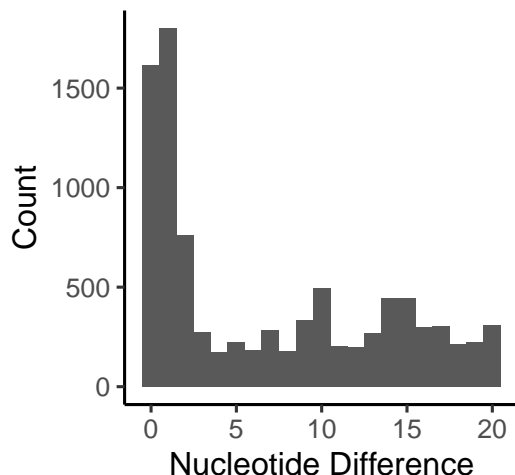


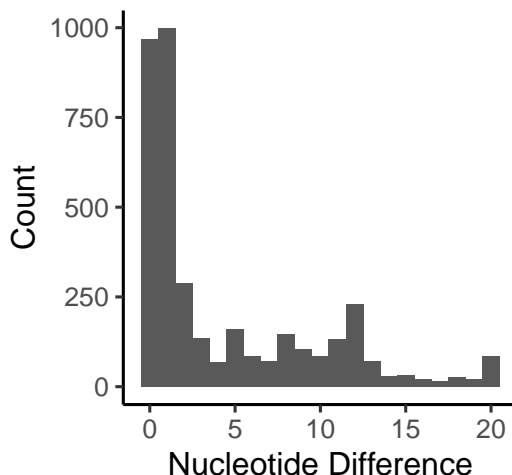
### IGHV1-2\*02

11988 sequences assigned  
1614 (13.5%) exact matches, in which:  
1339 unique CDR3  
6 unique J



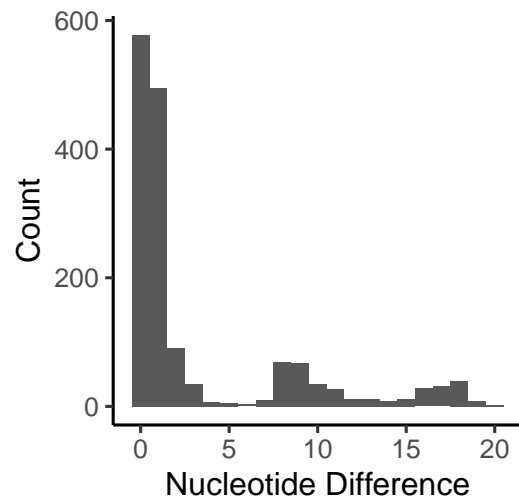
### IGHV1-8\*01

4256 sequences assigned  
969 (22.8%) exact matches, in which:  
803 unique CDR3  
6 unique J



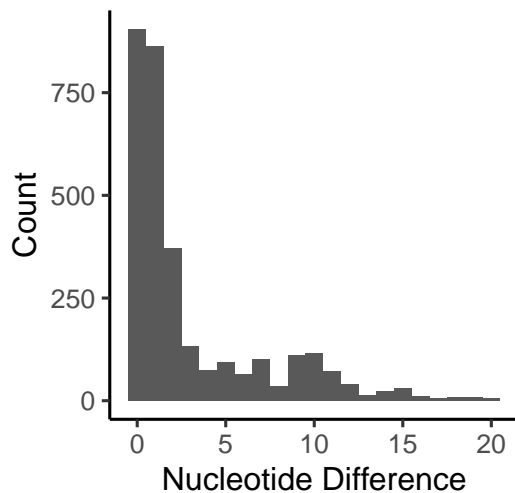
### IGHV1-24\*01

1699 sequences assigned  
578 (34%) exact matches, in which:  
484 unique CDR3  
6 unique J



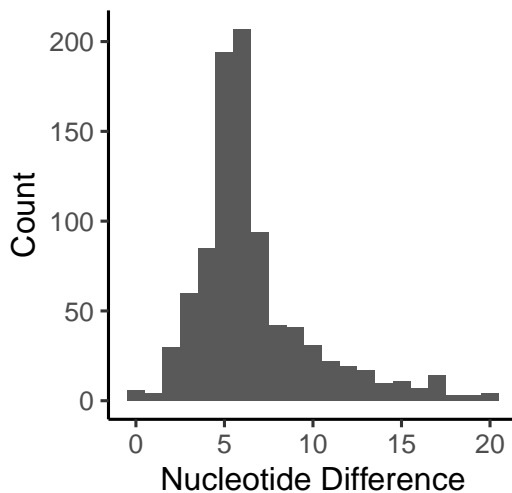
### IGHV1-2\*04

3127 sequences assigned  
905 (28.9%) exact matches, in which:  
762 unique CDR3  
6 unique J



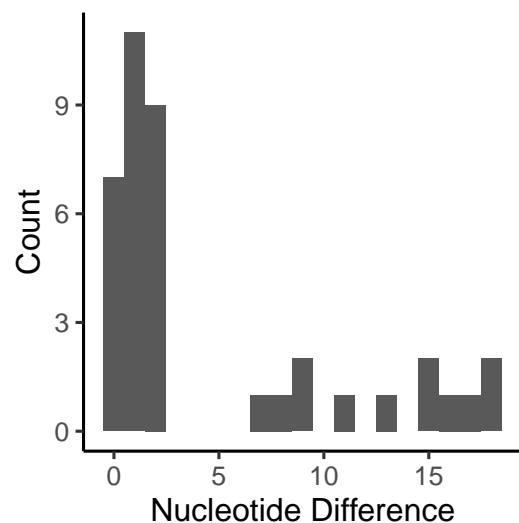
### IGHV1-8\*02

1004 sequences assigned  
6 (0.6%) exact matches, in which:  
6 unique CDR3  
2 unique J



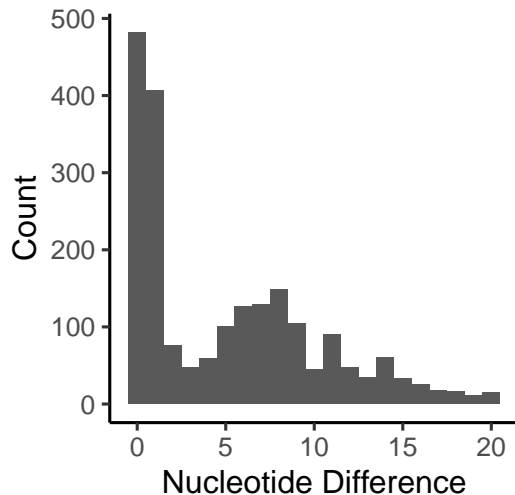
### IGHV1-45\*02

43 sequences assigned  
7 (16.3%) exact matches, in which:  
6 unique CDR3  
2 unique J



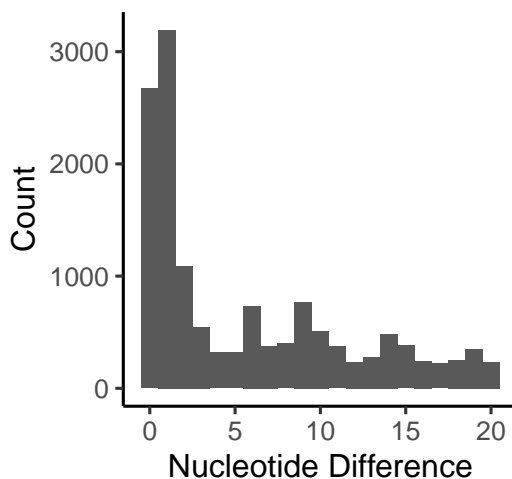
### IGHV1-3\*01\_05

2810 sequences assigned  
482 (17.2%) exact matches, in which:  
400 unique CDR3  
6 unique J



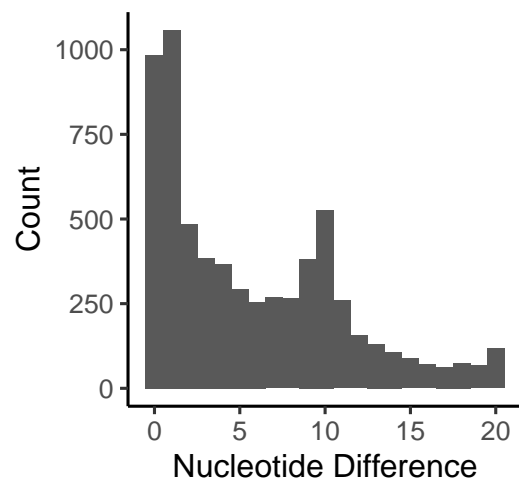
### IGHV1-18\*01

17698 sequences assigned  
2672 (15.1%) exact matches, in which:  
2145 unique CDR3  
6 unique J



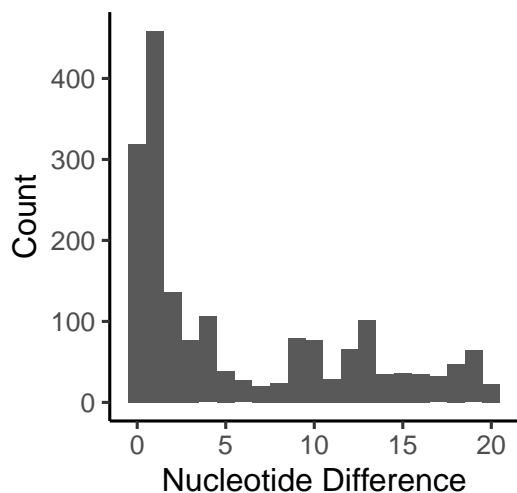
### IGHV1-46\*01

7023 sequences assigned  
984 (14%) exact matches, in which:  
838 unique CDR3  
6 unique J



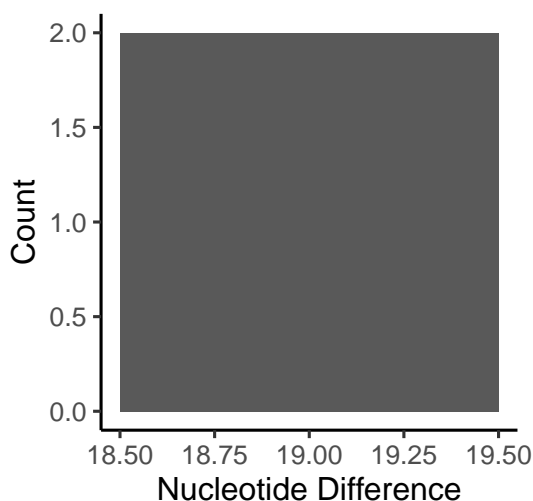
### IGHV1-46\*03

2618 sequences assigned  
319 (12.2%) exact matches, in which:  
238 unique CDR3  
6 unique J



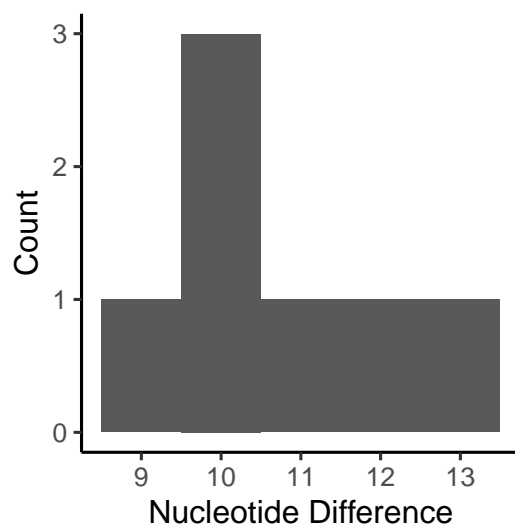
### IGHV1-69-2\*01

2 sequences assigned  
No exact matches.



