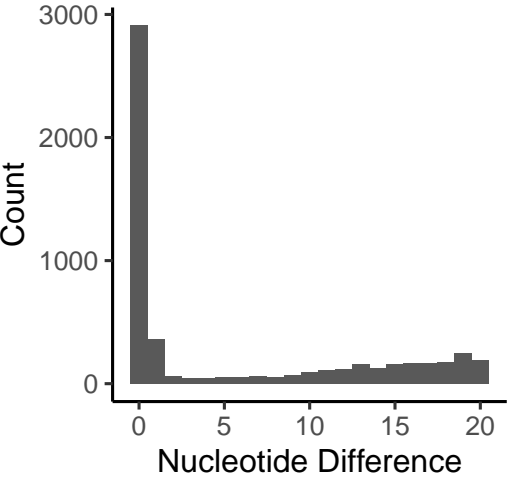


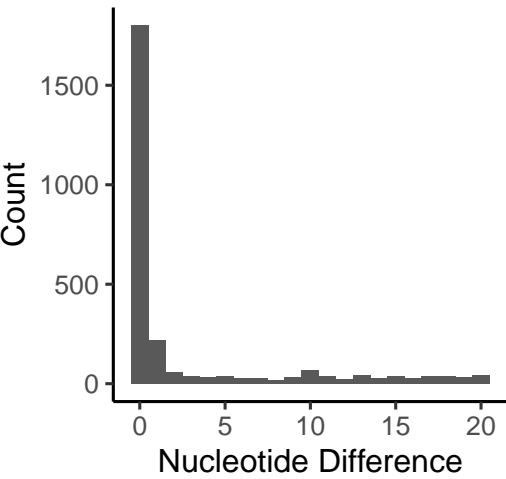
IGHV1-2\*02

7608 sequences assigned  
2911 (38.3%) exact matches, in which:  
2847 unique CDR3  
6 unique J



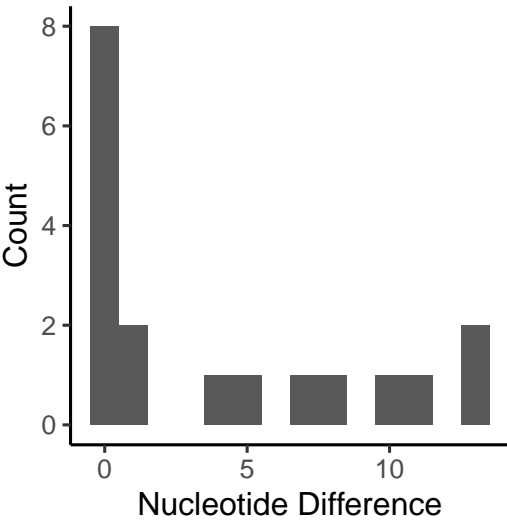
IGHV1-8\*01

3456 sequences assigned  
1801 (52.1%) exact matches, in which:  
1781 unique CDR3  
6 unique J



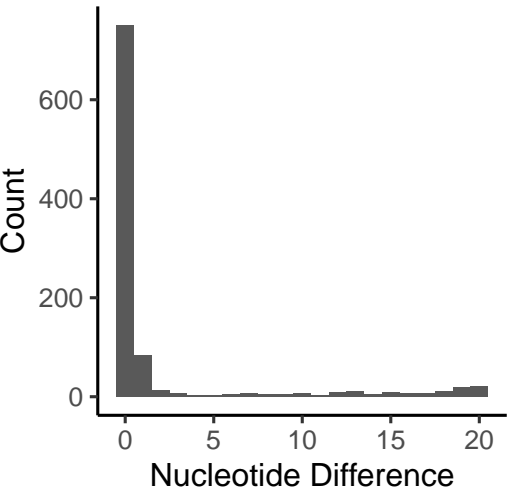
IGHV1-45\*02

126 sequences assigned  
8 (6.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



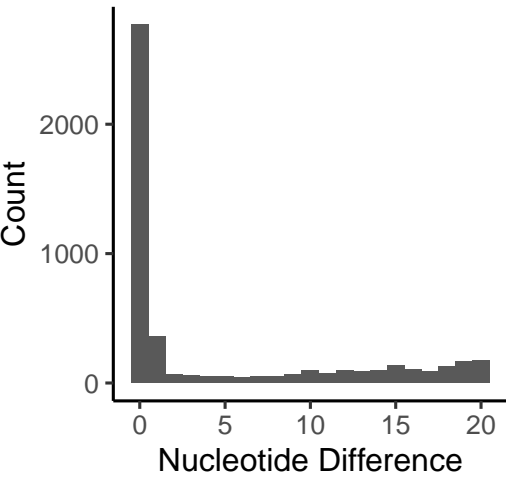
IGHV1-2\*04

1106 sequences assigned  
751 (67.9%) exact matches, in which:  
735 unique CDR3  
6 unique J



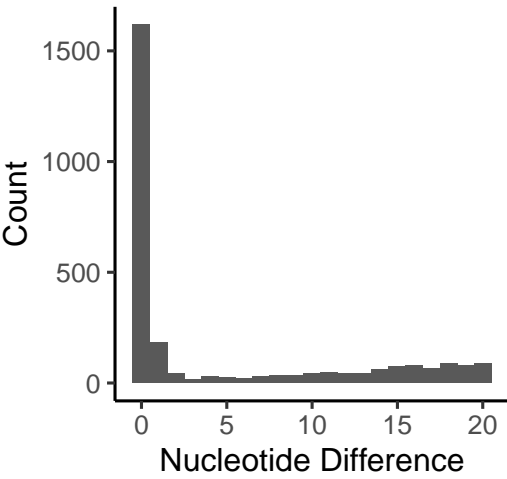
IGHV1-18\*01

7358 sequences assigned  
2769 (37.6%) exact matches, in which:  
2718 unique CDR3  
6 unique J



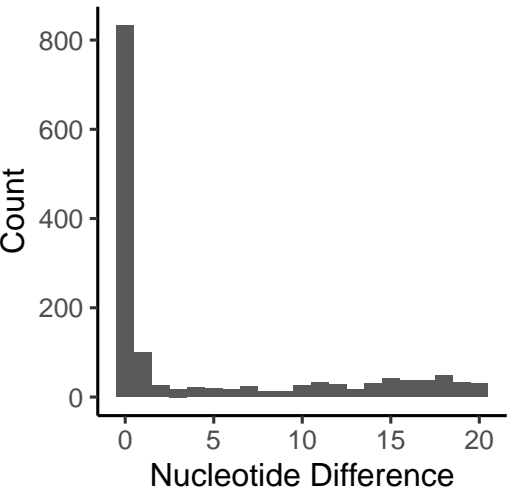
IGHV1-46\*01

4671 sequences assigned  
1618 (34.6%) exact matches, in which:  
1591 unique CDR3  
6 unique J



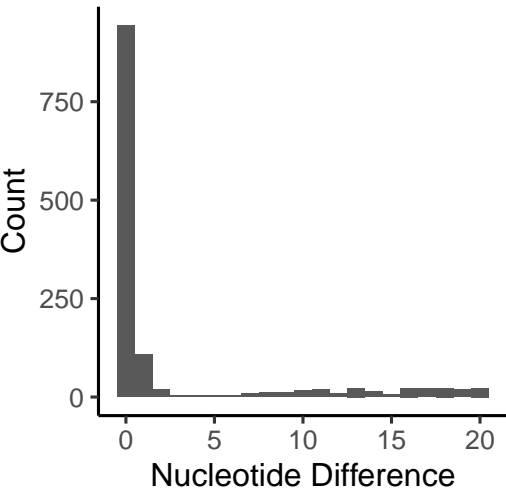
IGHV1-3\*01

2519 sequences assigned  
833 (33.1%) exact matches, in which:  
813 unique CDR3  
6 unique J



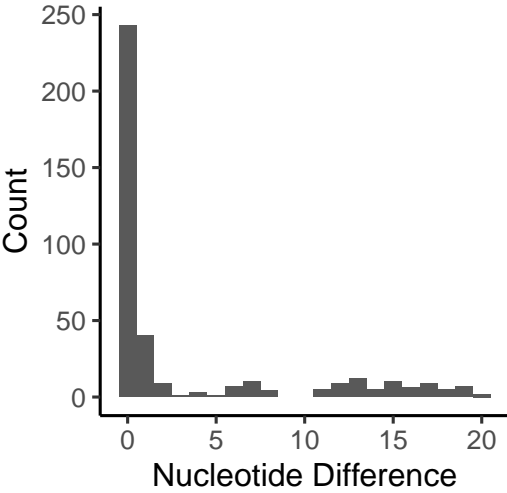
IGHV1-24\*01

1724 sequences assigned  
944 (54.8%) exact matches, in which:  
928 unique CDR3  
6 unique J



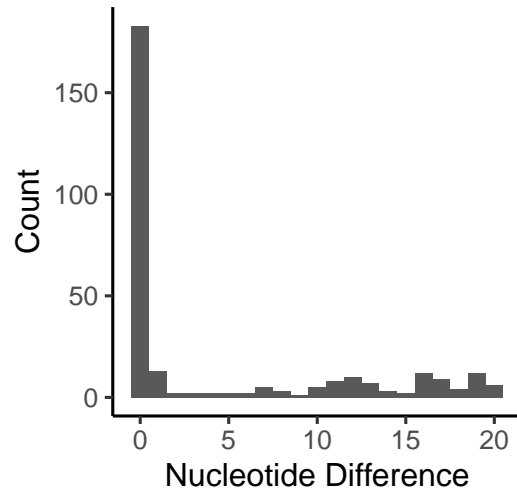
IGHV1-58\*02

450 sequences assigned  
243 (54%) exact matches, in which:  
241 unique CDR3  
6 unique J



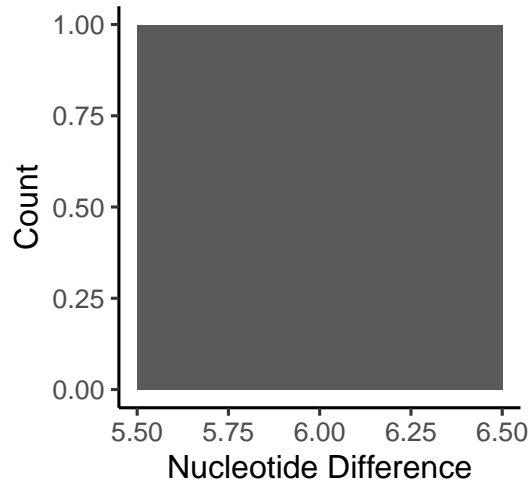
### IGHV1-69-2\*01

489 sequences assigned  
183 (37.4%) exact matches, in which:  
182 unique CDR3  
6 unique J



