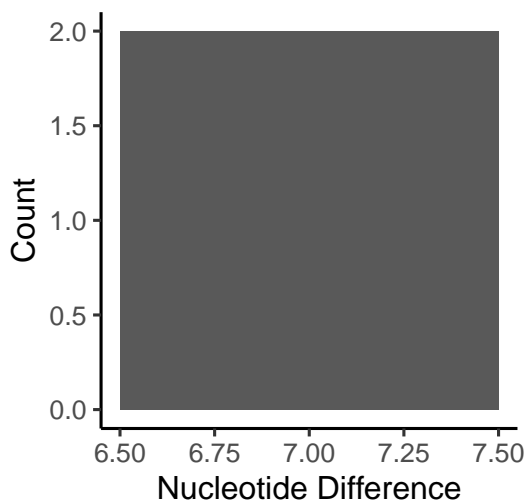
### IGHV3-53\*05

427 sequences assigned  
1 (0.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



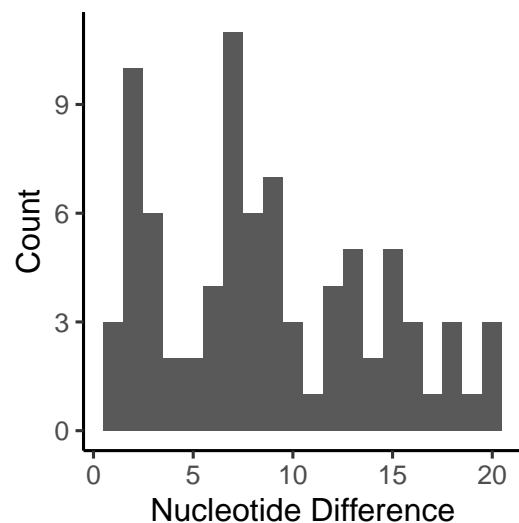
### IGHV3-62\*04

2 sequences assigned  
No exact matches.



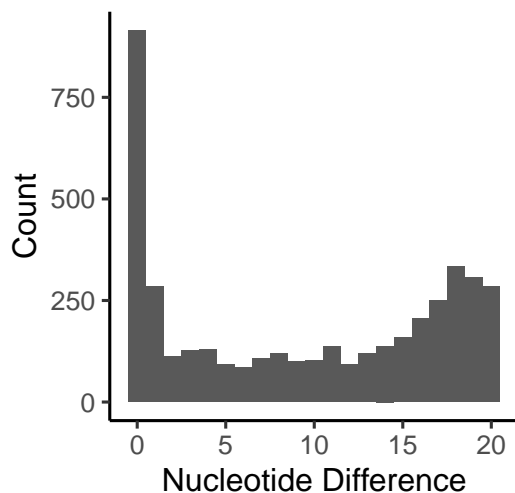
### IGHV3-66\*01

195 sequences assigned  
No exact matches.



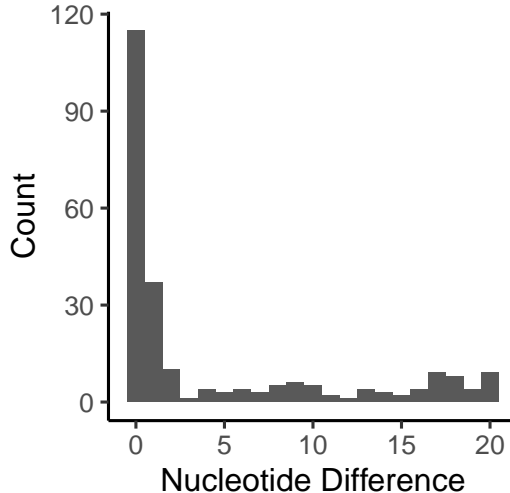
### IGHV3-53\*01\_02

9797 sequences assigned  
915 (9.3%) exact matches, in which:  
759 unique CDR3  
7 unique J



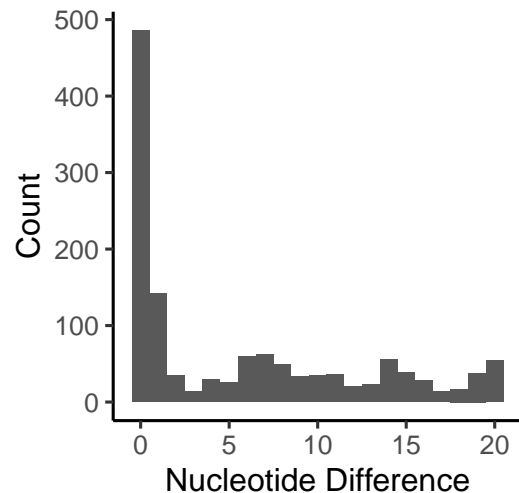
### IGHV3-64\*01

289 sequences assigned  
115 (39.8%) exact matches, in which:  
87 unique CDR3  
6 unique J



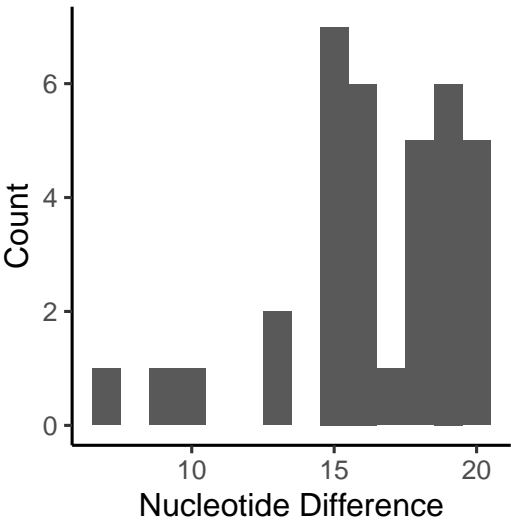
### IGHV3-66\*02

2203 sequences assigned  
486 (22.1%) exact matches, in which:  
404 unique CDR3  
7 unique J