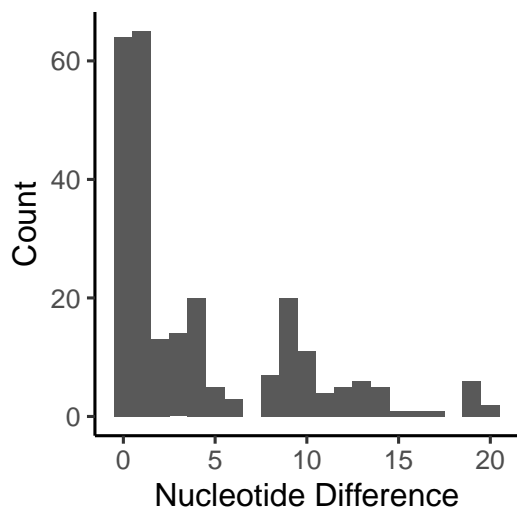
### IGHV1-NL1\*01

7 sequences assigned  
No exact matches.



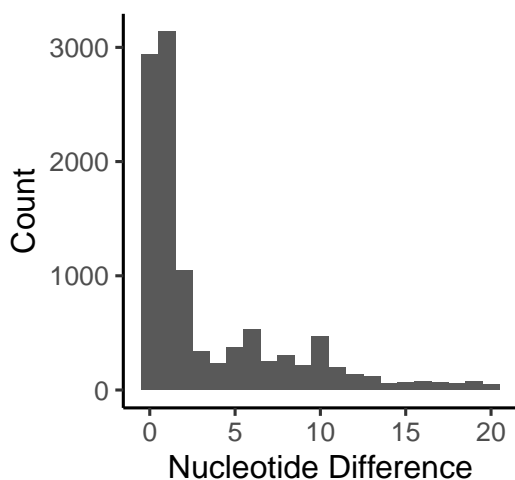
### IGHV1-58\*02

272 sequences assigned  
64 (23.5%) exact matches, in which:  
58 unique CDR3  
4 unique J



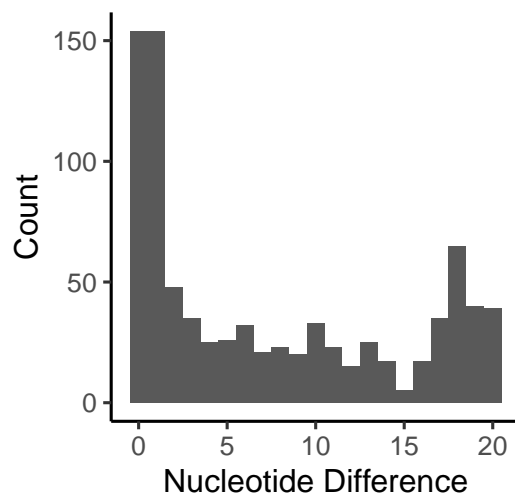
### IGHV1-69\*01\_12\_13

11796 sequences assigned  
2939 (24.9%) exact matches, in which:  
2498 unique CDR3  
6 unique J



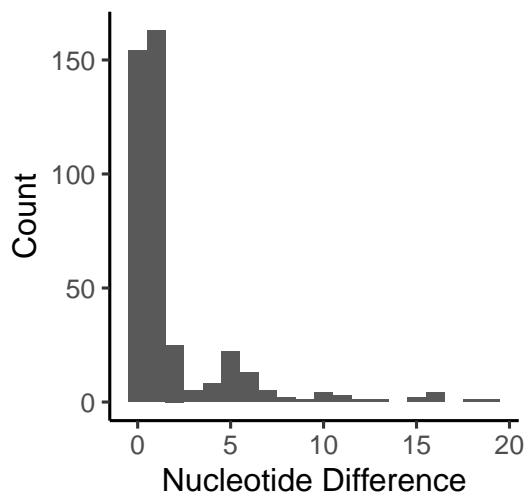
### IGHV2-5\*01

922 sequences assigned  
154 (16.7%) exact matches, in which:  
129 unique CDR3  
6 unique J



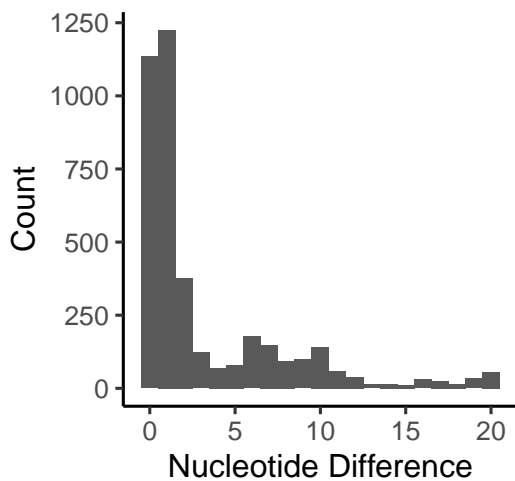
### IGHV1-58\*01\_03

463 sequences assigned  
154 (33.3%) exact matches, in which:  
131 unique CDR3  
5 unique J



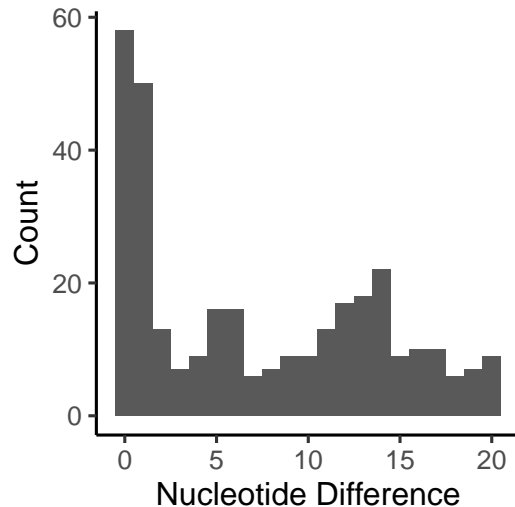
### IGHV1-69\*04\_09

4242 sequences assigned  
1134 (26.7%) exact matches, in which:  
977 unique CDR3  
6 unique J



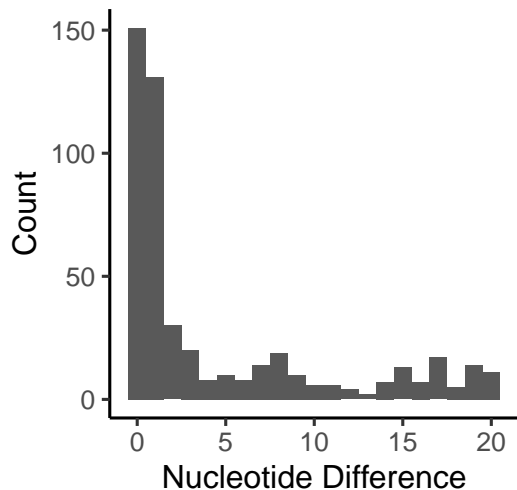
### IGHV2-5\*02

547 sequences assigned  
58 (10.6%) exact matches, in which:  
51 unique CDR3  
6 unique J



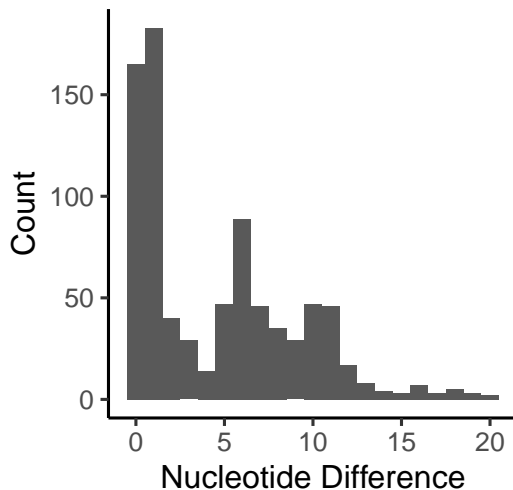
### IGHV2-26\*01

504 sequences assigned  
151 (30%) exact matches, in which:  
125 unique CDR3  
6 unique J



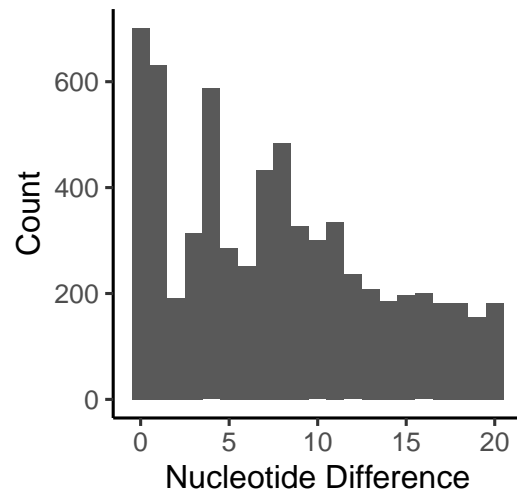
### IGHV2-70\*11\_15

862 sequences assigned  
165 (19.1%) exact matches, in which:  
132 unique CDR3  
6 unique J



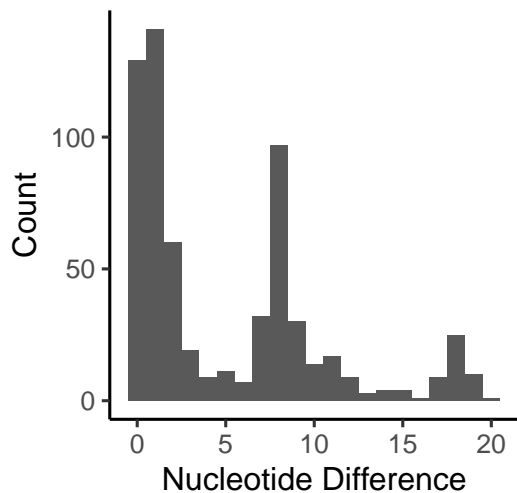
### IGHV3-7\*03

8144 sequences assigned  
702 (8.6%) exact matches, in which:  
470 unique CDR3  
6 unique J



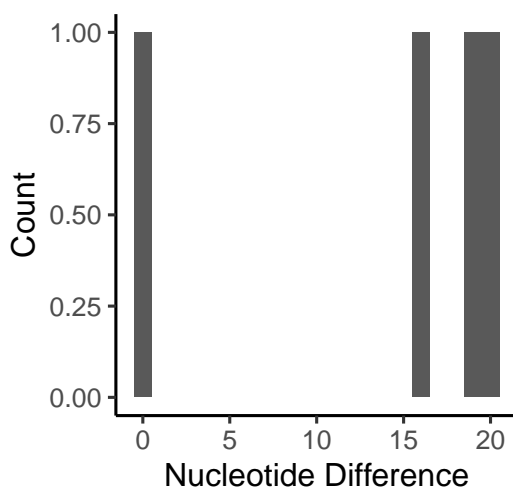
### IGHV2-70\*01

674 sequences assigned  
129 (19.1%) exact matches, in which:  
104 unique CDR3  
5 unique J