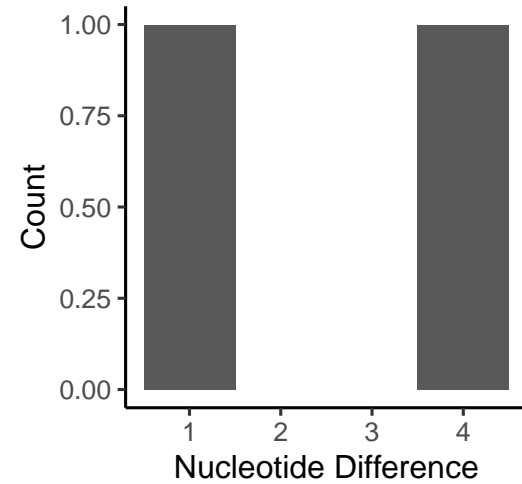
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



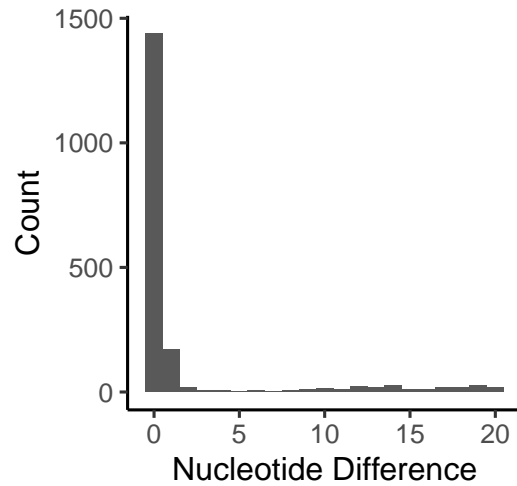
### IGHV2-10\*01

2 sequences assigned  
No exact matches.



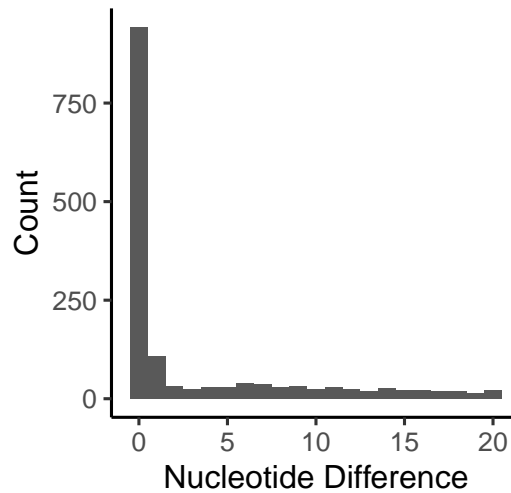
### IGHV1-69\*02

2715 sequences assigned  
1438 (53%) exact matches, in which:  
1422 unique CDR3  
6 unique J



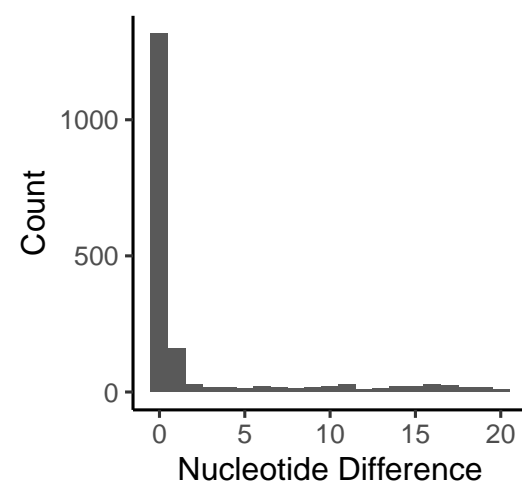
### IGHV2-5\*01

1718 sequences assigned  
943 (54.9%) exact matches, in which:  
935 unique CDR3  
6 unique J



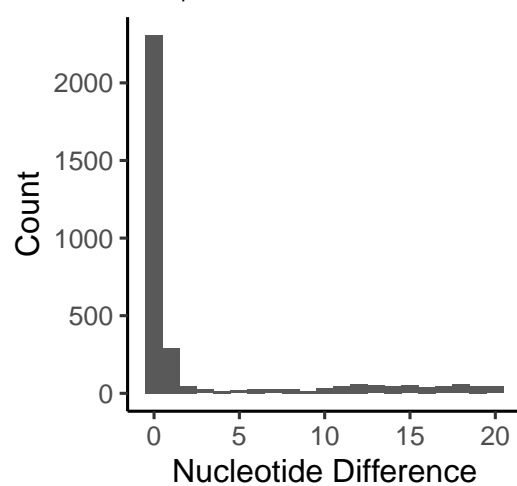
### IGHV2-26\*01

1971 sequences assigned  
1316 (66.8%) exact matches, in which:  
1300 unique CDR3  
6 unique J



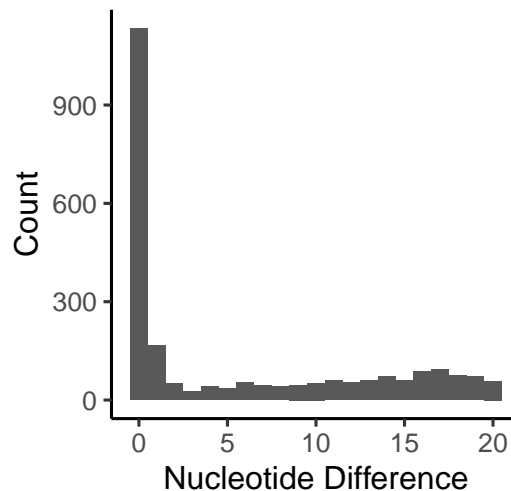
### IGHV1-69\*06

4575 sequences assigned  
2308 (50.4%) exact matches, in which:  
2282 unique CDR3  
6 unique J



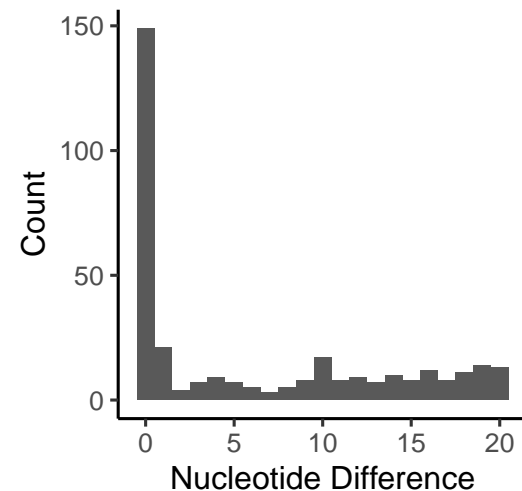
### IGHV2-5\*02

3065 sequences assigned  
1134 (37%) exact matches, in which:  
1114 unique CDR3  
6 unique J



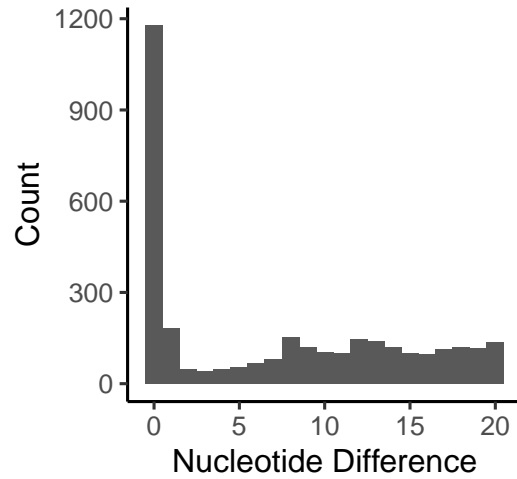
### IGHV2-70\*01

465 sequences assigned  
149 (32%) exact matches, in which:  
147 unique CDR3  
5 unique J



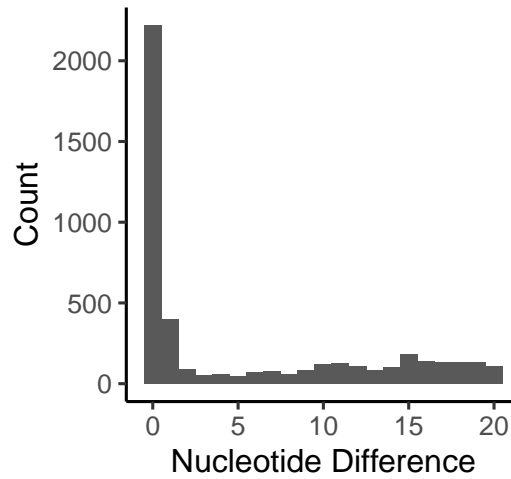
### IGHV3-7\*01

5022 sequences assigned  
1178 (23.5%) exact matches, in which:  
1131 unique CDR3  
6 unique J



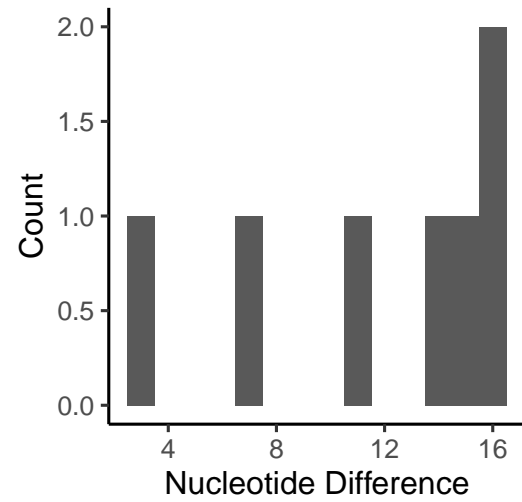
### IGHV3-9\*01

6076 sequences assigned  
2219 (36.5%) exact matches, in which:  
2111 unique CDR3  
6 unique J



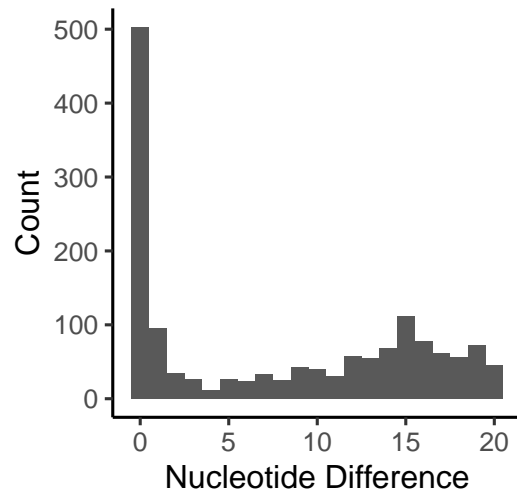
### IGHV3-11\*06

7 sequences assigned  
No exact matches.