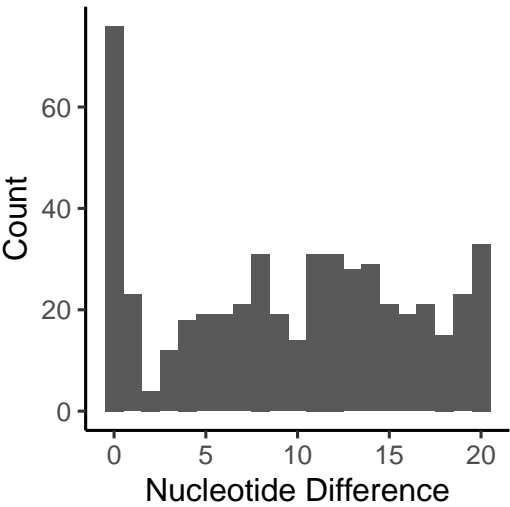
IGHV3-69-1\*01

166 sequences assigned  
No exact matches.



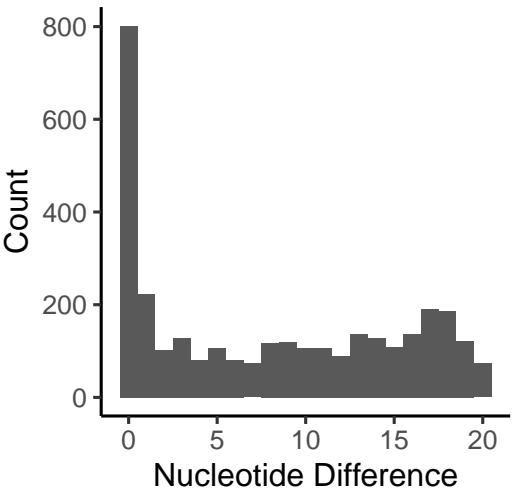
IGHV3-72\*01

731 sequences assigned  
76 (10.4%) exact matches, in which:  
67 unique CDR3  
5 unique J



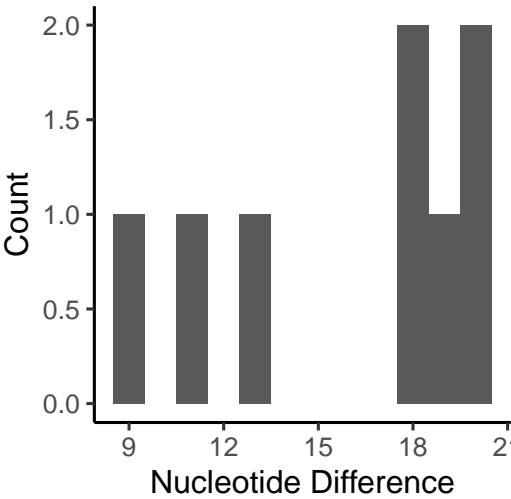
IGHV3-74\*01\_02

3708 sequences assigned  
802 (21.6%) exact matches, in which:  
639 unique CDR3  
7 unique J



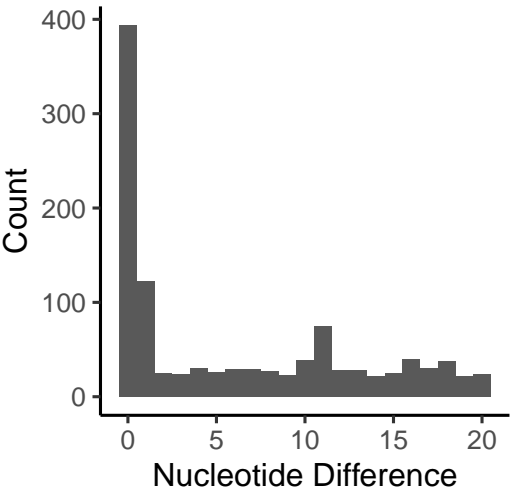
IGHV3-69-1\*02

50 sequences assigned  
No exact matches.



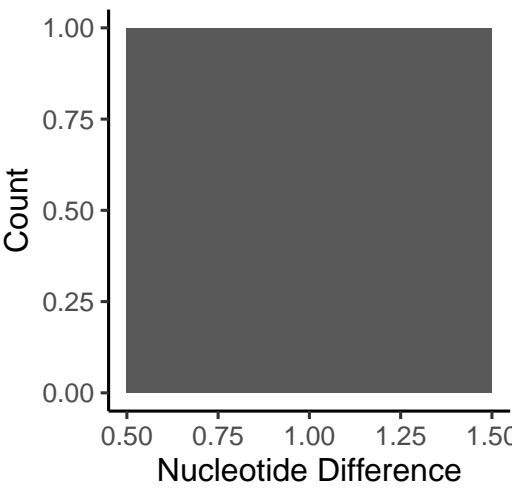
IGHV3-73\*01\_02

1321 sequences assigned  
394 (29.8%) exact matches, in which:  
324 unique CDR3  
7 unique J



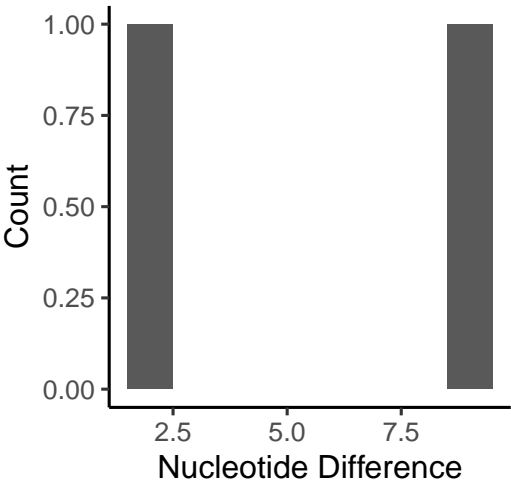
IGHV3-43D\*03

1 sequences assigned  
No exact matches.