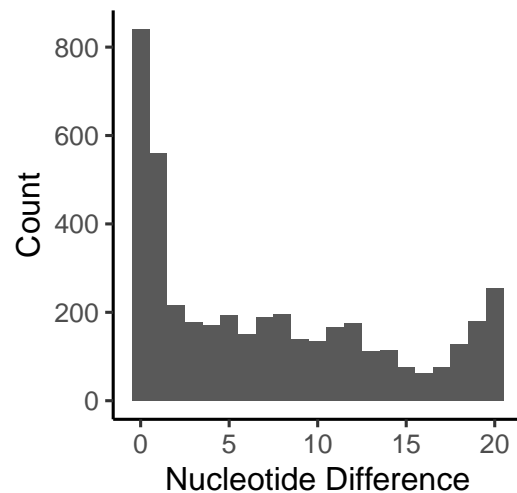
### IGHV2-70D\*04

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



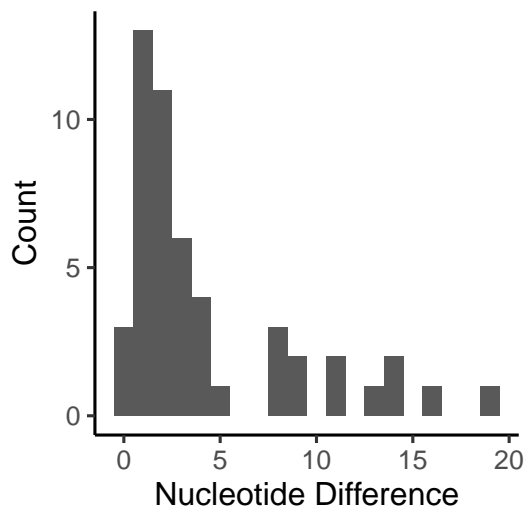
### IGHV3-9\*01

5593 sequences assigned  
841 (15%) exact matches, in which:  
494 unique CDR3  
6 unique J



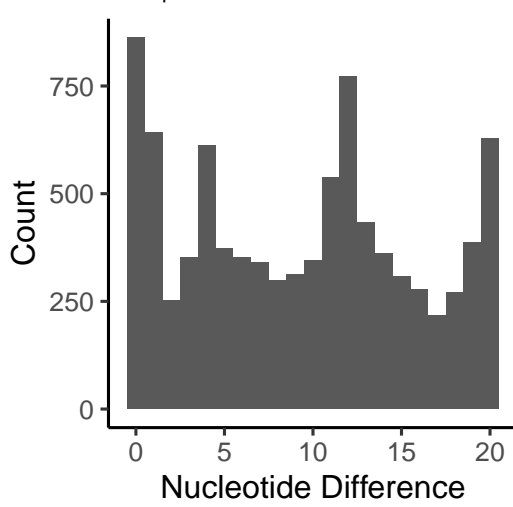
### IGHV2-70\*12

50 sequences assigned  
3 (6%) exact matches, in which:  
2 unique CDR3  
2 unique J



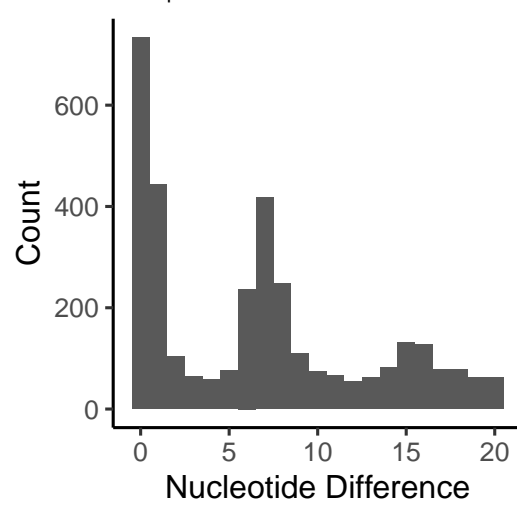
### IGHV3-7\*01

11616 sequences assigned  
863 (7.4%) exact matches, in which:  
614 unique CDR3  
6 unique J



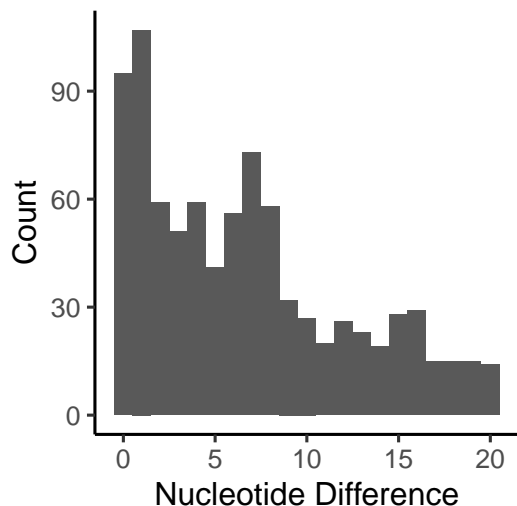
### IGHV3-11\*01

4110 sequences assigned  
734 (17.9%) exact matches, in which:  
490 unique CDR3  
6 unique J



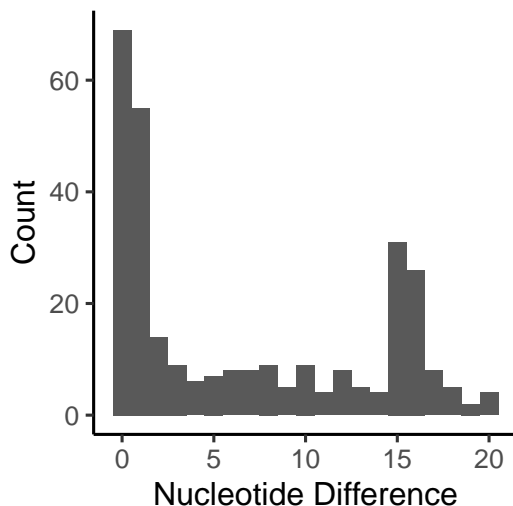
### IGHV3-11\*04

955 sequences assigned  
95 (9.9%) exact matches, in which:  
92 unique CDR3  
6 unique J



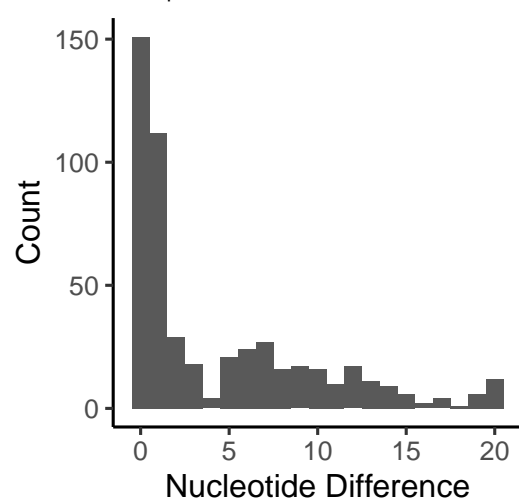
### IGHV3-13\*05

310 sequences assigned  
69 (22.3%) exact matches, in which:  
44 unique CDR3  
5 unique J



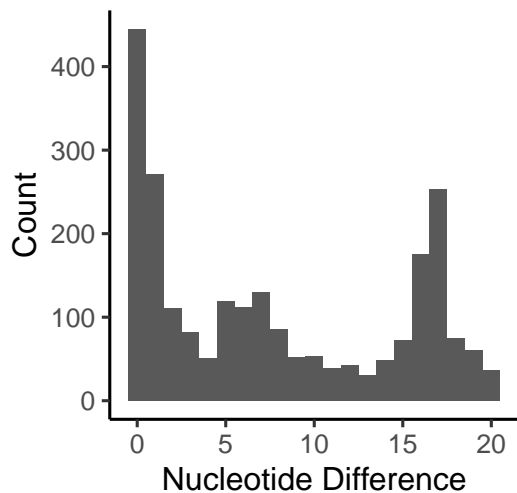
### IGHV3-20\*01\_02

528 sequences assigned  
151 (28.6%) exact matches, in which:  
87 unique CDR3  
5 unique J



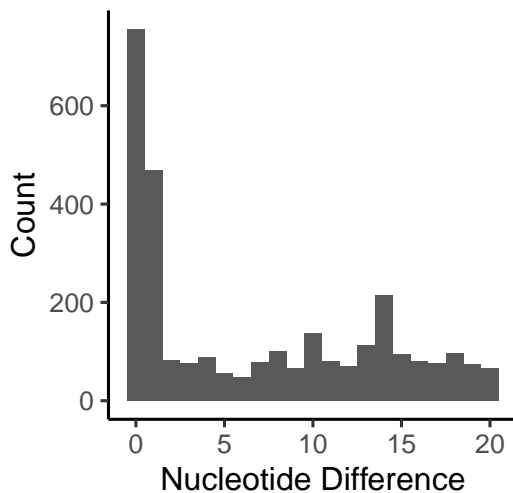
### IGHV3-11\*06

2907 sequences assigned  
445 (15.3%) exact matches, in which:  
314 unique CDR3  
6 unique J



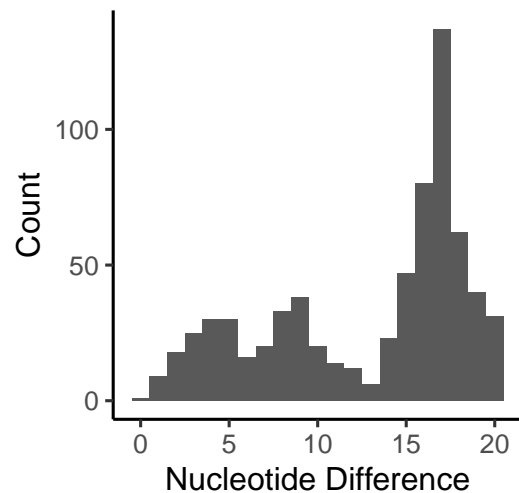
### IGHV3-15\*01\_02

3353 sequences assigned  
756 (22.5%) exact matches, in which:  
469 unique CDR3  
6 unique J



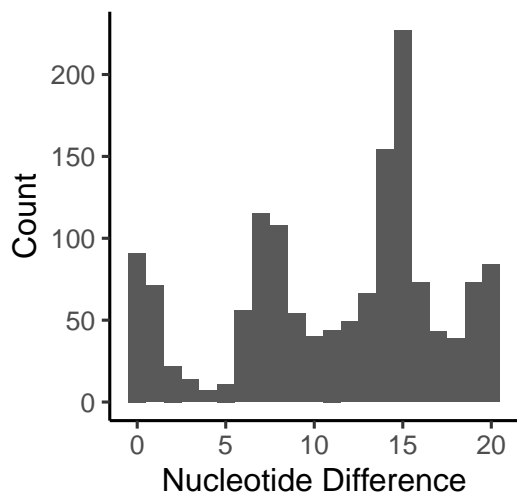
### IGHV3-20\*03\_04

797 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



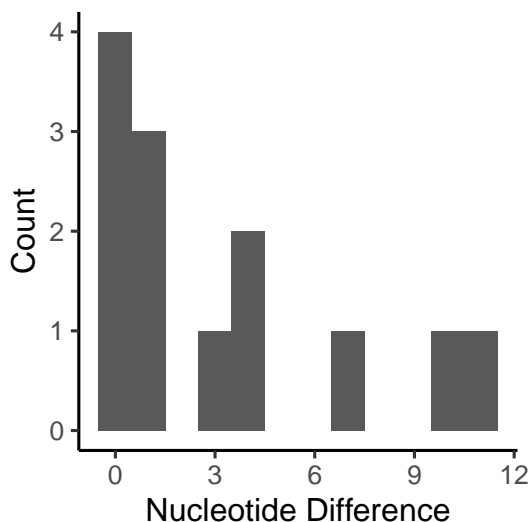
### IGHV3-13\*01

1845 sequences assigned  
91 (4.9%) exact matches, in which:  
58 unique CDR3  
5 unique J



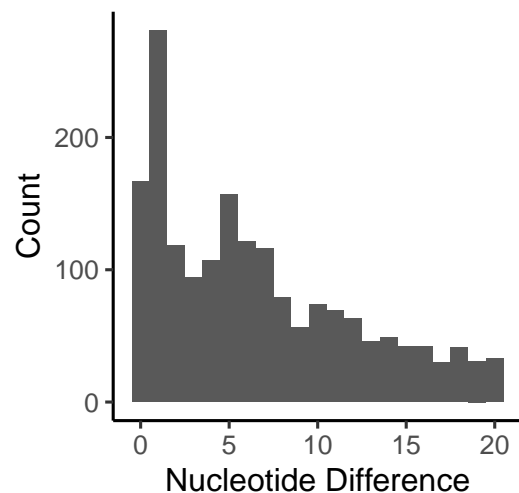
### IGHV3-19\*01

13 sequences assigned  
4 (30.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