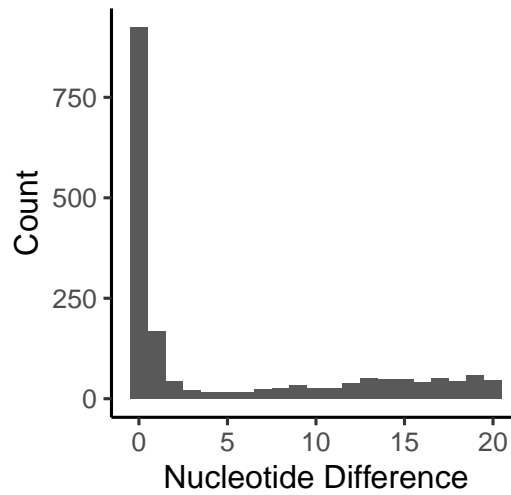
### IGHV3-7\*04

2035 sequences assigned  
503 (24.7%) exact matches, in which:  
484 unique CDR3  
6 unique J



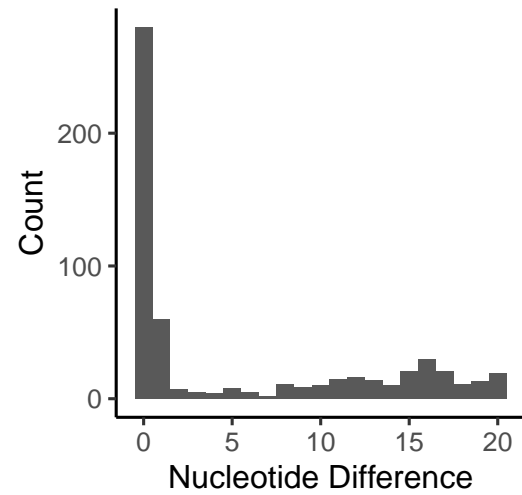
### IGHV3-11\*01

2387 sequences assigned  
925 (38.8%) exact matches, in which:  
908 unique CDR3  
6 unique J



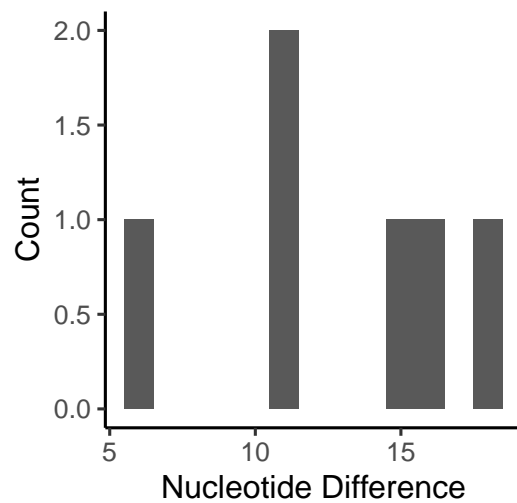
### IGHV3-13\*01

1166 sequences assigned  
280 (24%) exact matches, in which:  
262 unique CDR3  
5 unique J



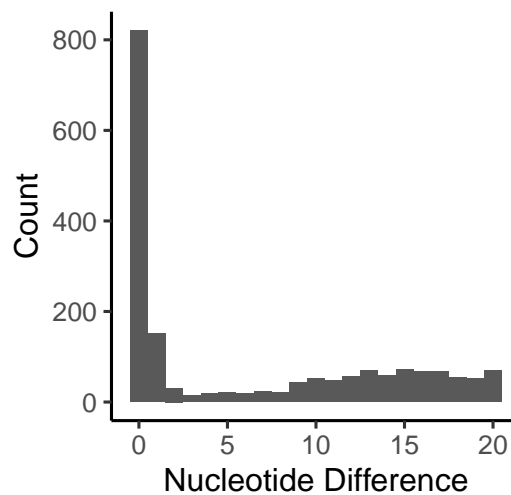
### IGHV3-7\*05

18 sequences assigned  
No exact matches.



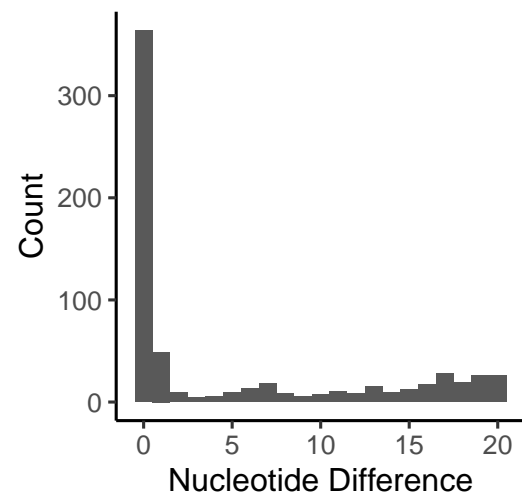
### IGHV3-11\*05

2547 sequences assigned  
821 (32.2%) exact matches, in which:  
798 unique CDR3  
6 unique J



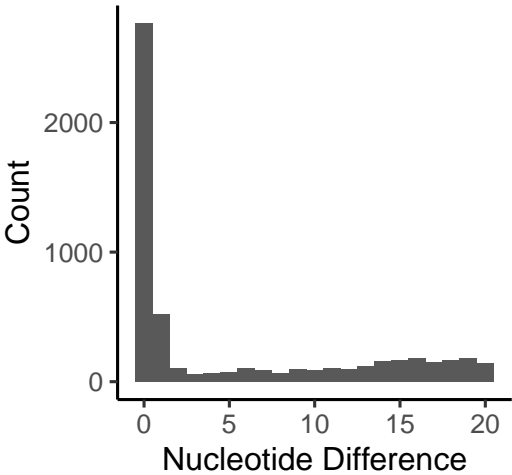
### IGHV3-13\*04

859 sequences assigned  
364 (42.4%) exact matches, in which:  
359 unique CDR3  
6 unique J



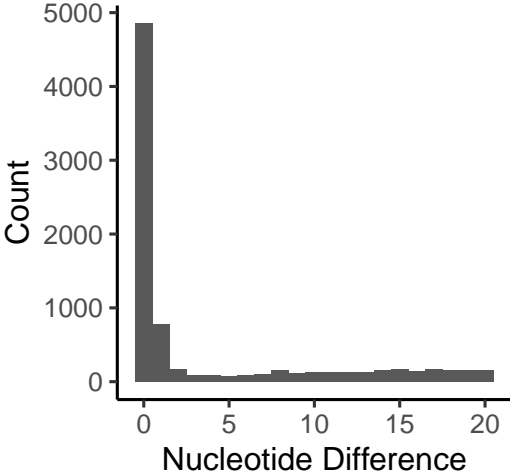
IGHV3-15\*01

7476 sequences assigned  
2765 (37%) exact matches, in which:  
2655 unique CDR3  
6 unique J



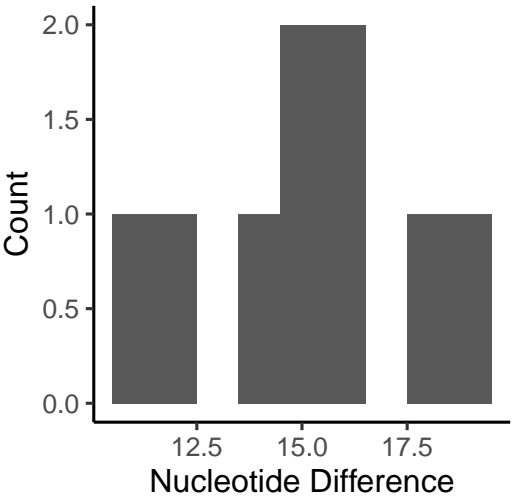
IGHV3-21\*01

10611 sequences assigned  
4854 (45.7%) exact matches, in which:  
4627 unique CDR3  
6 unique J



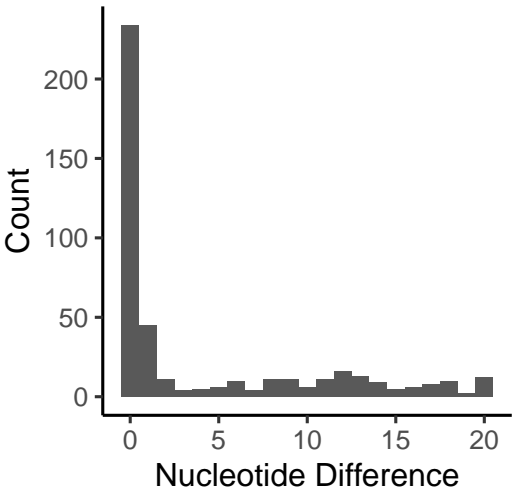
IGHV3-30-3\*03

65 sequences assigned  
No exact matches.