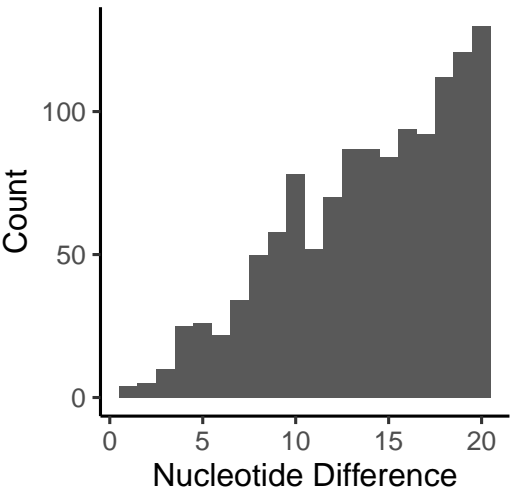
IGHV3-71\*01\_04

6 sequences assigned  
No exact matches.



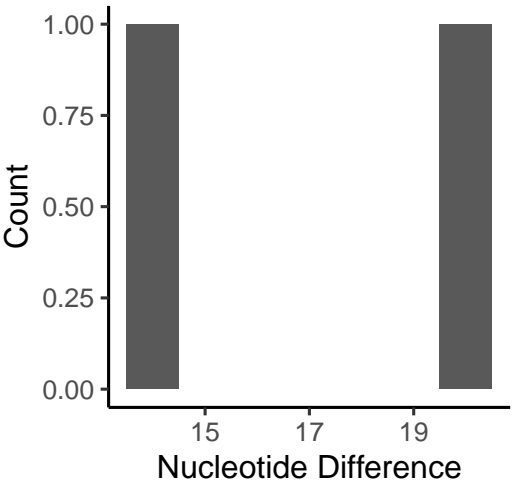
IGHV3-74\*03

2681 sequences assigned  
No exact matches.



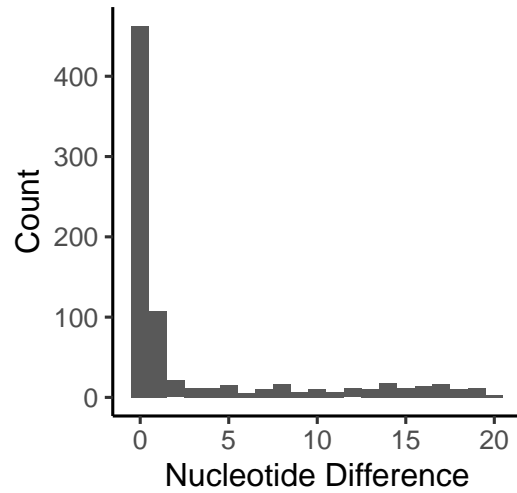
IGHV3-43D\*04

3 sequences assigned  
No exact matches.



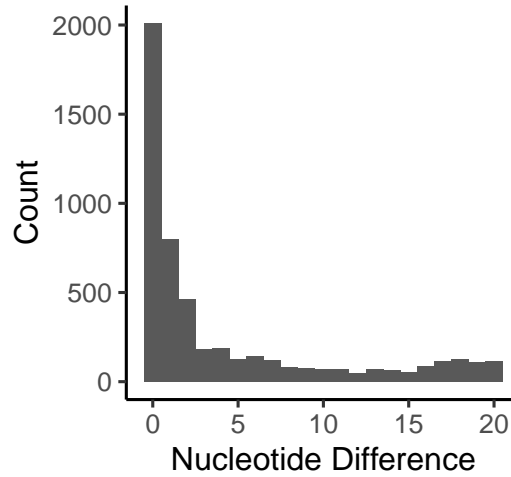
### IGHV3–64D\*06

915 sequences assigned  
463 (50.6%) exact matches, in which:  
360 unique CDR3  
7 unique J



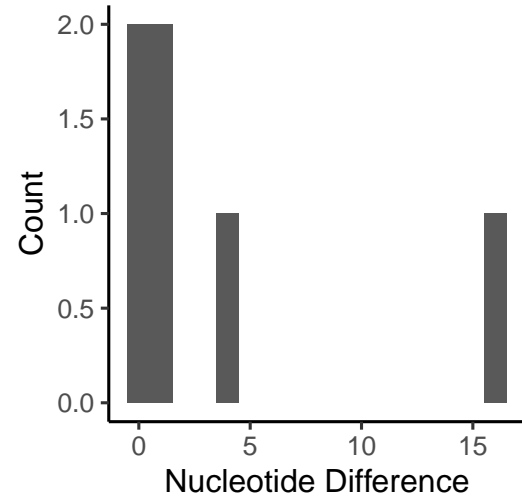
### IGHV4–4\*07

6741 sequences assigned  
2009 (29.8%) exact matches, in which:  
1933 unique CDR3  
7 unique J