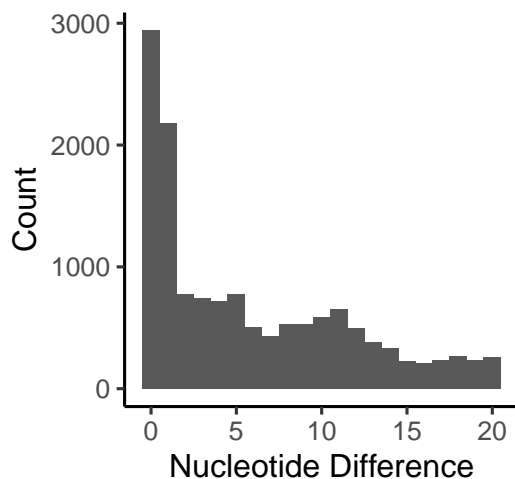
### IGHV3-21\*04

2129 sequences assigned  
167 (7.8%) exact matches, in which:  
155 unique CDR3  
6 unique J



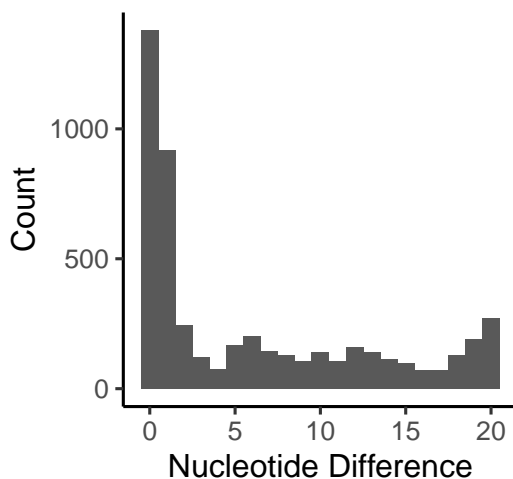
### IGHV3-21\*01\_02

17690 sequences assigned  
2941 (16.6%) exact matches, in which:  
1837 unique CDR3  
6 unique J



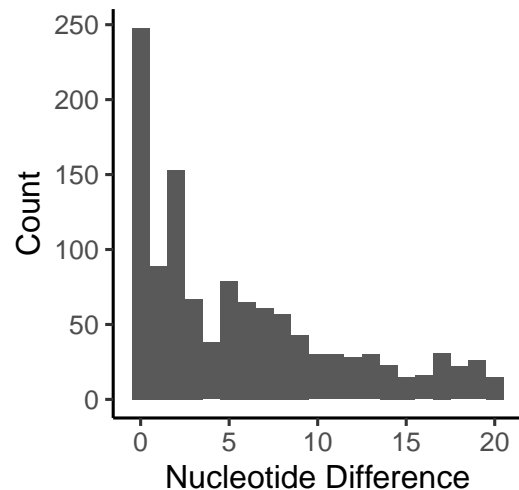
### IGHV3-30\*03

6515 sequences assigned  
1379 (21.2%) exact matches, in which:  
975 unique CDR3  
6 unique J



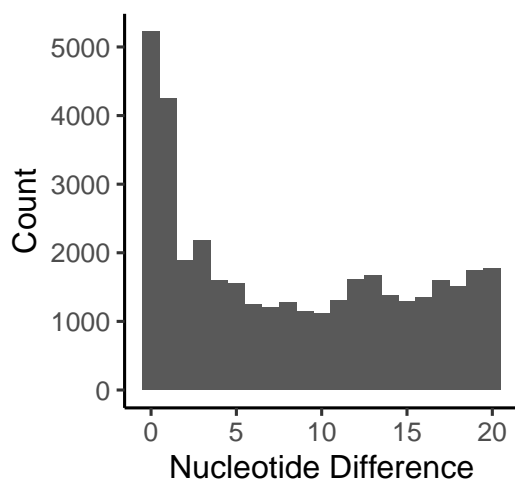
### IGHV3-33\*08

1386 sequences assigned  
248 (17.9%) exact matches, in which:  
204 unique CDR3  
6 unique J



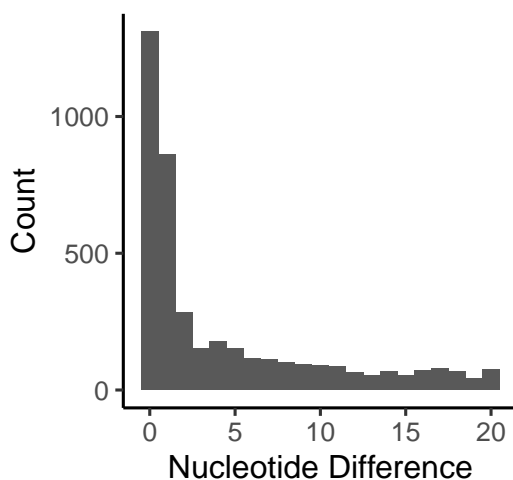
### IGHV3-23\*01\_04

51102 sequences assigned  
5222 (10.2%) exact matches, in which:  
3003 unique CDR3  
6 unique J



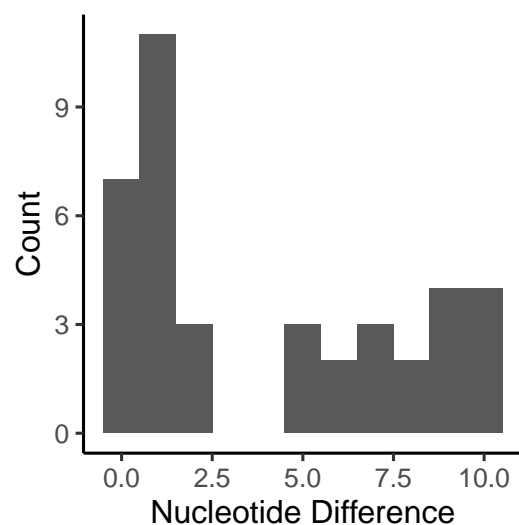
### IGHV3-33\*01

4729 sequences assigned  
1310 (27.7%) exact matches, in which:  
867 unique CDR3  
6 unique J



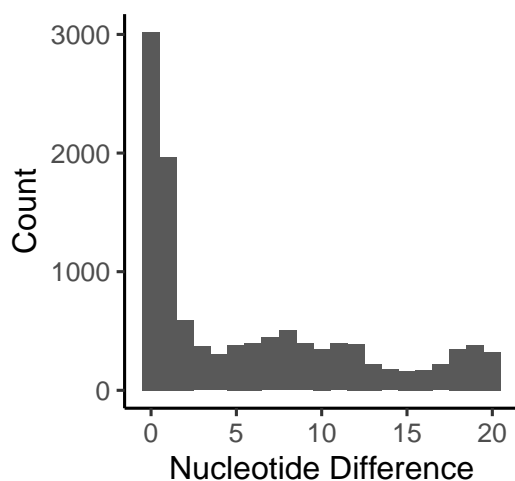
### IGHV3-35\*01

39 sequences assigned  
7 (17.9%) exact matches, in which:  
4 unique CDR3  
2 unique J



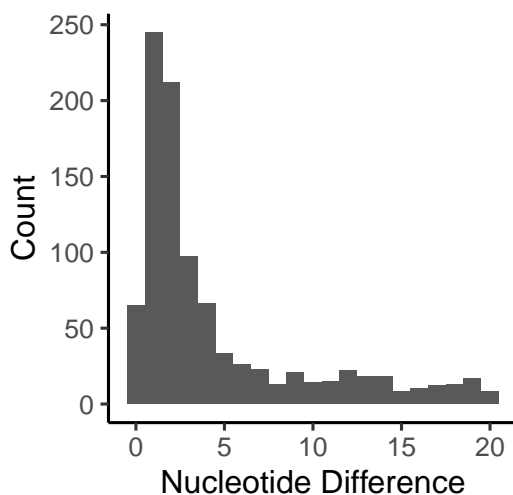
### IGHV3-30-3\*01

13406 sequences assigned  
3020 (22.5%) exact matches, in which:  
2017 unique CDR3  
6 unique J



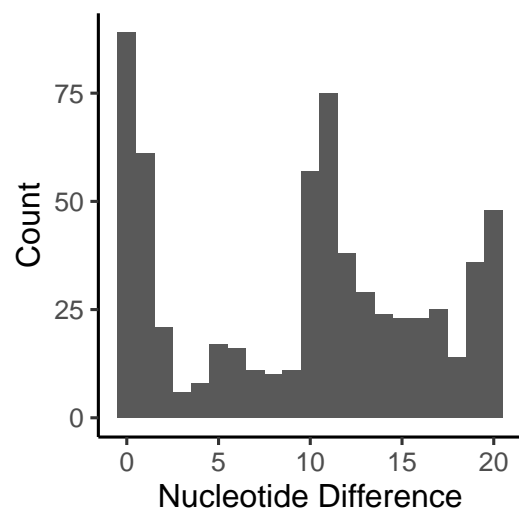
### IGHV3-33\*06

1032 sequences assigned  
65 (6.3%) exact matches, in which:  
62 unique CDR3  
6 unique J



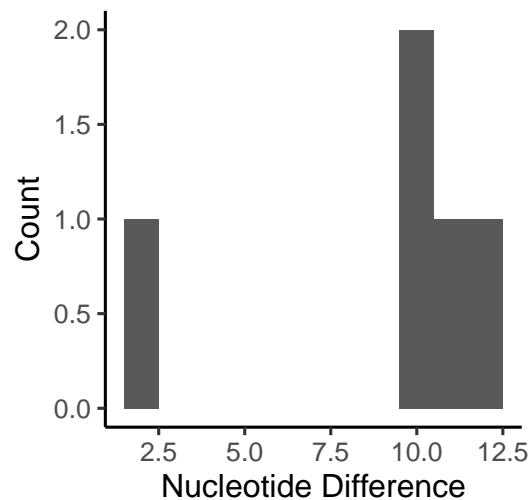
### IGHV3-43\*01

1001 sequences assigned  
89 (8.9%) exact matches, in which:  
52 unique CDR3  
6 unique J



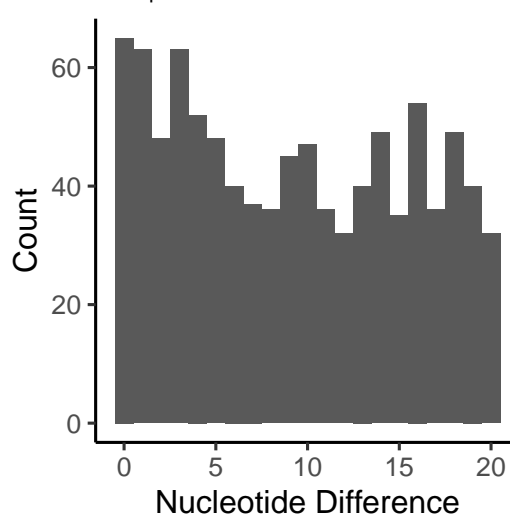
### IGHV3-47\*02

5 sequences assigned  
No exact matches.