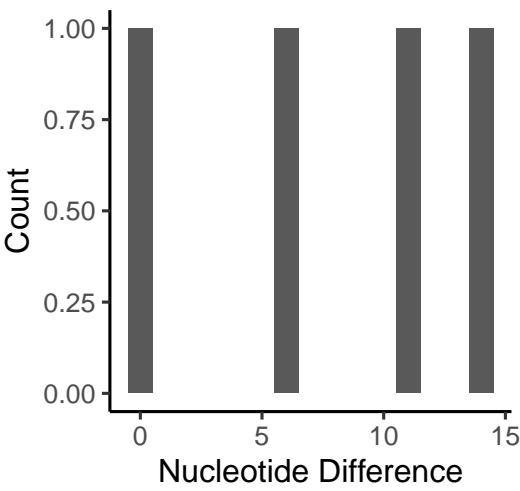
IGHV3-20\*01

474 sequences assigned  
234 (49.4%) exact matches, in which:  
226 unique CDR3  
6 unique J



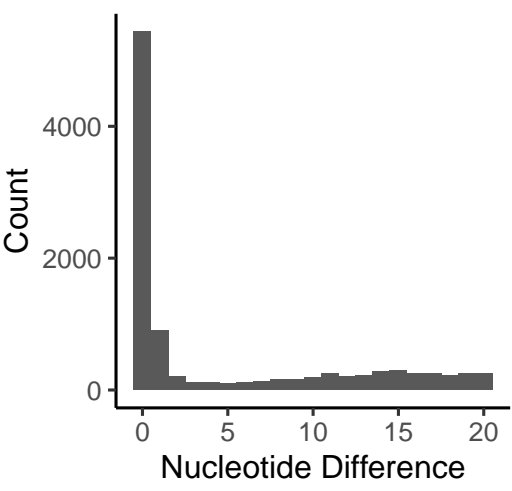
IGHV3-30-3\*01

22 sequences assigned  
1 (4.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



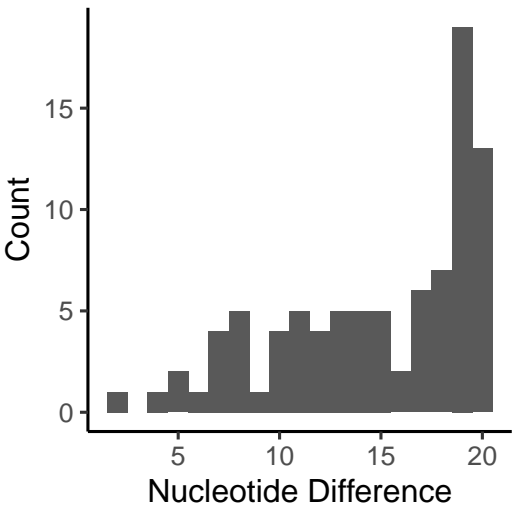
IGHV3-33\*01

13344 sequences assigned  
5435 (40.7%) exact matches, in which:  
5322 unique CDR3  
6 unique J



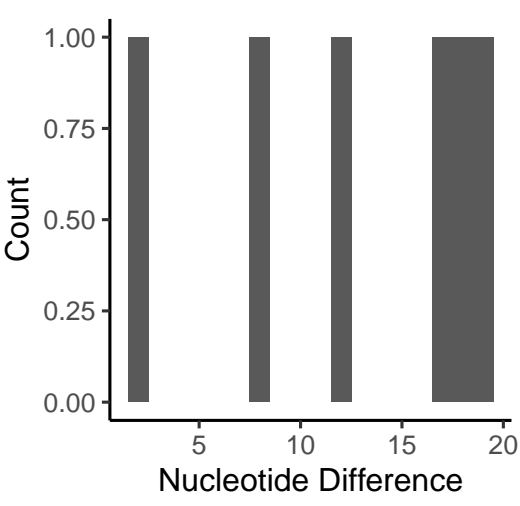
IGHV3-20\*04

225 sequences assigned  
No exact matches.



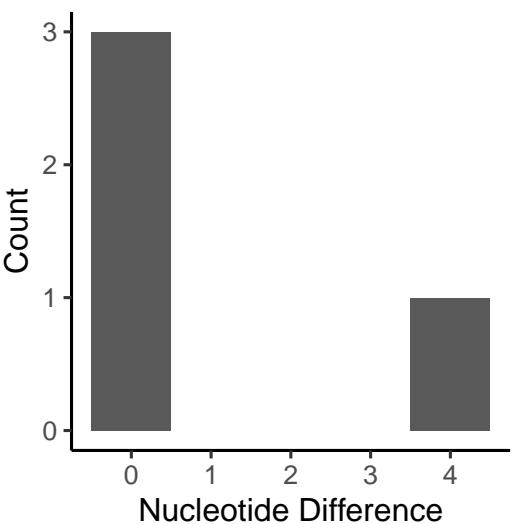
IGHV3-30-3\*02

14 sequences assigned  
No exact matches.



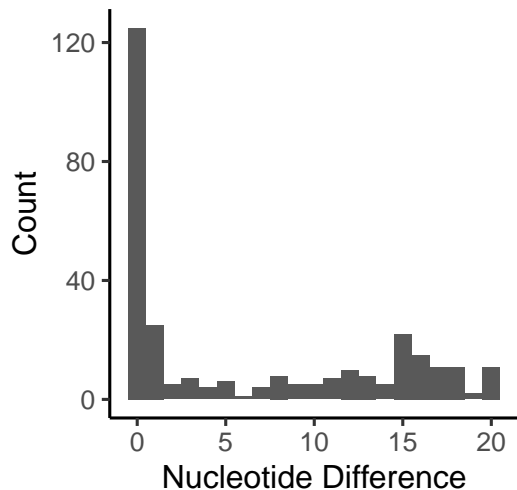
IGHV3-35\*01

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



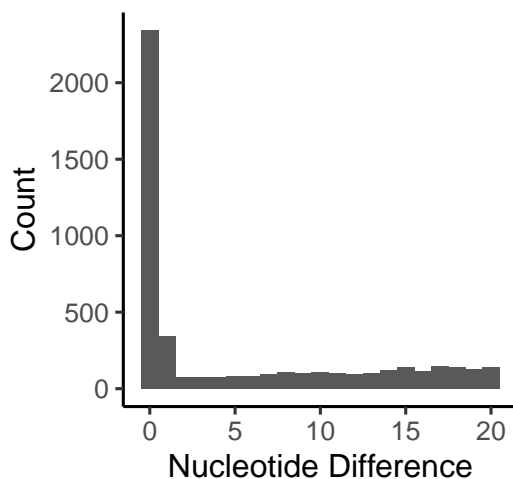
### IGHV3-43\*01

434 sequences assigned  
125 (28.8%) exact matches, in which:  
124 unique CDR3  
6 unique J



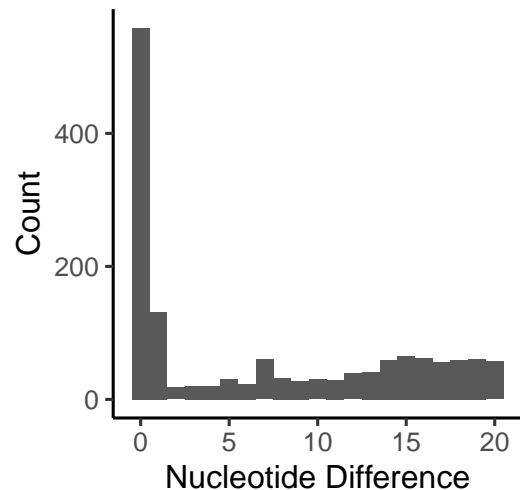
### IGHV3-48\*03

6299 sequences assigned  
2342 (37.2%) exact matches, in which:  
2243 unique CDR3  
6 unique J



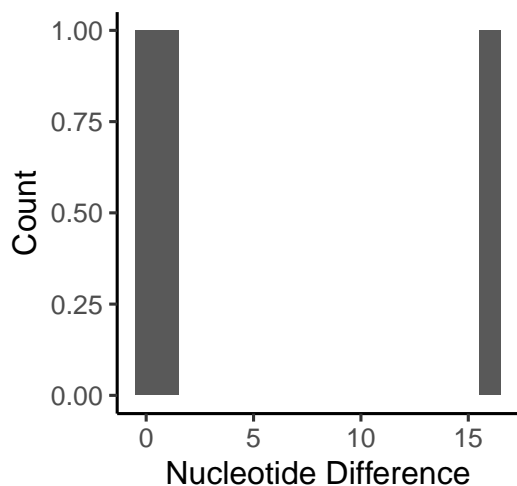
### IGHV3-49\*04

2160 sequences assigned  
559 (25.9%) exact matches, in which:  
519 unique CDR3  
6 unique J



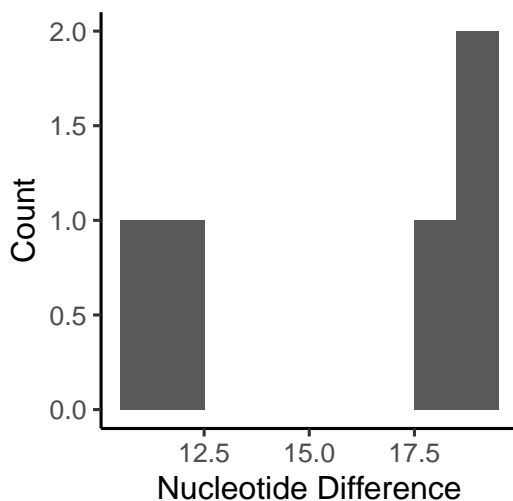
### IGHV3-47\*02

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



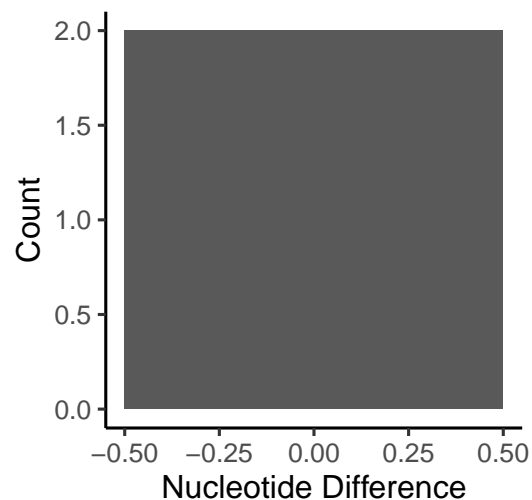
### IGHV3-48\*04

34 sequences assigned  
No exact matches.