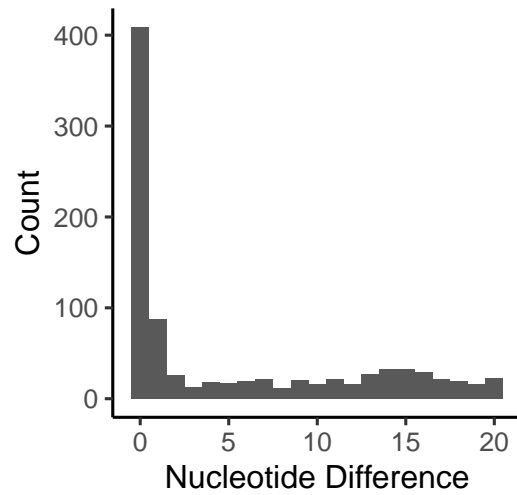
### IGHV4–28\*02\_05

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



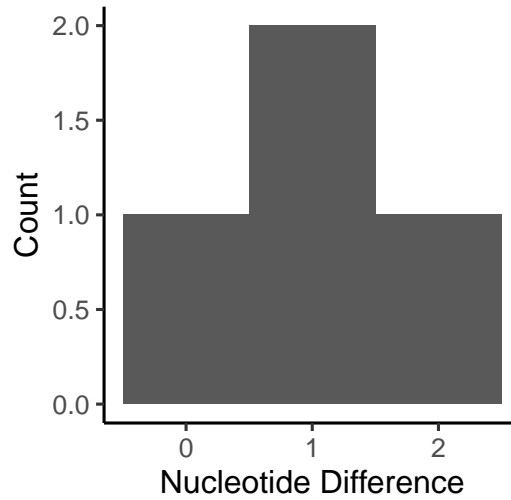
### IGHV3–64D\*09

1023 sequences assigned  
409 (40%) exact matches, in which:  
324 unique CDR3  
7 unique J



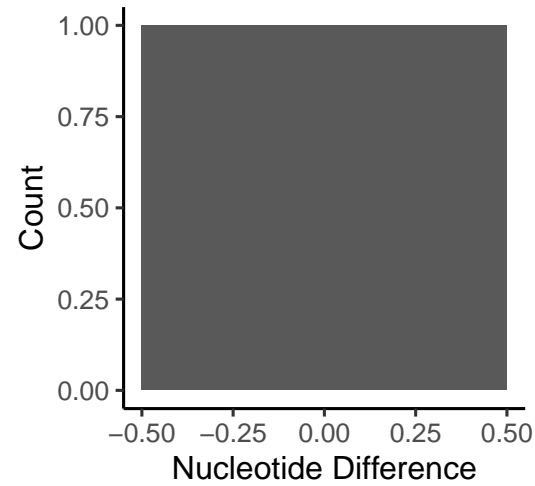
### IGHV4–28\*03

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



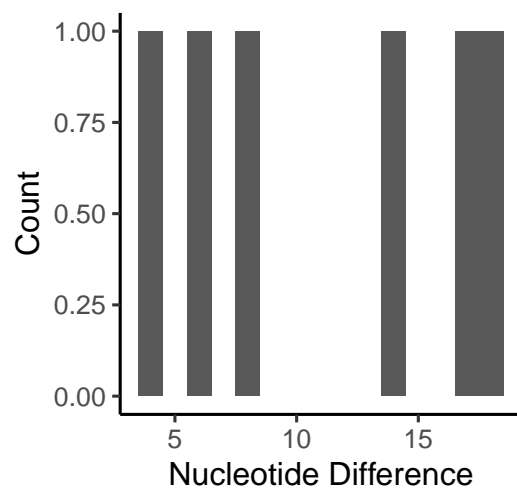
### IGHV4–30–4\*01

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



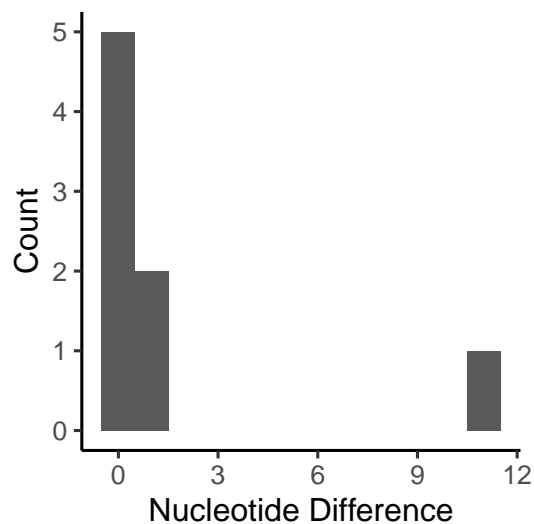
### IGHV3–NL1\*01

23 sequences assigned  
No exact matches.



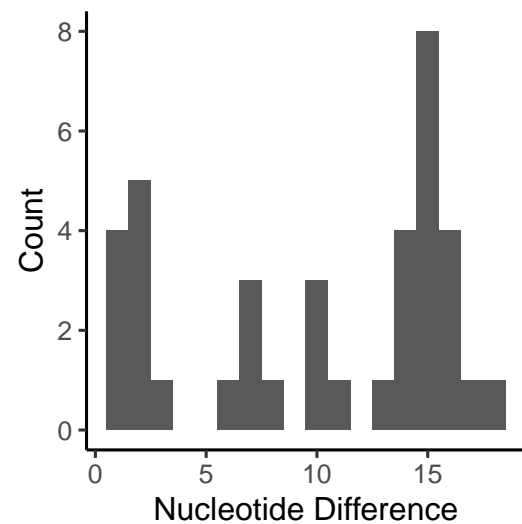
### IGHV4–28\*01\_07

8 sequences assigned  
5 (62.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



### IGHV4–30–2\*03

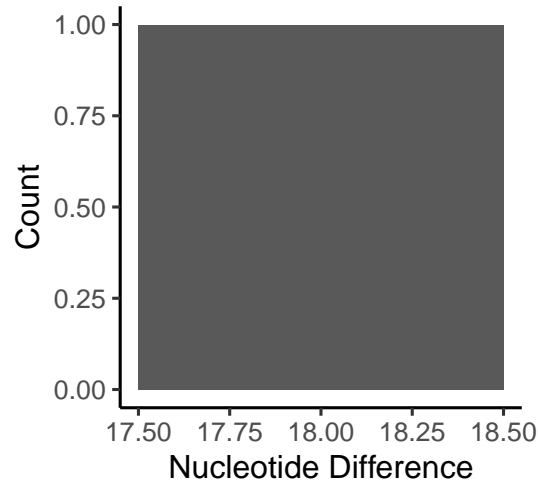
61 sequences assigned  
No exact matches.