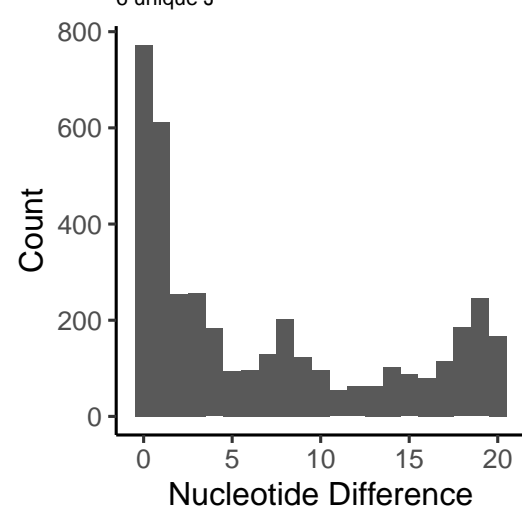
### IGHV3-48\*04

1383 sequences assigned  
65 (4.7%) exact matches, in which:  
63 unique CDR3  
6 unique J



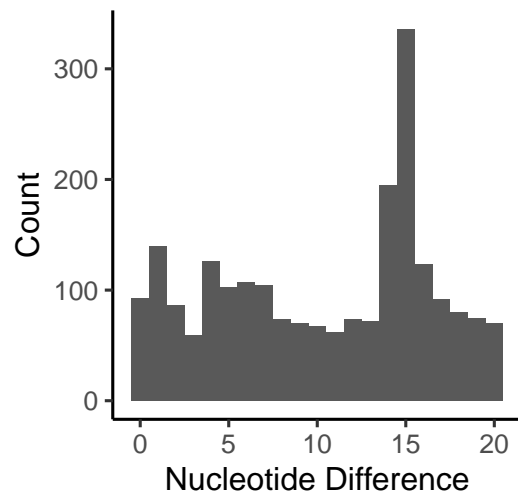
### IGHV3-53\*01\_02

5488 sequences assigned  
773 (14.1%) exact matches, in which:  
470 unique CDR3  
6 unique J



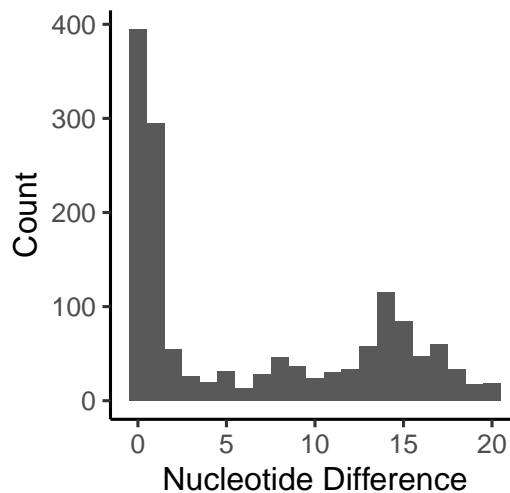
### IGHV3-48\*01

2412 sequences assigned  
93 (3.9%) exact matches, in which:  
89 unique CDR3  
6 unique J



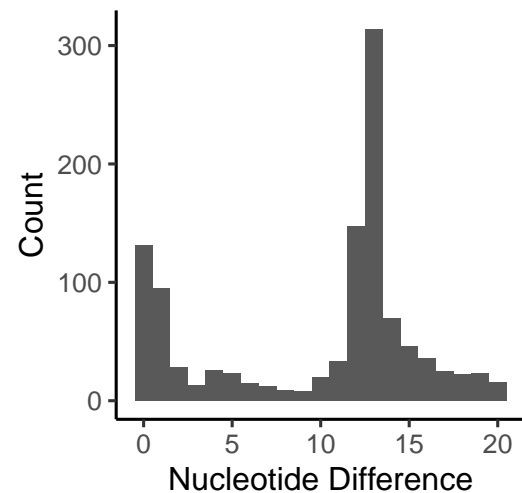
### IGHV3-49\*03\_05

1539 sequences assigned  
395 (25.7%) exact matches, in which:  
231 unique CDR3  
6 unique J



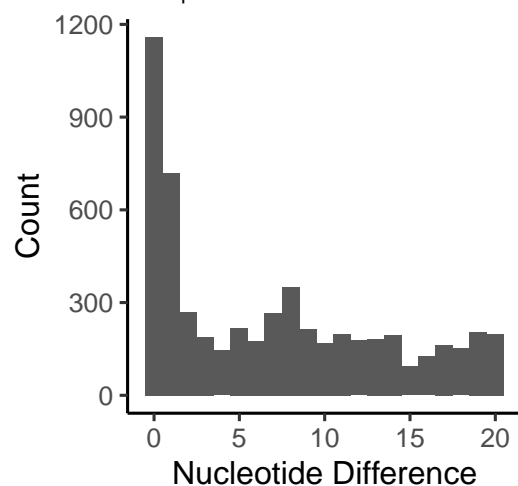
### IGHV3-64\*01

1185 sequences assigned  
131 (11.1%) exact matches, in which:  
80 unique CDR3  
5 unique J



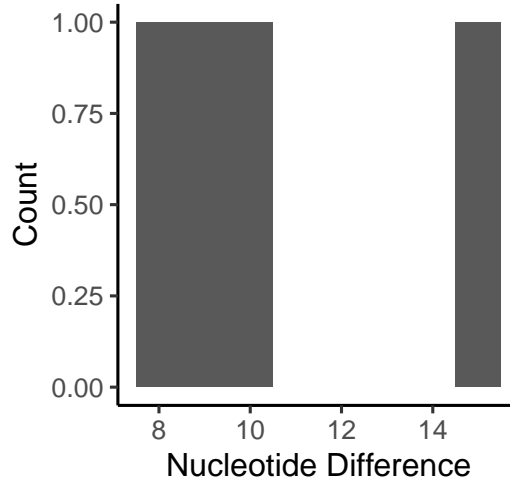
### IGHV3-48\*02

6223 sequences assigned  
1159 (18.6%) exact matches, in which:  
704 unique CDR3  
6 unique J



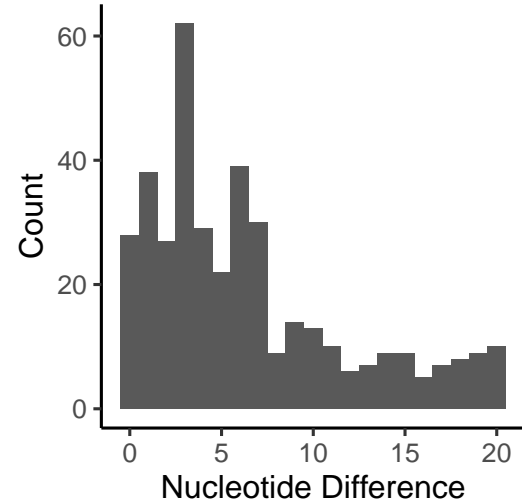
### IGHV3-52\*01\_03

4 sequences assigned  
No exact matches.



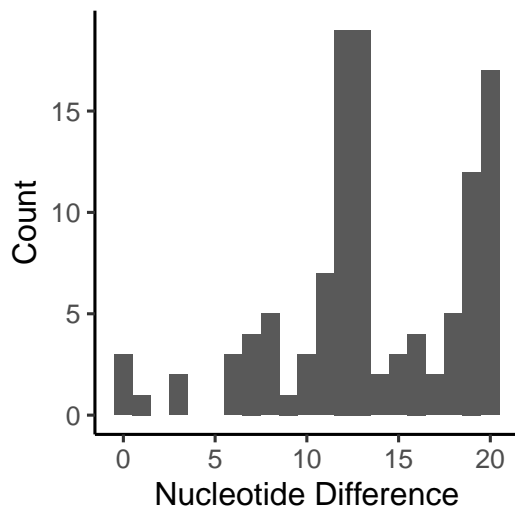
### IGHV3-64\*04

560 sequences assigned  
28 (5%) exact matches, in which:  
27 unique CDR3  
5 unique J



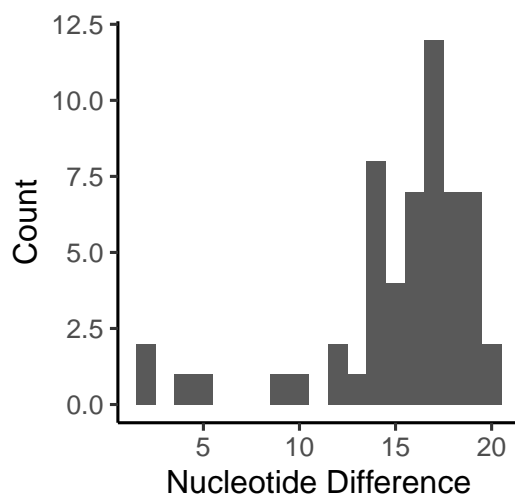
### IGHV3-64\*02\_07

670 sequences assigned  
3 (0.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



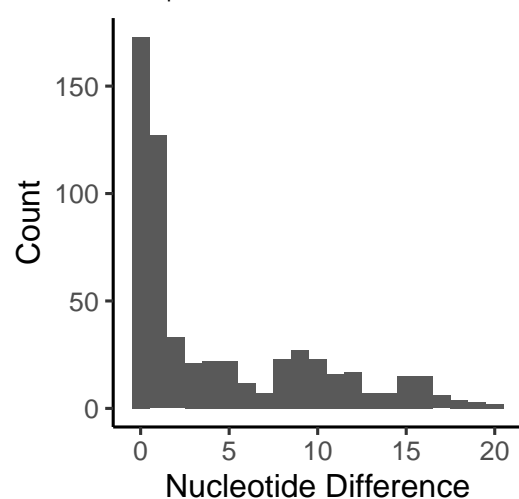
### IGHV3-69-1\*02

70 sequences assigned  
No exact matches.



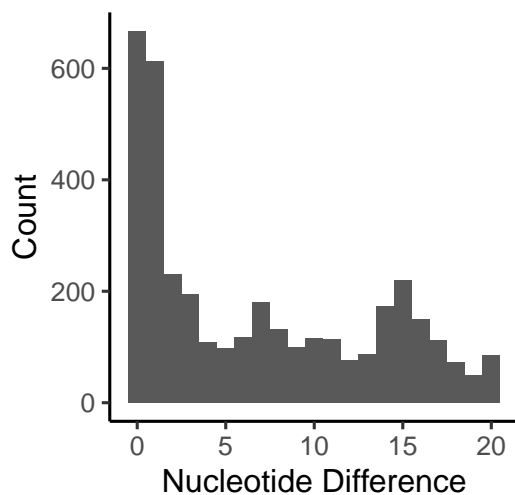
### IGHV3-73\*01\_02

601 sequences assigned  
173 (28.8%) exact matches, in which:  
106 unique CDR3  
5 unique J



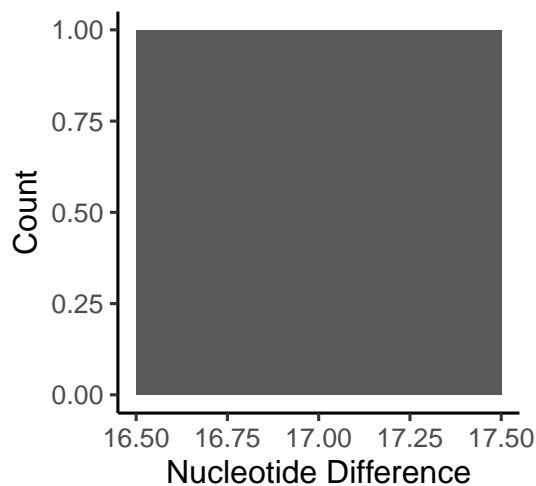
### IGHV3-66\*01

4647 sequences assigned  
667 (14.4%) exact matches, in which:  
444 unique CDR3  
6 unique J



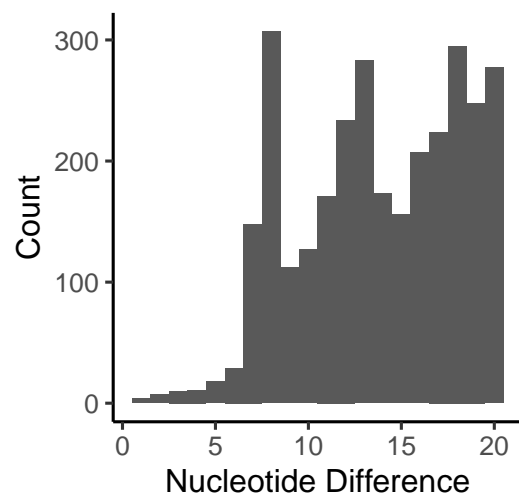
### IGHV3-71\*01\_04

1 sequences assigned  
No exact matches.