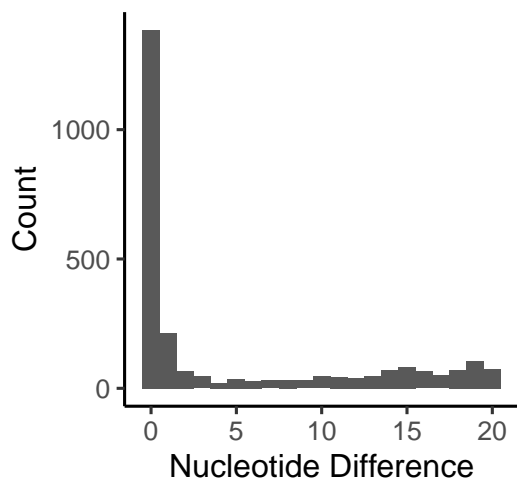
### IGHV3-52\*01

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
2 unique J



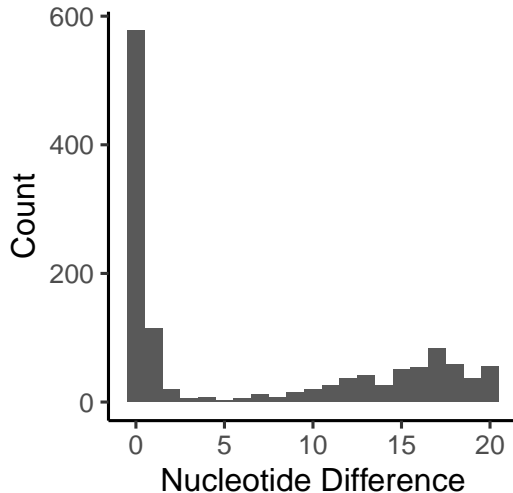
### IGHV3-48\*02

3238 sequences assigned  
1385 (42.8%) exact matches, in which:  
1333 unique CDR3  
6 unique J



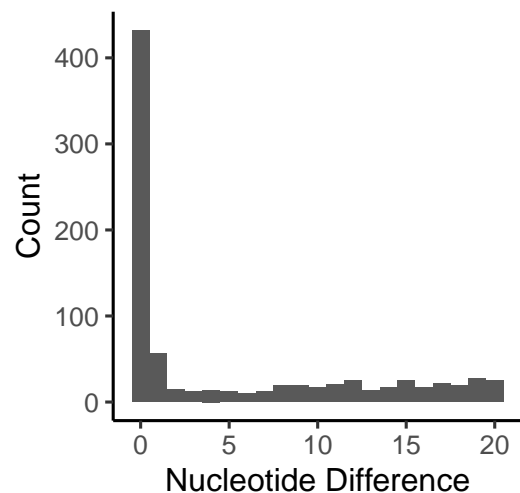
### IGHV3-49\*03

1712 sequences assigned  
578 (33.8%) exact matches, in which:  
568 unique CDR3  
6 unique J



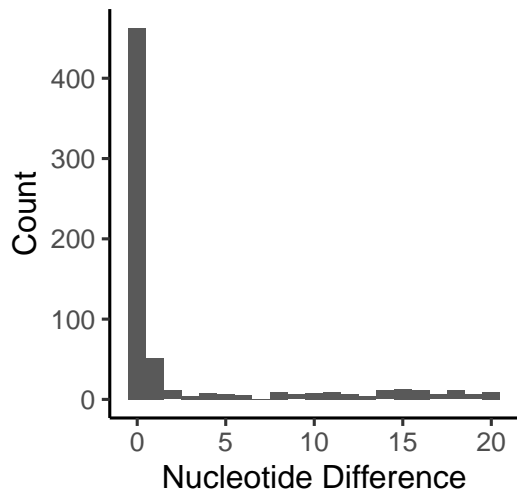
### IGHV3-53\*02

1181 sequences assigned  
432 (36.6%) exact matches, in which:  
424 unique CDR3  
6 unique J



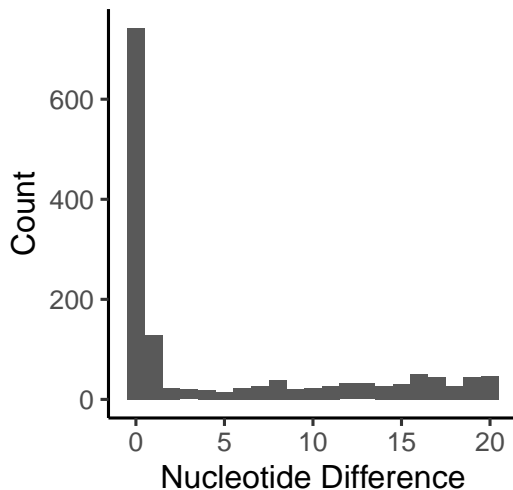
### IGHV3-53\*04

821 sequences assigned  
463 (56.4%) exact matches, in which:  
455 unique CDR3  
5 unique J



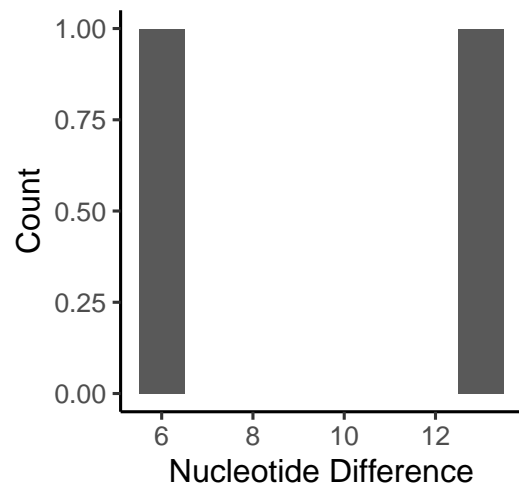
### IGHV3-66\*02

1863 sequences assigned  
743 (39.9%) exact matches, in which:  
732 unique CDR3  
6 unique J



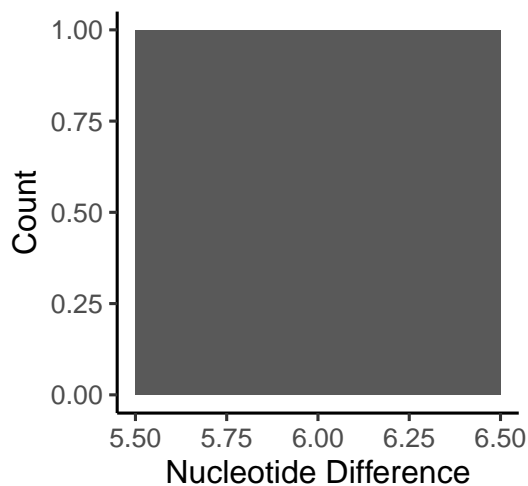
### IGHV3-71\*01

2 sequences assigned  
No exact matches.



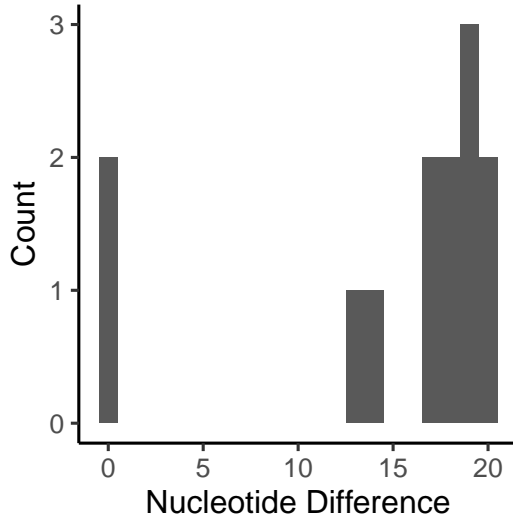
### IGHV3-62\*03

1 sequences assigned  
No exact matches.



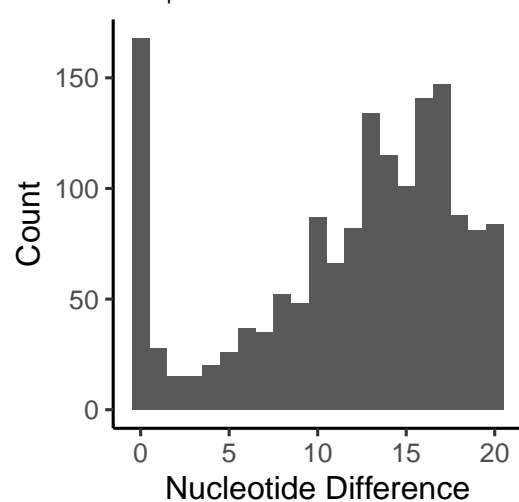
### IGHV3-69-1\*01

666 sequences assigned  
2 (0.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



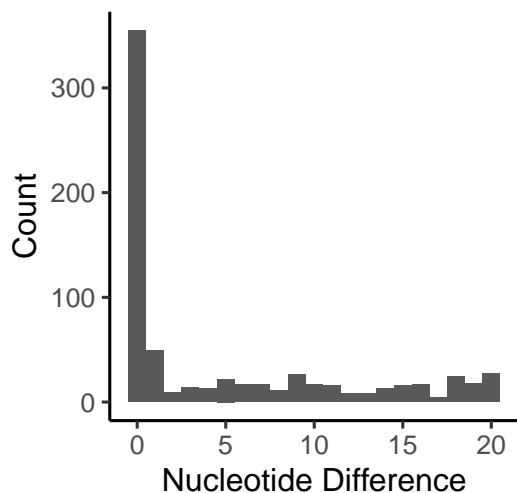
### IGHV3-72\*01

2399 sequences assigned  
168 (7%) exact matches, in which:  
155 unique CDR3  
5 unique J



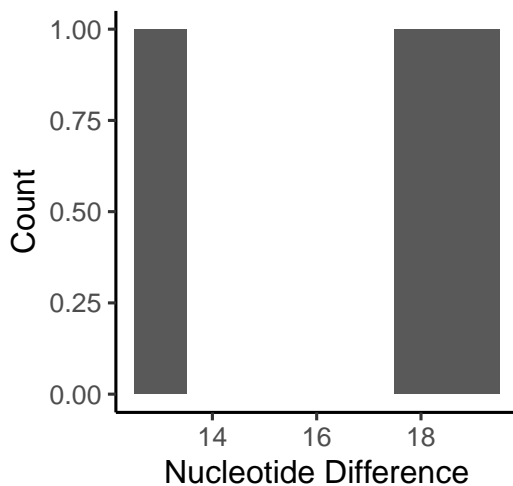
### IGHV3-64\*01

913 sequences assigned  
355 (38.9%) exact matches, in which:  
347 unique CDR3  
6 unique J



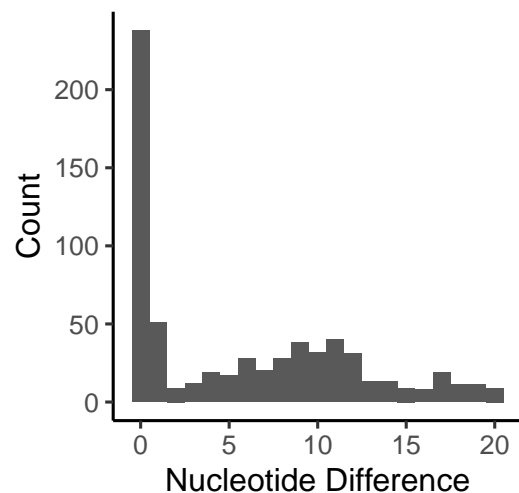
### IGHV3-69-1\*02

14 sequences assigned  
No exact matches.