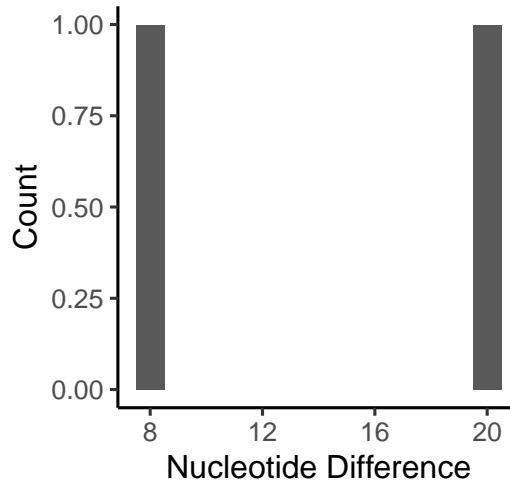
### IGHV4-30-4\*07

1 sequences assigned  
No exact matches.



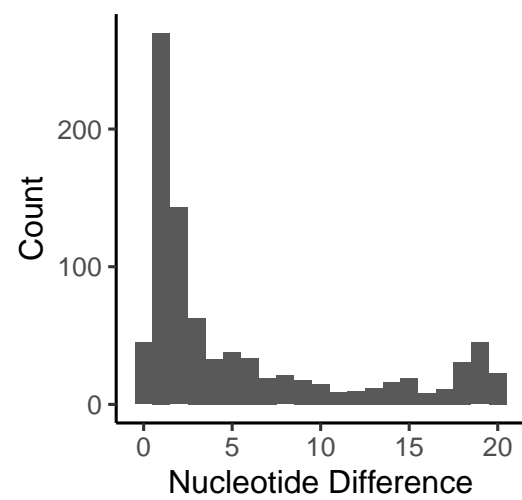
### IGHV4-38-2\*01

4 sequences assigned  
No exact matches.



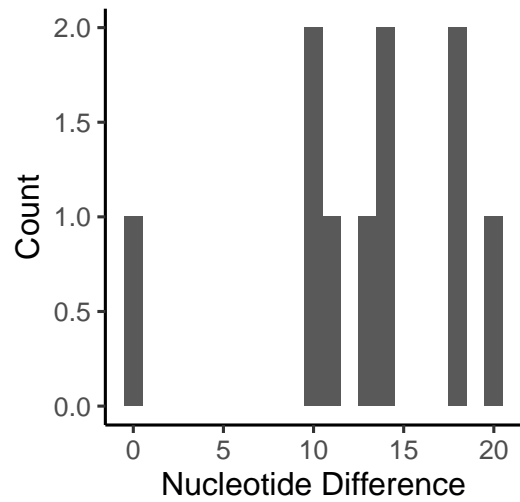
### IGHV4-59\*12

1110 sequences assigned  
45 (4.1%) exact matches, in which:  
45 unique CDR3  
6 unique J



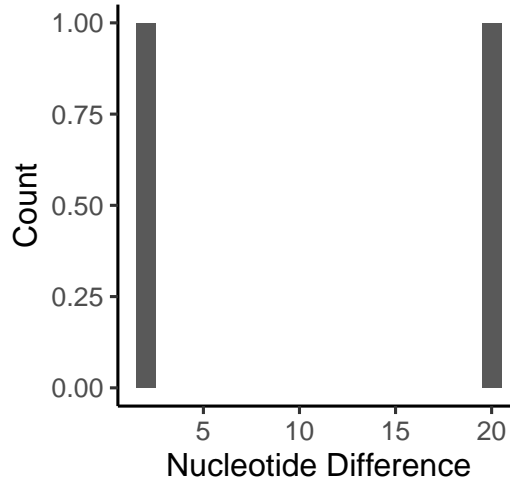
### IGHV4-31\*02

19 sequences assigned  
1 (5.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



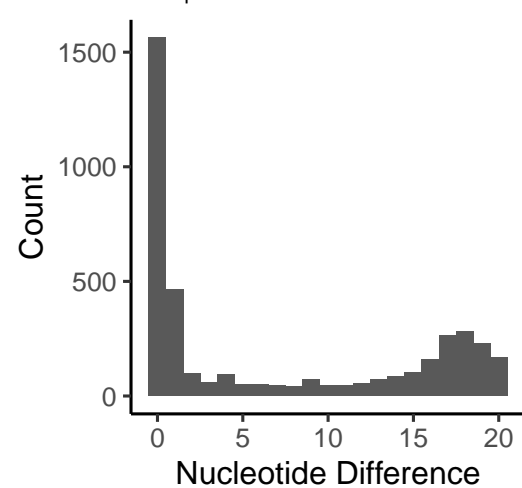
### IGHV4-38-2\*02

11 sequences assigned  
No exact matches.