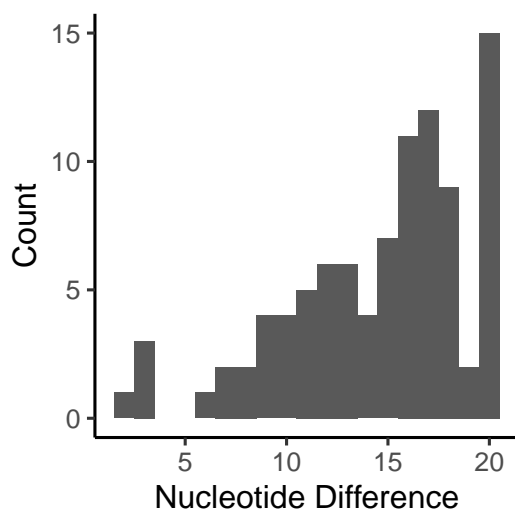
### IGHV3-74\*03

5515 sequences assigned  
No exact matches.



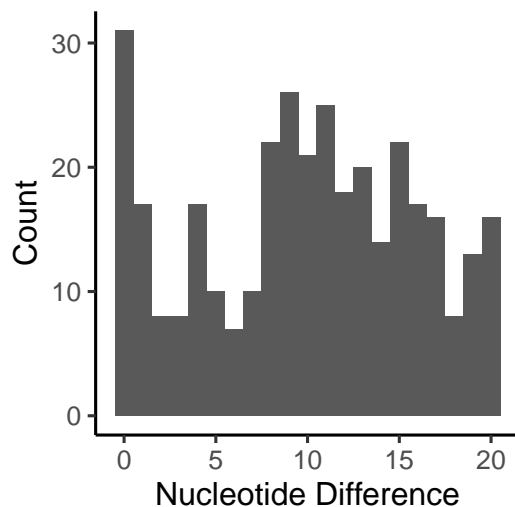
### IGHV3-69-1\*01

244 sequences assigned  
No exact matches.



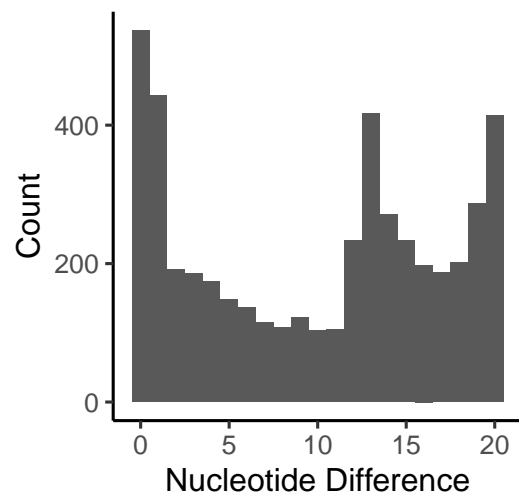
### IGHV3-72\*01

482 sequences assigned  
31 (6.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



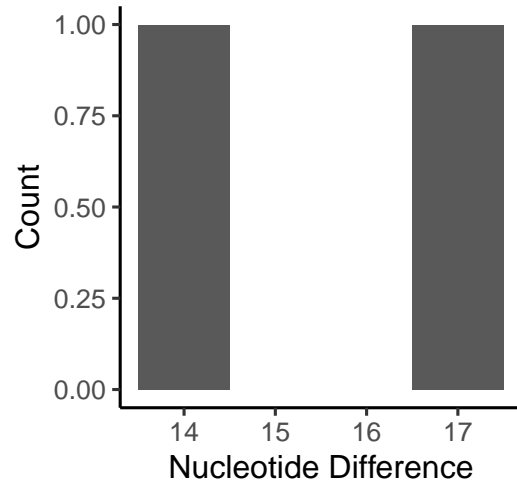
### IGHV3-74\*01\_02

5713 sequences assigned  
537 (9.4%) exact matches, in which:  
357 unique CDR3  
6 unique J



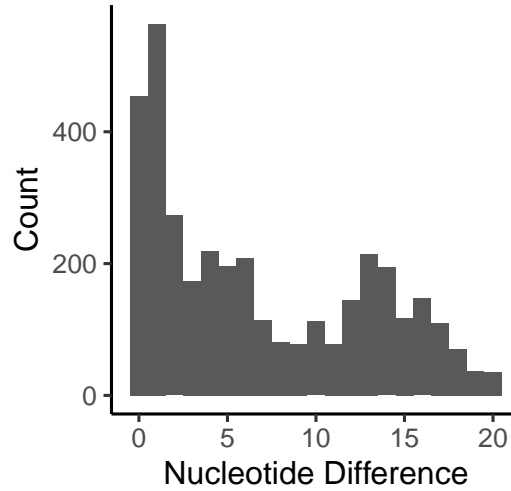
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



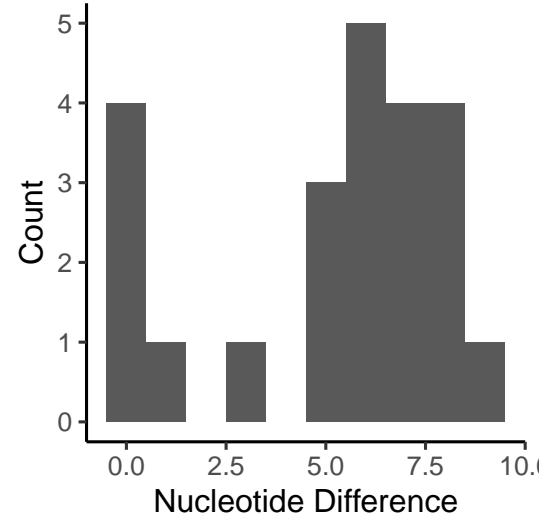
### IGHV4-4\*07

4622 sequences assigned  
454 (9.8%) exact matches, in which:  
379 unique CDR3  
6 unique J



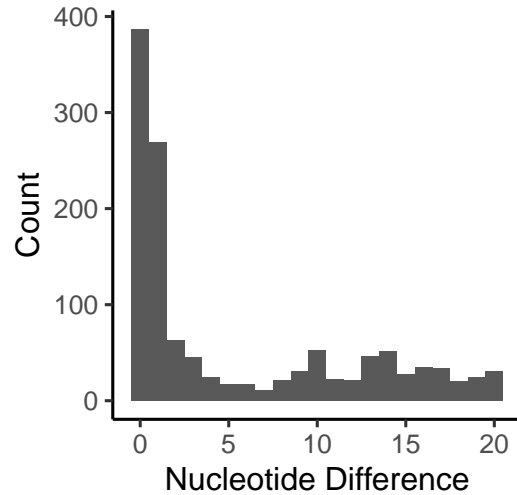
### IGHV4-28\*01\_07

24 sequences assigned  
4 (16.7%) exact matches, in which:  
3 unique CDR3  
1 unique J



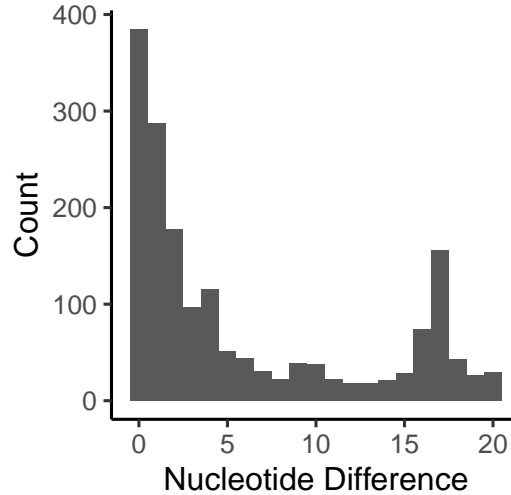
### IGHV3-64D\*09

2188 sequences assigned  
387 (17.7%) exact matches, in which:  
229 unique CDR3  
6 unique J



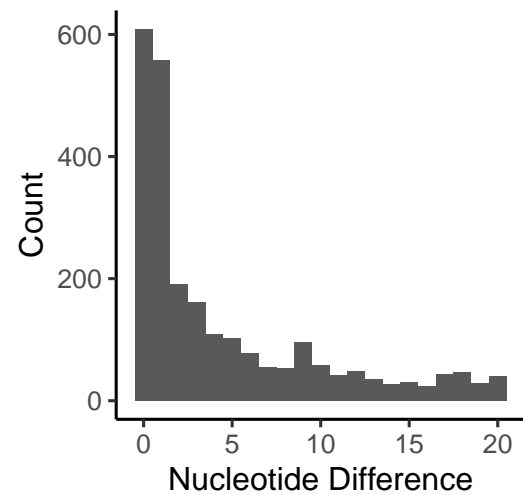
### IGHV4-4\*02\_03

1944 sequences assigned  
385 (19.8%) exact matches, in which:  
326 unique CDR3  
6 unique J



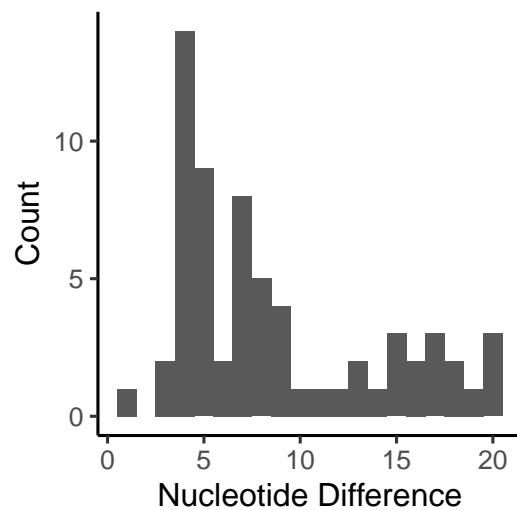
### IGHV4-30-4\*01

3052 sequences assigned  
609 (20%) exact matches, in which:  
508 unique CDR3  
6 unique J



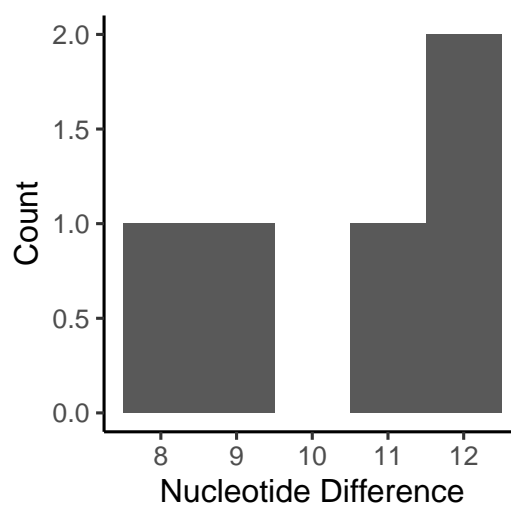
### IGHV3-NL1\*01

141 sequences assigned  
No exact matches.