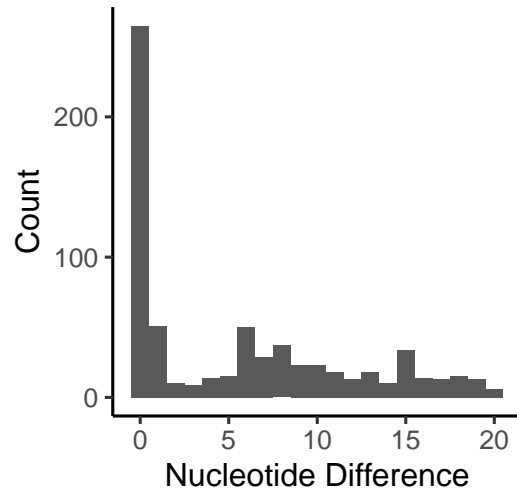
### IGHV3-73\*01

788 sequences assigned  
238 (30.2%) exact matches, in which:  
219 unique CDR3  
5 unique J



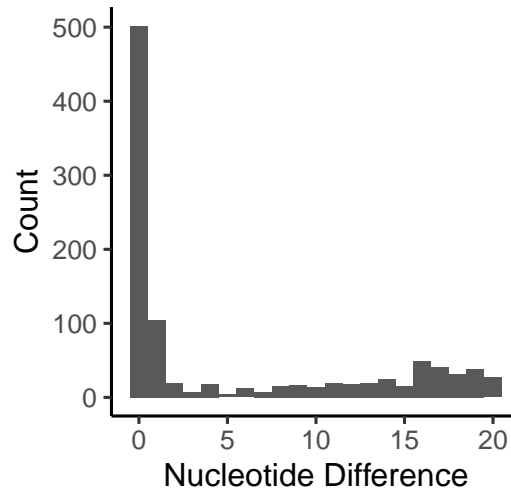
### IGHV3-73\*02

974 sequences assigned  
265 (27.2%) exact matches, in which:  
254 unique CDR3  
5 unique J



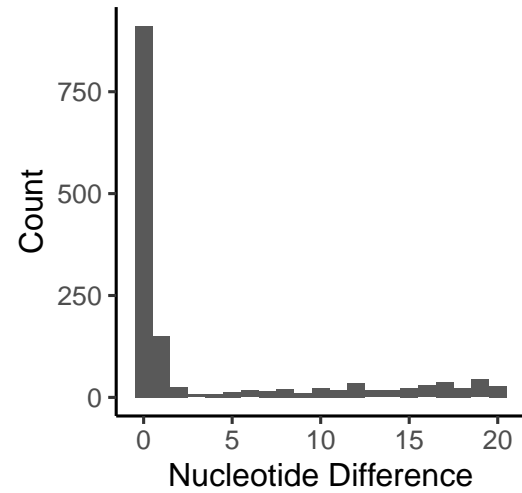
### IGHV3-64D\*06

1580 sequences assigned  
502 (31.8%) exact matches, in which:  
476 unique CDR3  
6 unique J



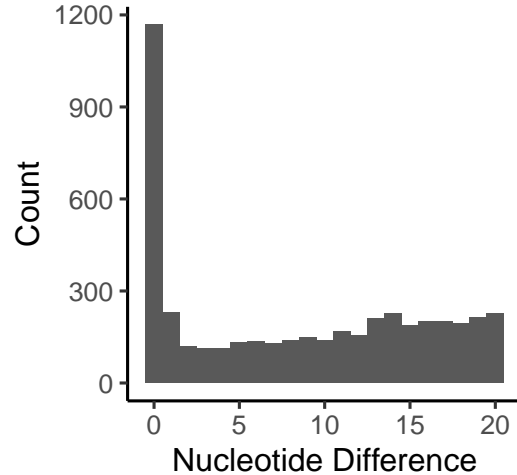
### IGHV4-4\*07

2093 sequences assigned  
912 (43.6%) exact matches, in which:  
902 unique CDR3  
6 unique J



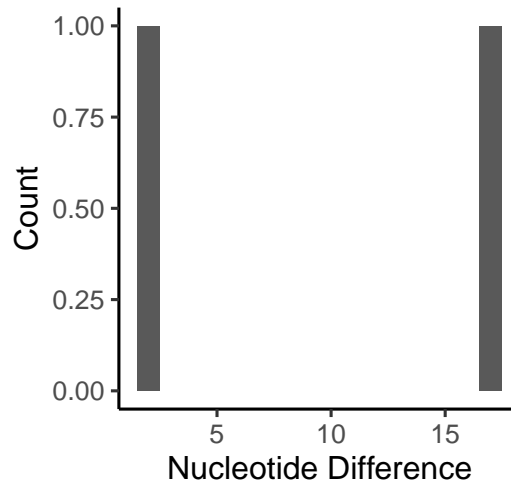
### IGHV3-74\*01

6366 sequences assigned  
1168 (18.3%) exact matches, in which:  
1094 unique CDR3  
6 unique J



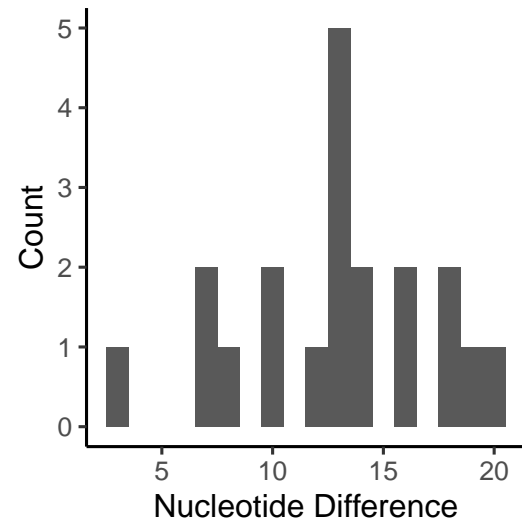
### IGHV3-NL1\*01

8 sequences assigned  
No exact matches.



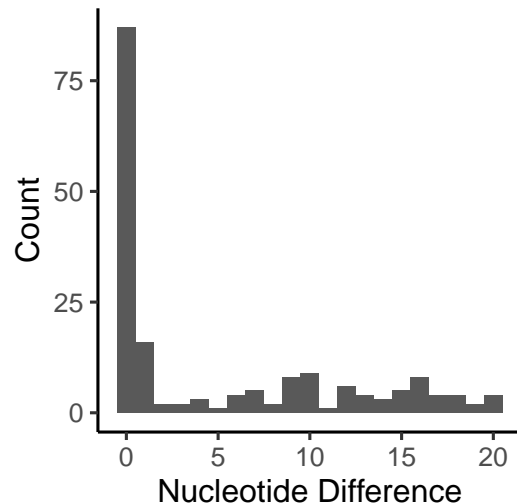
### IGHV4-4\*08

79 sequences assigned  
No exact matches.



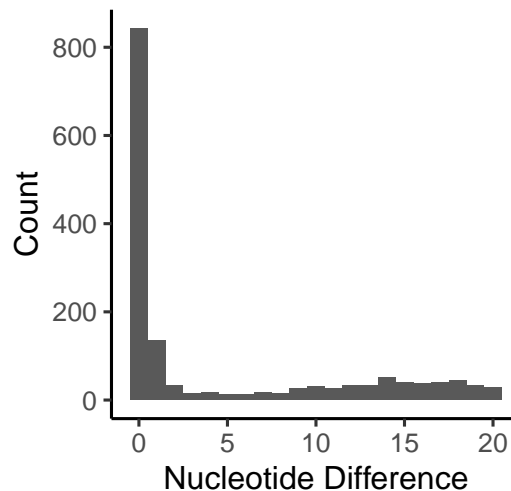
### IGHV3-43D\*04

210 sequences assigned  
87 (41.4%) exact matches, in which:  
86 unique CDR3  
6 unique J



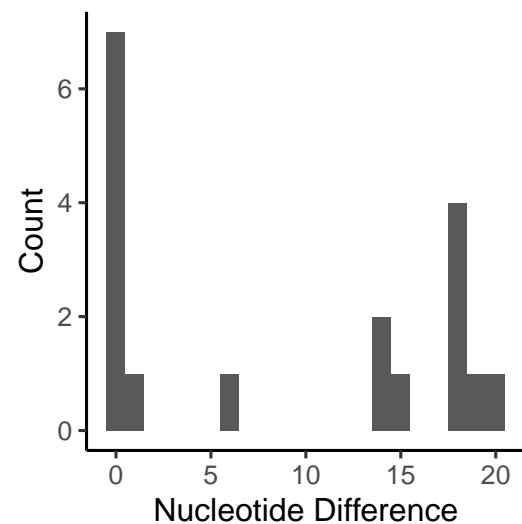
### IGHV4-4\*02

2017 sequences assigned  
843 (41.8%) exact matches, in which:  
819 unique CDR3  
6 unique J



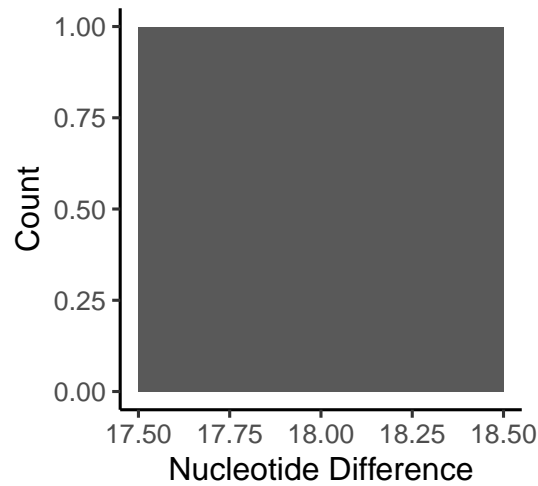
### IGHV4-28\*01

24 sequences assigned  
7 (29.2%) exact matches, in which:  
7 unique CDR3  
4 unique J



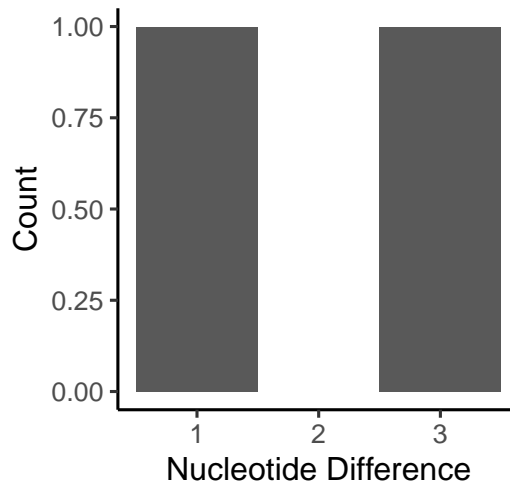
### IGHV4-28\*03

2 sequences assigned  
No exact matches.