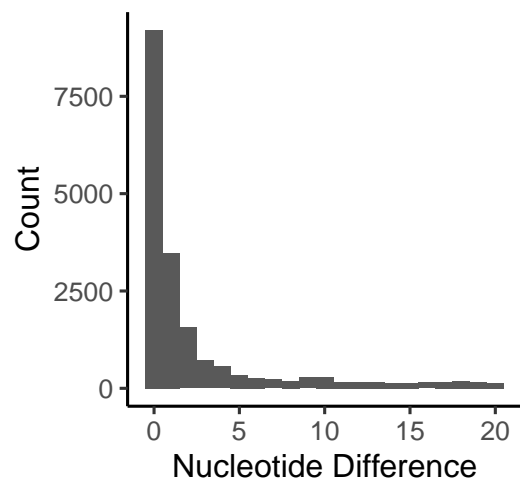
### IGHV4-59\*13

6034 sequences assigned  
1563 (25.9%) exact matches, in which:  
1527 unique CDR3  
7 unique J



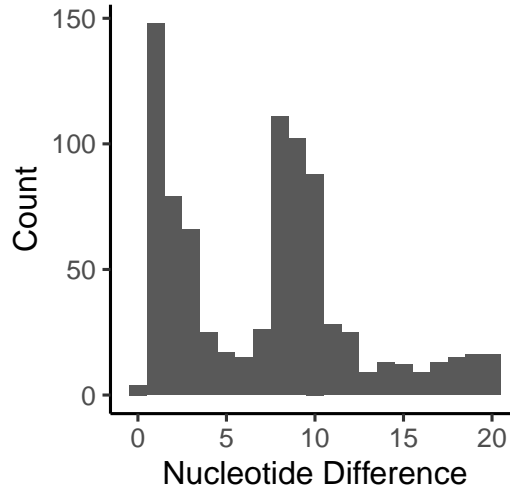
### IGHV4-34\*01\_02

20834 sequences assigned  
9202 (44.2%) exact matches, in which:  
8739 unique CDR3  
7 unique J



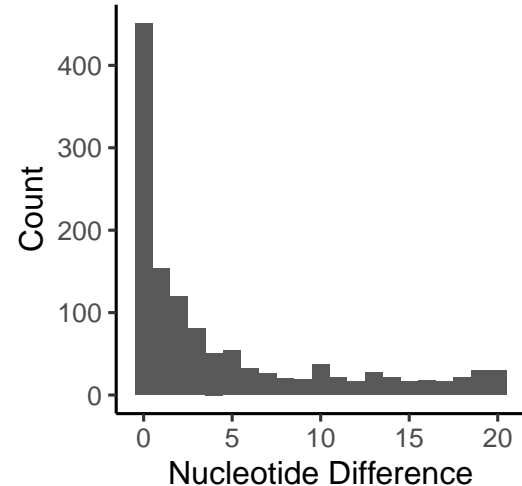
### IGHV4-39\*07

1168 sequences assigned  
4 (0.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



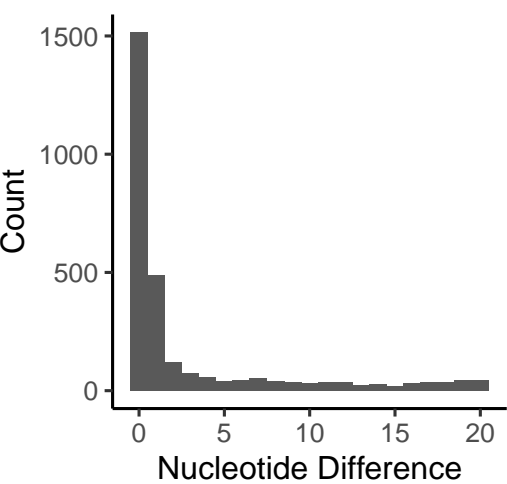
### IGHV4-61\*01

1541 sequences assigned  
451 (29.3%) exact matches, in which:  
437 unique CDR3  
7 unique J



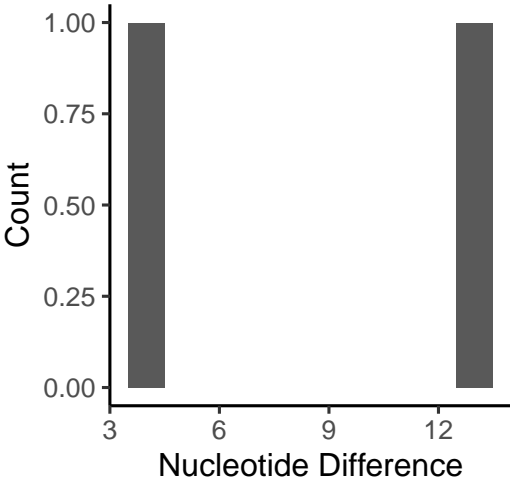
IGHV4-61\*02

3405 sequences assigned  
1515 (44.5%) exact matches, in which:  
1479 unique CDR3  
7 unique J



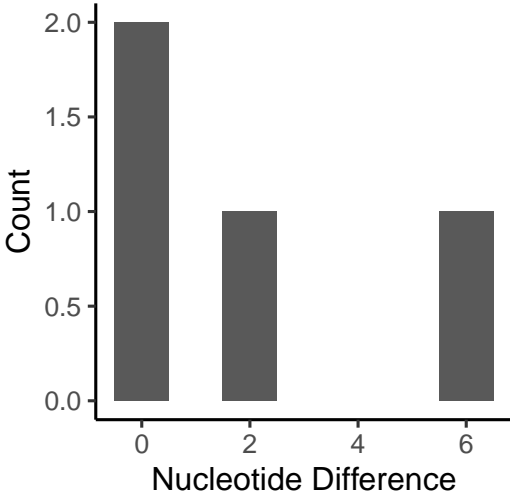
IGHV4/OR15-8\*01

4 sequences assigned  
No exact matches.