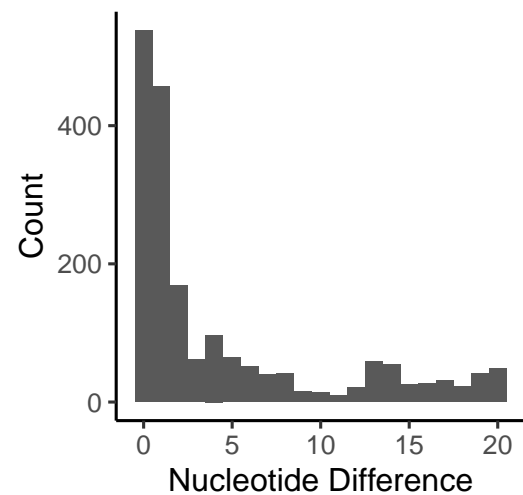
### IGHV4-28\*03

6 sequences assigned  
No exact matches.



### IGHV4-30-2\*01

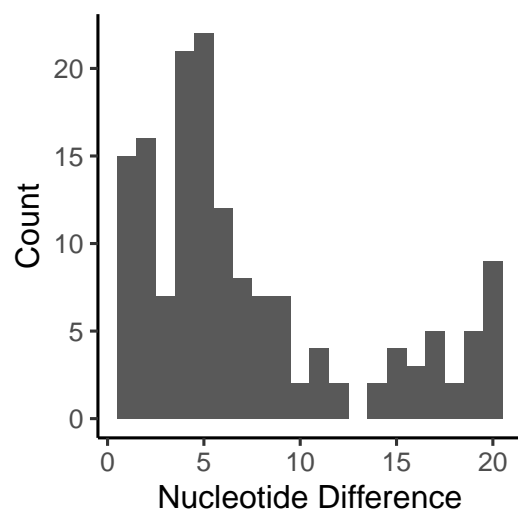
2042 sequences assigned  
538 (26.3%) exact matches, in which:  
383 unique CDR3  
6 unique J





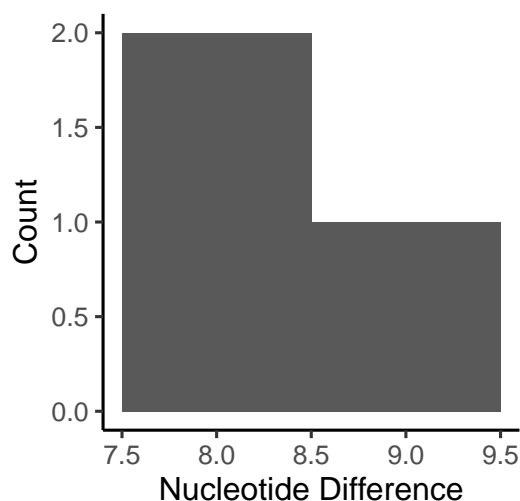
### IGHV4-30-2\*03

184 sequences assigned  
No exact matches.



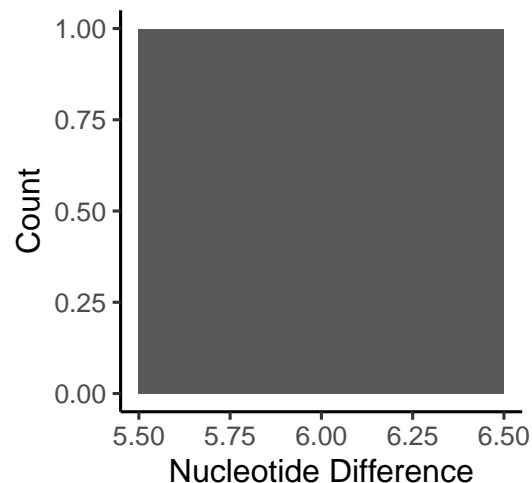
### IGHV4-38-2\*01

4 sequences assigned  
No exact matches.



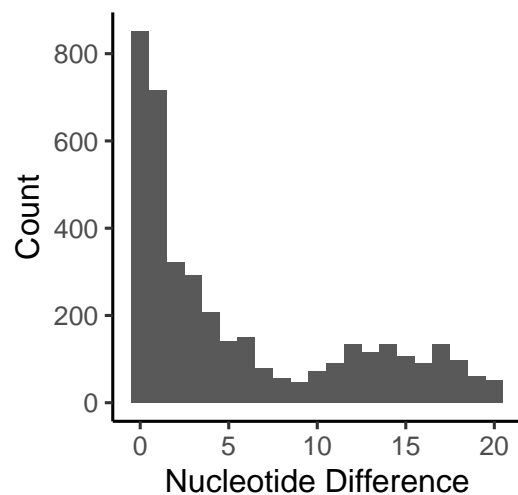
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



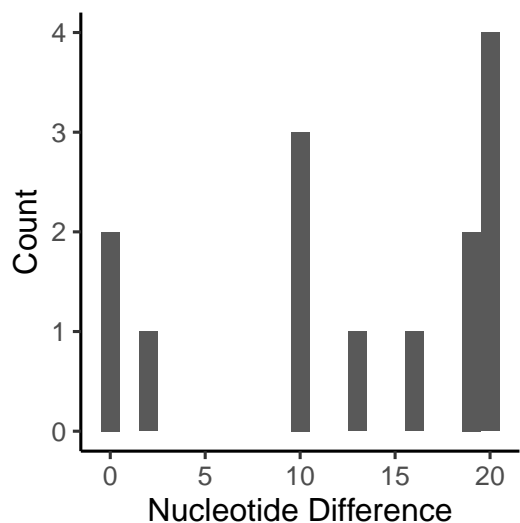
### IGHV4-31\*02

4795 sequences assigned  
852 (17.8%) exact matches, in which:  
725 unique CDR3  
6 unique J



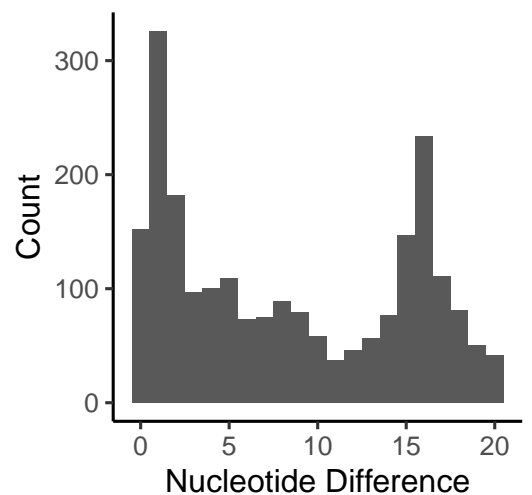
### IGHV4-38-2\*02

145 sequences assigned  
2 (1.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



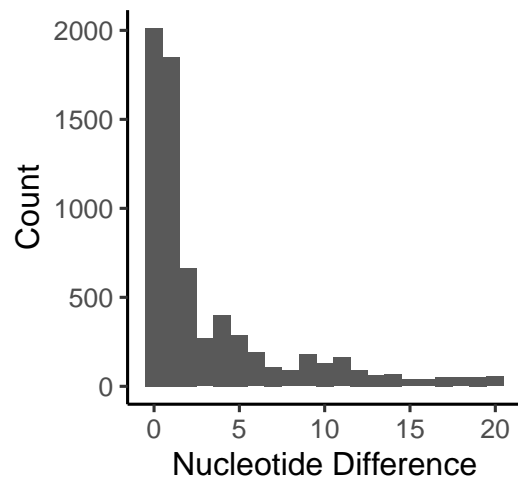
### IGHV4-59\*08

2845 sequences assigned  
152 (5.3%) exact matches, in which:  
129 unique CDR3  
6 unique J



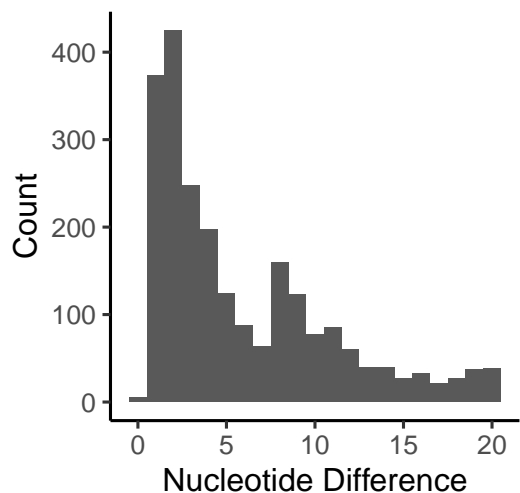
### IGHV4-34\*01\_02

7724 sequences assigned  
2013 (26.1%) exact matches, in which:  
1605 unique CDR3  
6 unique J



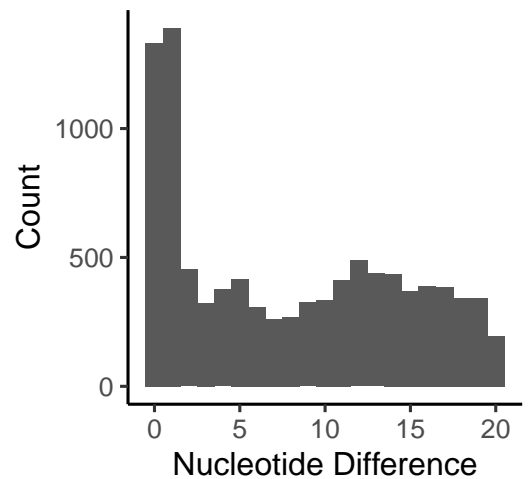
### IGHV4-39\*07

2886 sequences assigned  
5 (0.2%) exact matches, in which:  
5 unique CDR3  
4 unique J



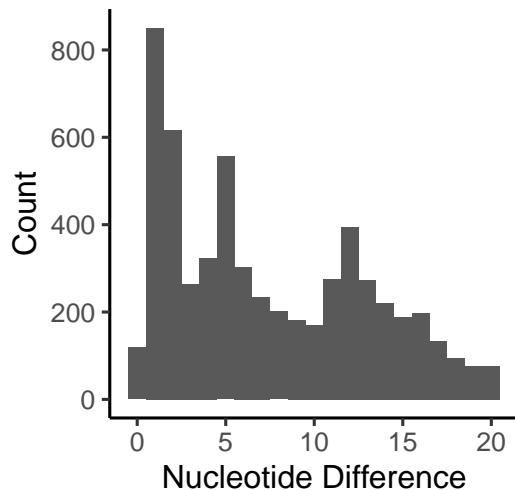
### IGHV4-59\*01\_07

11068 sequences assigned  
1332 (12%) exact matches, in which:  
1112 unique CDR3  
6 unique J



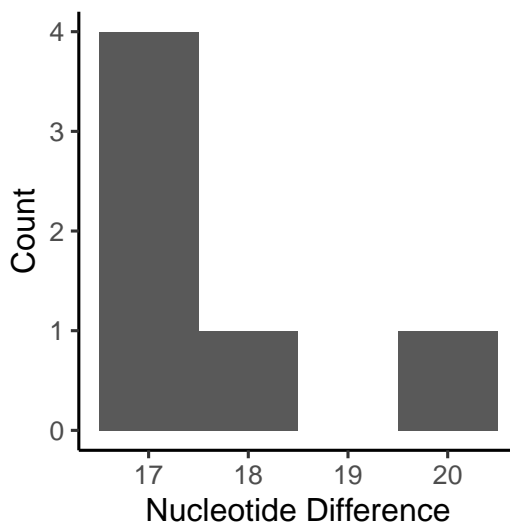
### IGHV4–59\*12

6452 sequences assigned  
119 (1.8%) exact matches, in which:  
116 unique CDR3  
5 unique J



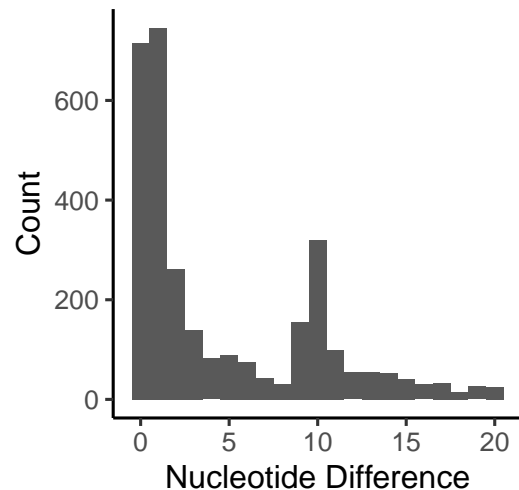
### IGHV1/OR15–2\*02\_03

8 sequences assigned  
No exact matches.