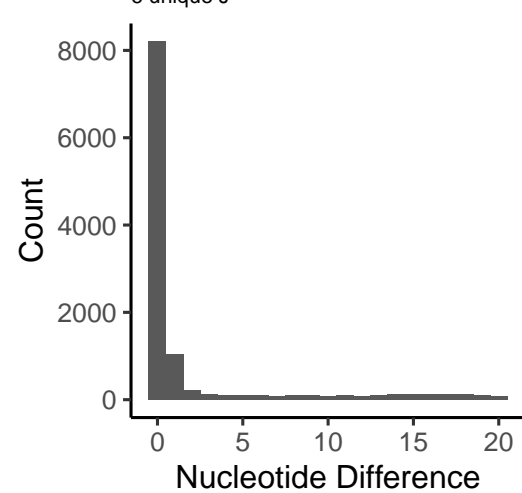
### IGHV4-30-4\*07

2 sequences assigned  
No exact matches.



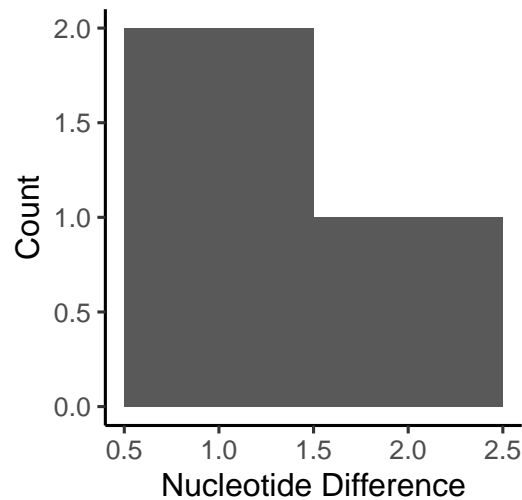
### IGHV4-34\*01

12934 sequences assigned  
8206 (63.4%) exact matches, in which:  
8111 unique CDR3  
6 unique J



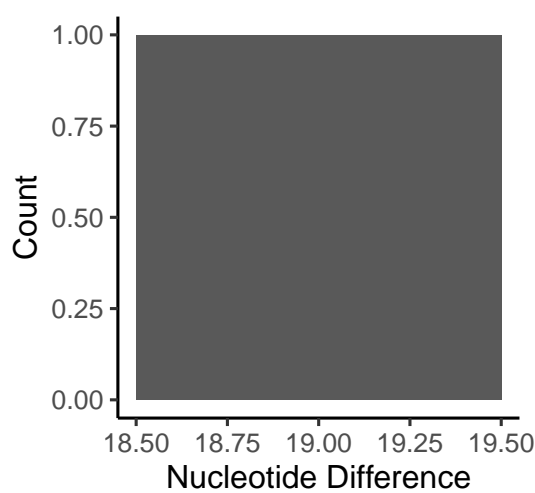
### IGHV4-28\*04

3 sequences assigned  
No exact matches.



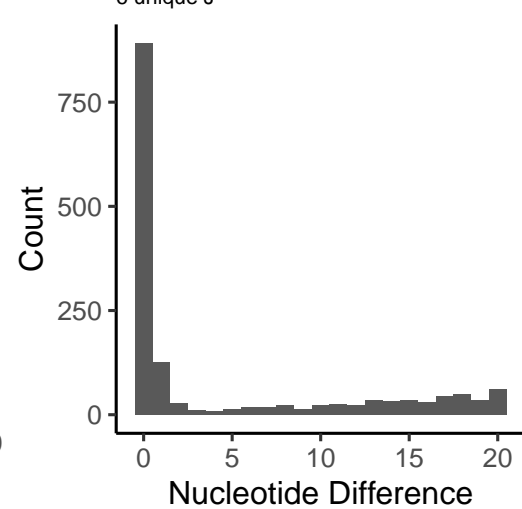
### IGHV4-30-4\*08

6 sequences assigned  
No exact matches.



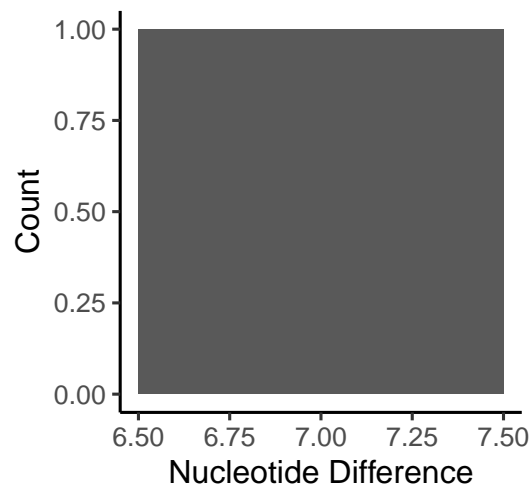
### IGHV4-38-2\*01

2165 sequences assigned  
892 (41.2%) exact matches, in which:  
870 unique CDR3  
6 unique J



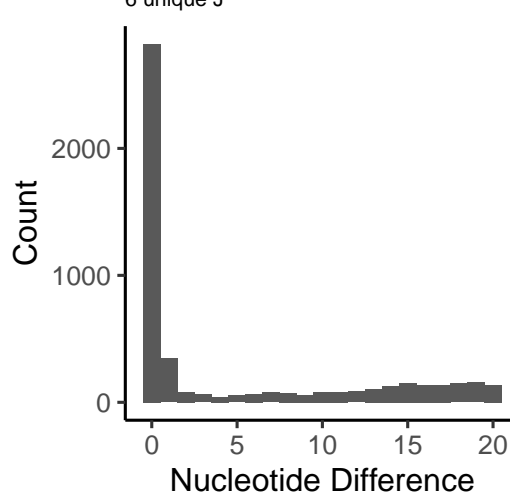
### IGHV4-30-4\*01

42 sequences assigned  
No exact matches.



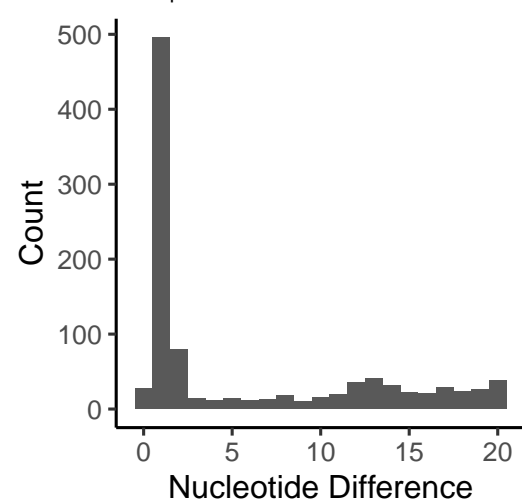
### IGHV4-31\*03

7404 sequences assigned  
2822 (38.1%) exact matches, in which:  
2762 unique CDR3  
6 unique J



### IGHV4-38-2\*02

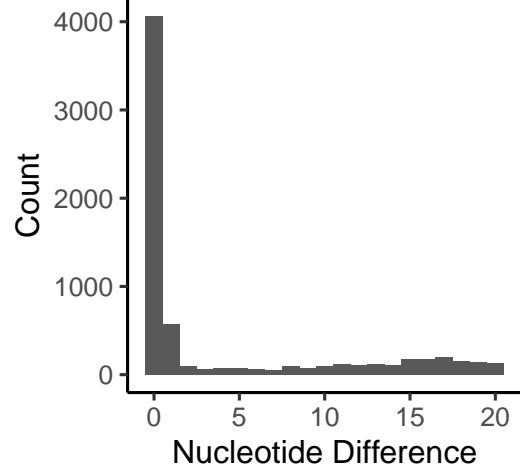
1536 sequences assigned  
27 (1.8%) exact matches, in which:  
27 unique CDR3  
5 unique J





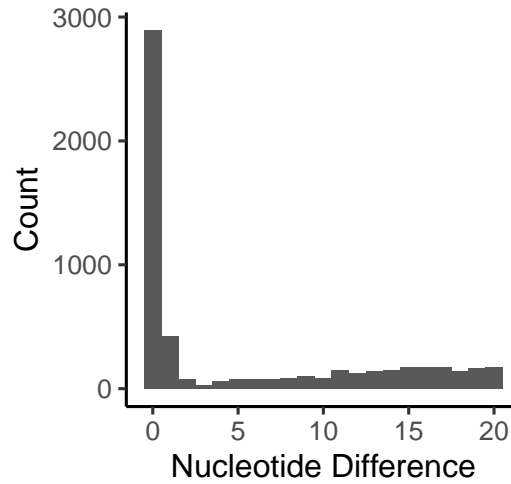
### IGHV4-39\*01

9659 sequences assigned  
4060 (42%) exact matches, in which:  
3959 unique CDR3  
6 unique J



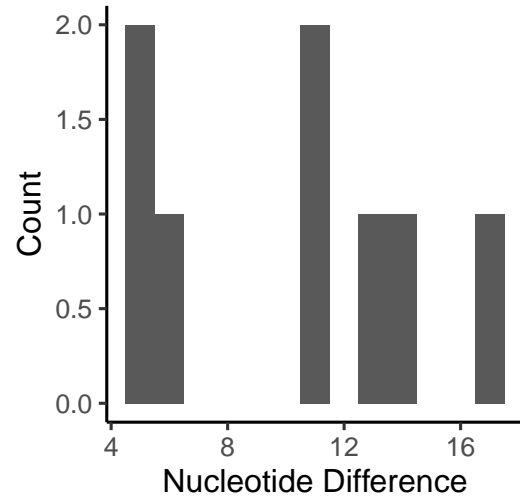
### IGHV4-59\*01

7671 sequences assigned  
2892 (37.7%) exact matches, in which:  
2823 unique CDR3  
6 unique J



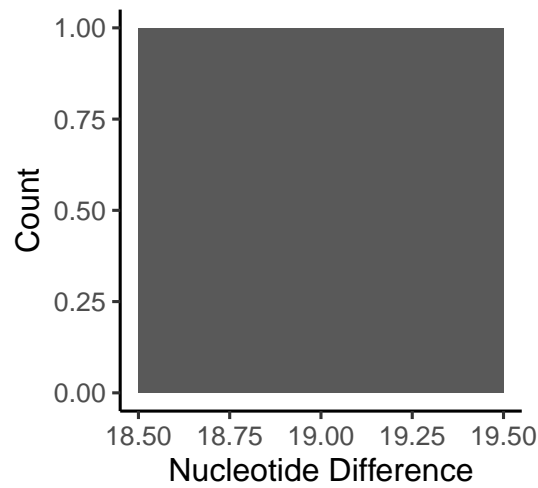
### IGHV1/OR15-1\*04

9 sequences assigned  
No exact matches.