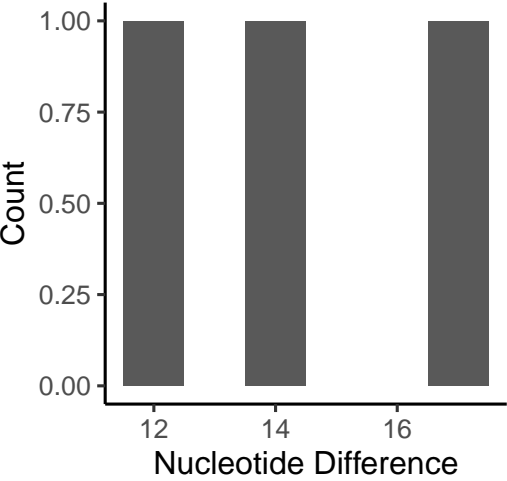
IGHV5-51\*06

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



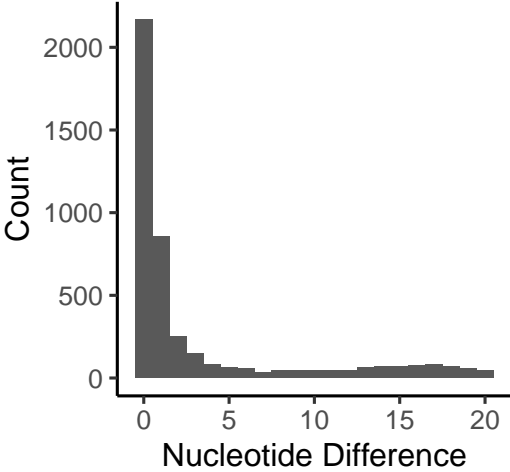
IGHV1/OR15-2\*02\_03

8 sequences assigned  
No exact matches.



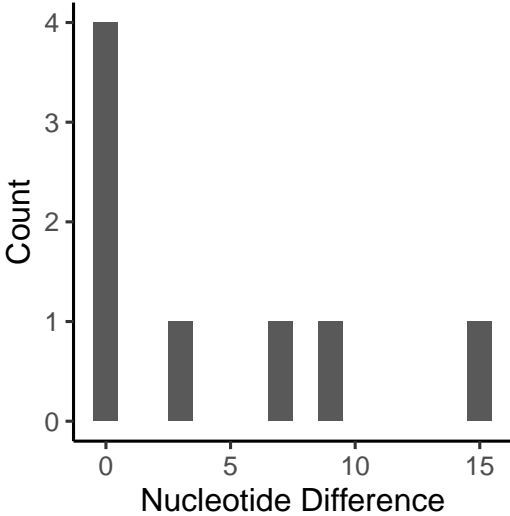
IGHV5-10-1\*01\_03

5020 sequences assigned  
2167 (43.2%) exact matches, in which:  
1973 unique CDR3  
7 unique J



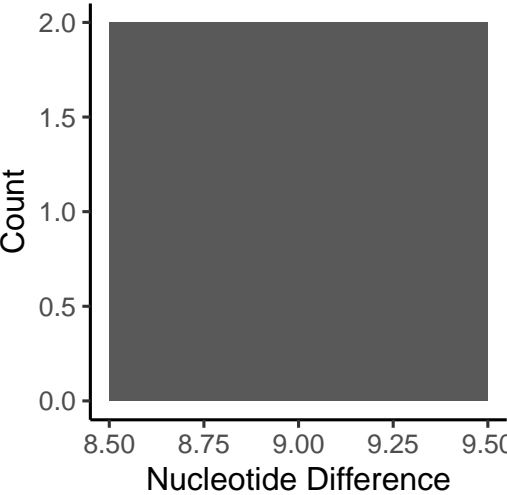
IGHV5-51\*07

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



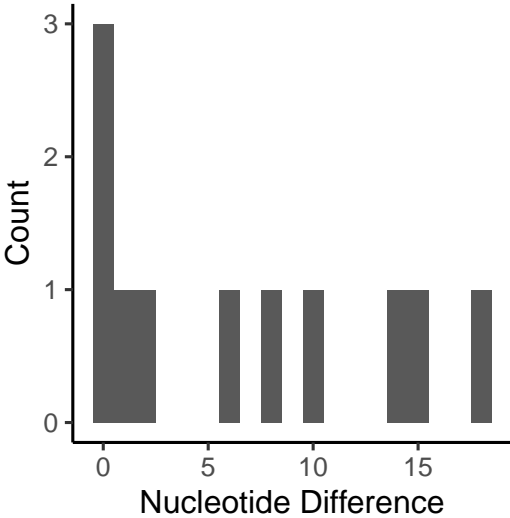
IGHV1/OR15-3\*01

2 sequences assigned  
No exact matches.