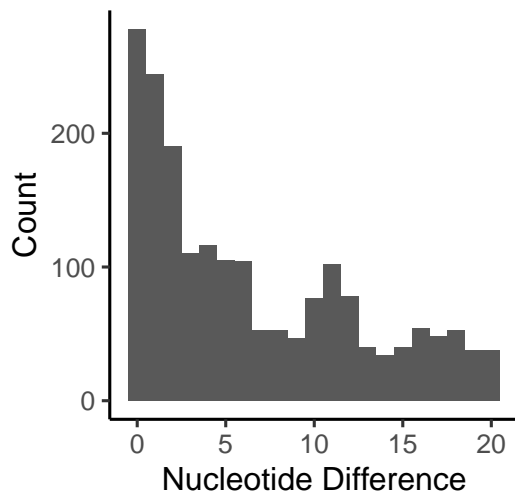
### IGHV5–10–1\*01\_03

3181 sequences assigned  
715 (22.5%) exact matches, in which:  
452 unique CDR3  
6 unique J



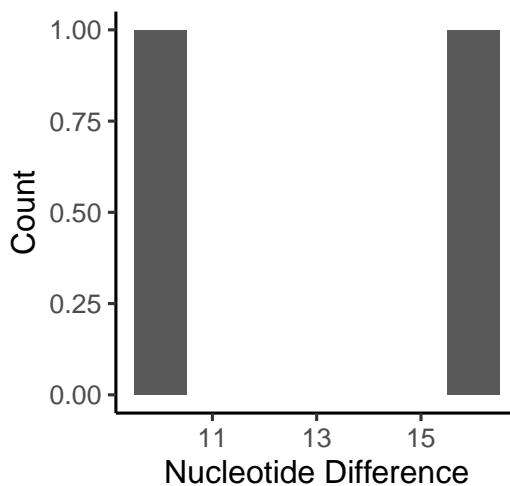
### IGHV4–61\*01

2223 sequences assigned  
278 (12.5%) exact matches, in which:  
259 unique CDR3  
5 unique J



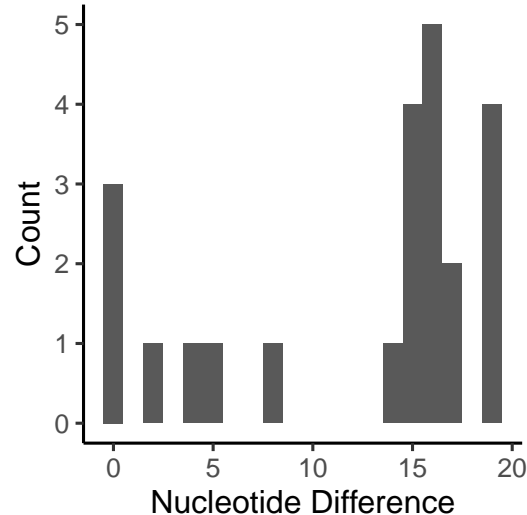
### IGHV1/OR15–3\*02

3 sequences assigned  
No exact matches.



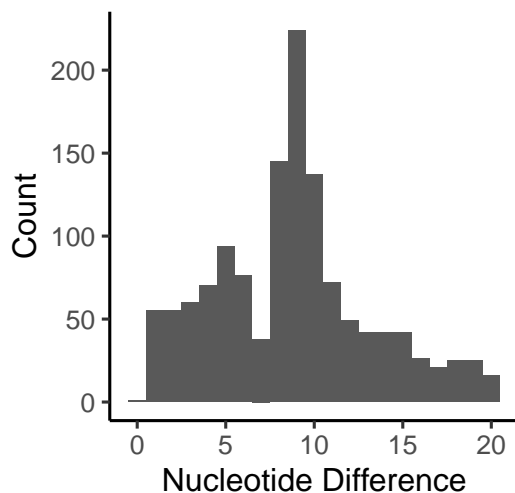
### IGHV5–51\*04

46 sequences assigned  
3 (6.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



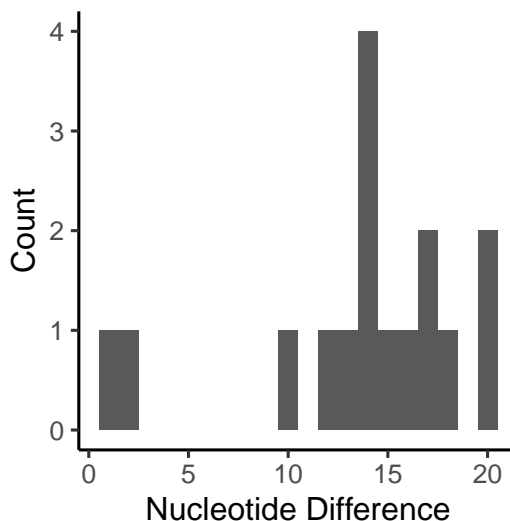
### IGHV4–61\*08

1479 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



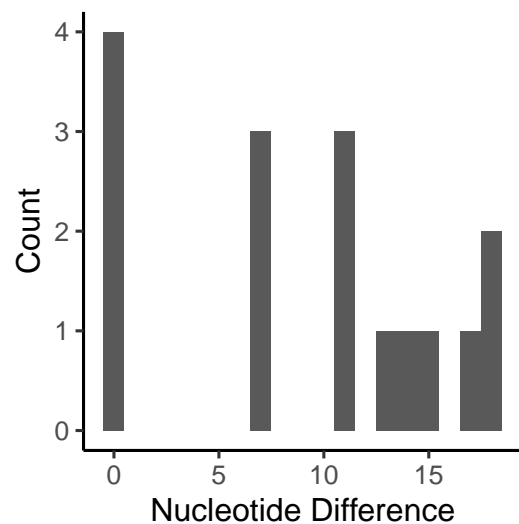
### IGHV4/OR15–8\*01

101 sequences assigned  
No exact matches.



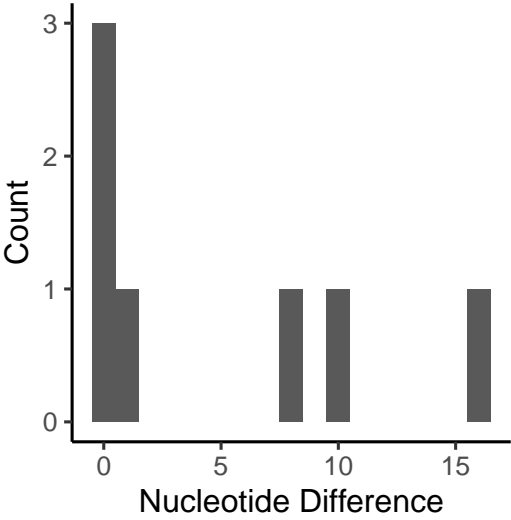
### IGHV5–51\*06

18 sequences assigned  
4 (22.2%) exact matches, in which:  
4 unique CDR3  
3 unique J



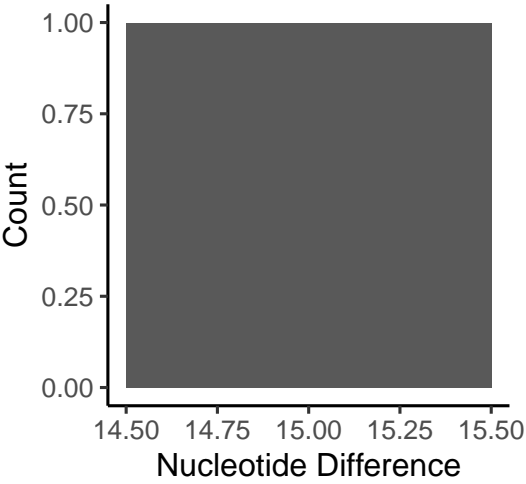
IGHV5-51\*07

15 sequences assigned  
3 (20%) exact matches, in which:  
3 unique CDR3  
2 unique J



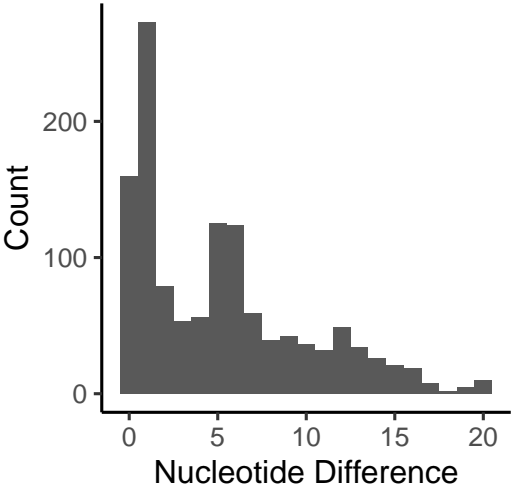
IGHV3/OR16-13\*01

5 sequences assigned  
No exact matches.



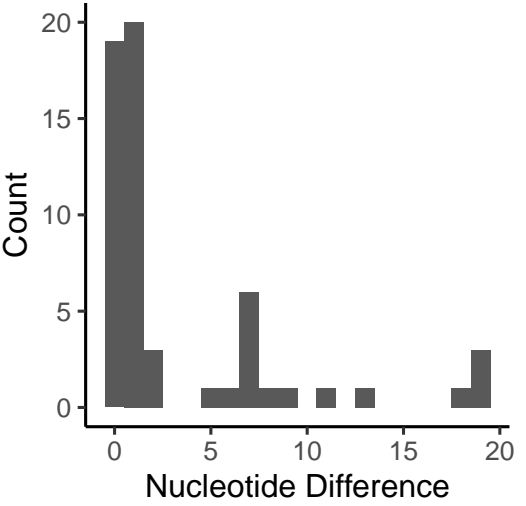
IGHV6-1\*01\_02

1309 sequences assigned  
160 (12.2%) exact matches, in which:  
142 unique CDR3  
6 unique J



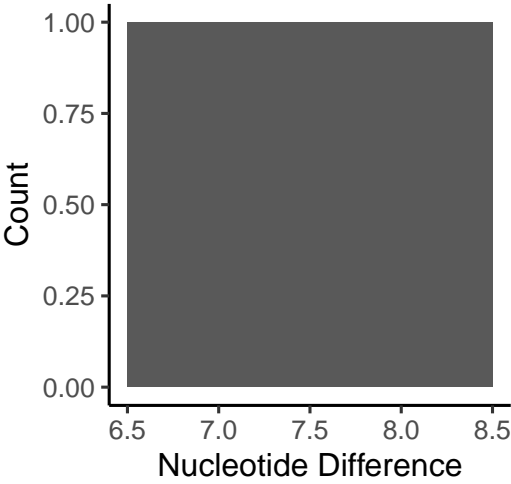
IGHV7-4-1\*01

58 sequences assigned  
19 (32.8%) exact matches, in which:  
11 unique CDR3  
4 unique J



IGHV3/OR16-9\*01

2 sequences assigned  
No exact matches.





[illegible]