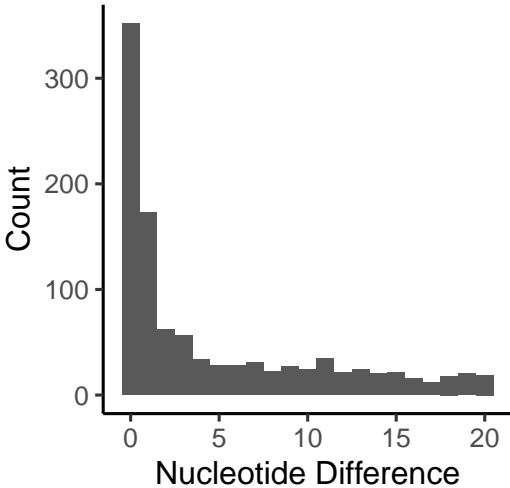
IGHV5-51\*04

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



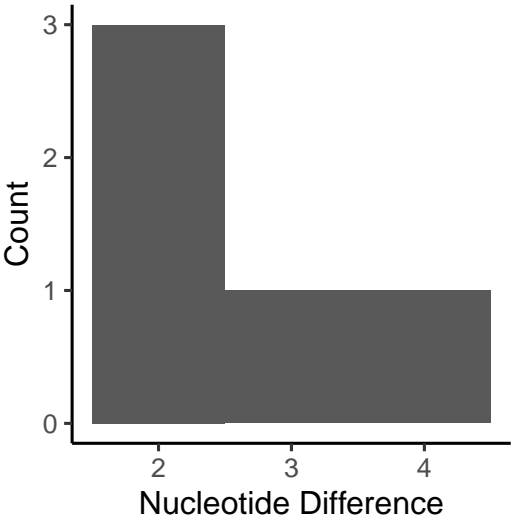
IGHV6-1\*01\_02

1196 sequences assigned  
352 (29.4%) exact matches, in which:  
339 unique CDR3  
7 unique J



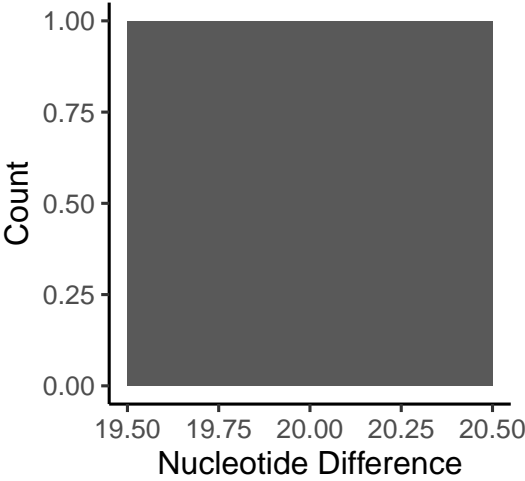
IGHV3/OR16-9\*01

5 sequences assigned  
No exact matches.



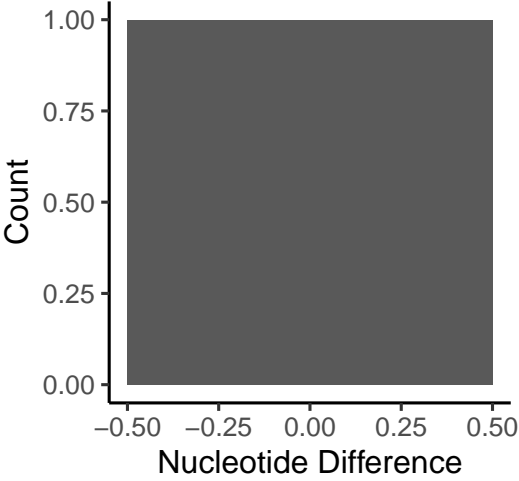
IGHV3/OR16-10\*01\_03

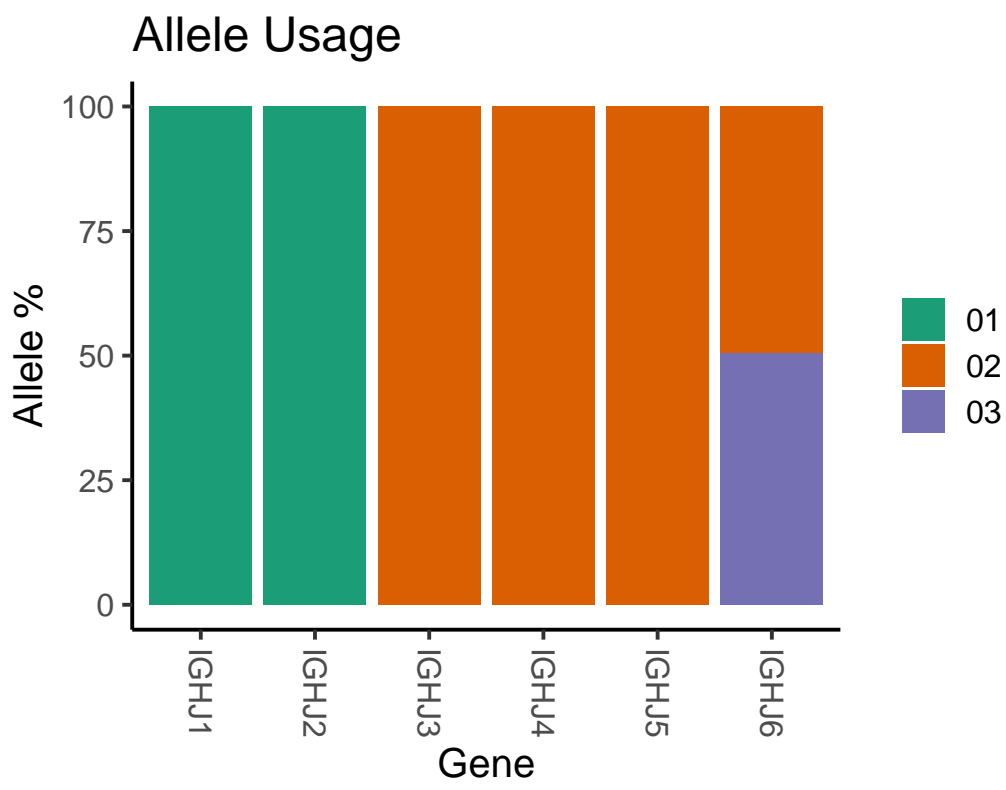
2 sequences assigned  
No exact matches.



IGHV7-4-1\*02

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





Sequence Count by IGHJ6 allele usage