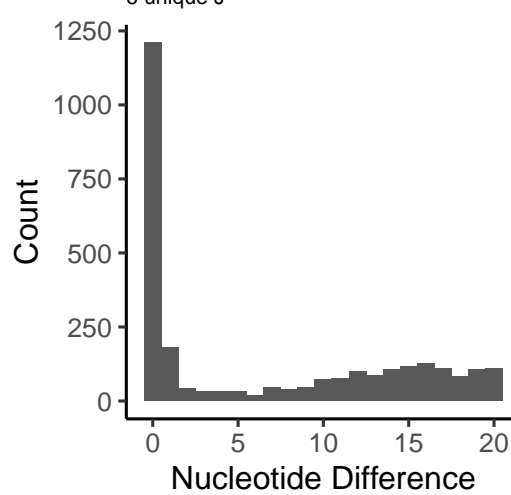
### IGHV4-55\*01

1 sequences assigned  
No exact matches.



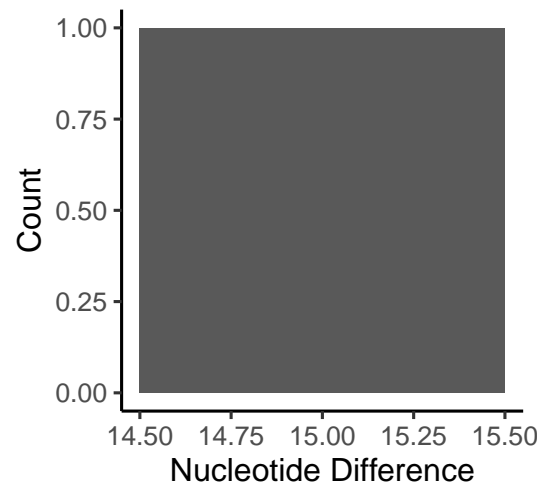
### IGHV4-59\*08

3957 sequences assigned  
1210 (30.6%) exact matches, in which:  
1191 unique CDR3  
6 unique J



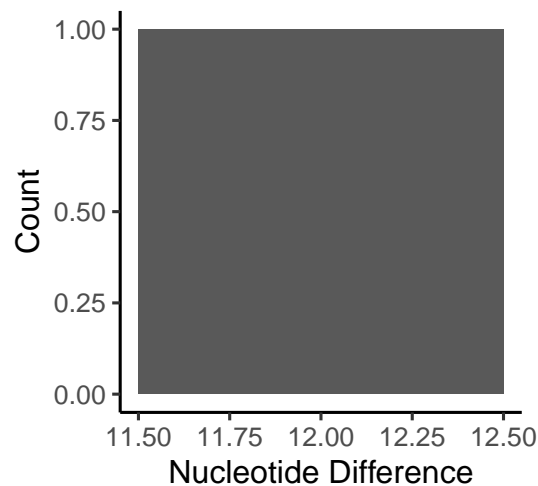
### IGHV1/OR15-2\*02

1 sequences assigned  
No exact matches.



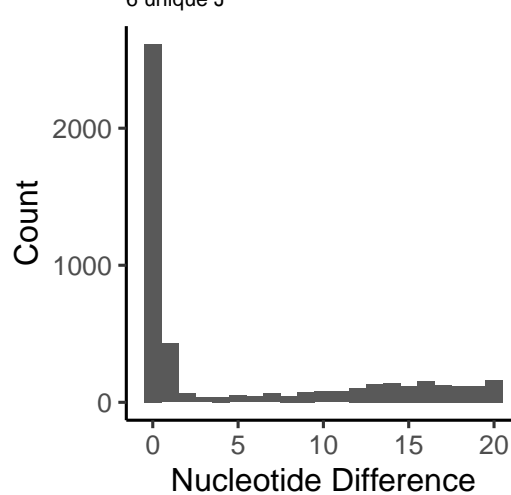
### IGHV4-55\*08

2 sequences assigned  
No exact matches.



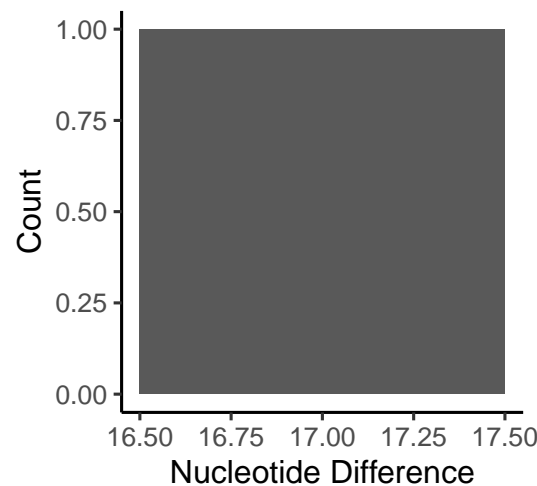
### IGHV4-61\*02

6812 sequences assigned  
2614 (38.4%) exact matches, in which:  
2583 unique CDR3  
6 unique J



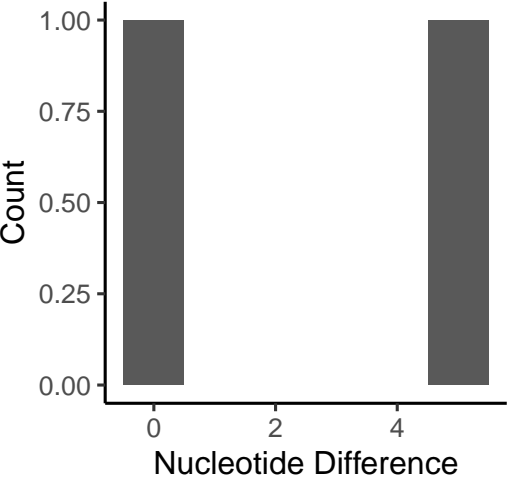
### IGHV1/OR15-3\*03

1 sequences assigned  
No exact matches.



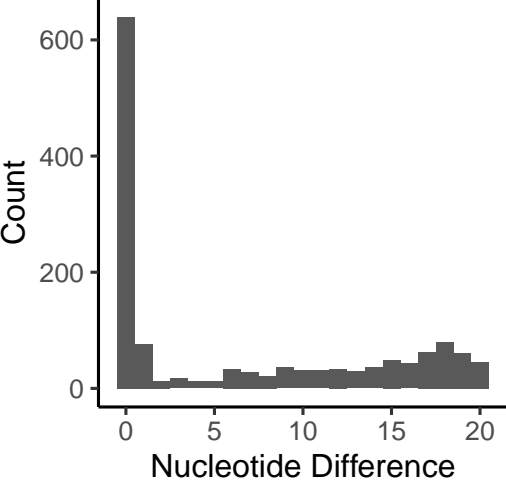
IGHV1/OR15-4\*01

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



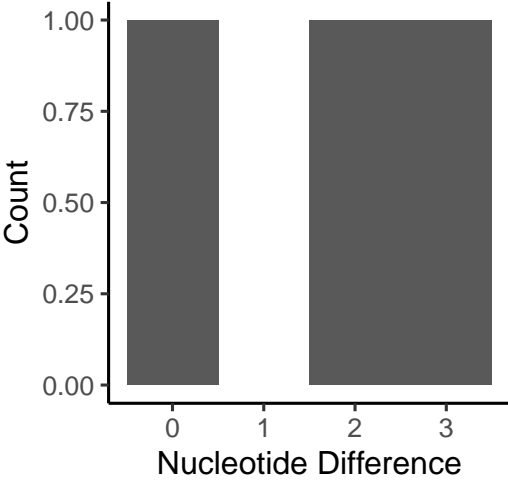
IGHV5-10-1\*01

1946 sequences assigned  
640 (32.9%) exact matches, in which:  
624 unique CDR3  
6 unique J



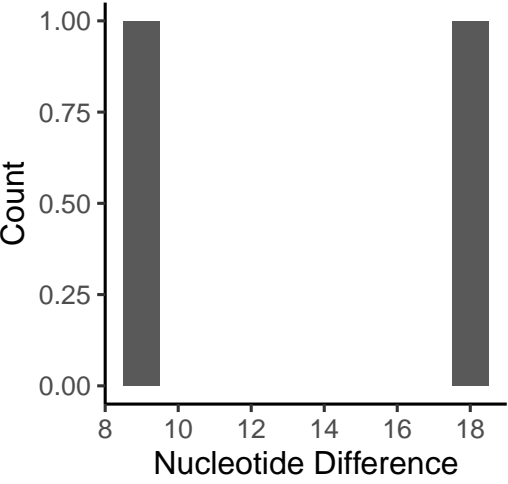
IGHV5-78\*01

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



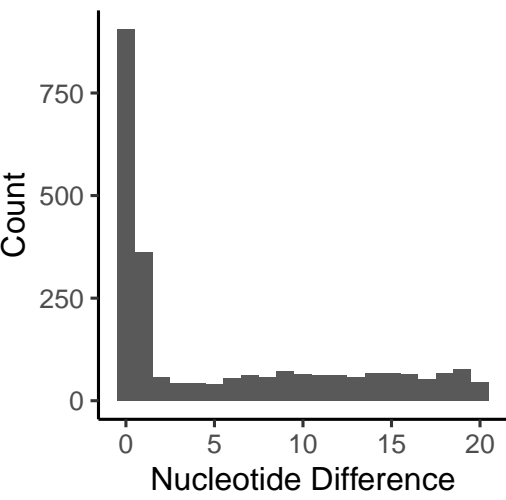
IGHV4/OR15-8\*01

6 sequences assigned  
No exact matches.



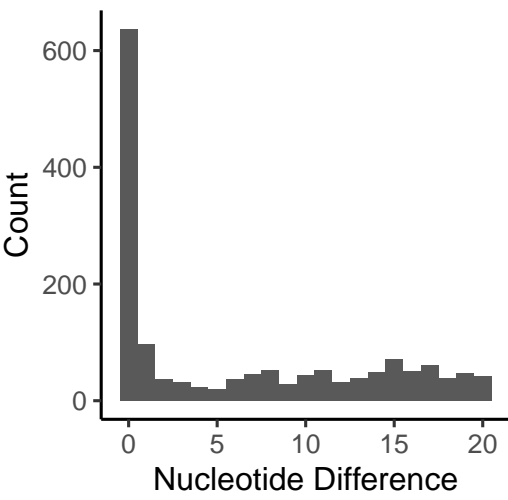
IGHV5-51\*01

3171 sequences assigned  
906 (28.6%) exact matches, in which:  
895 unique CDR3  
6 unique J



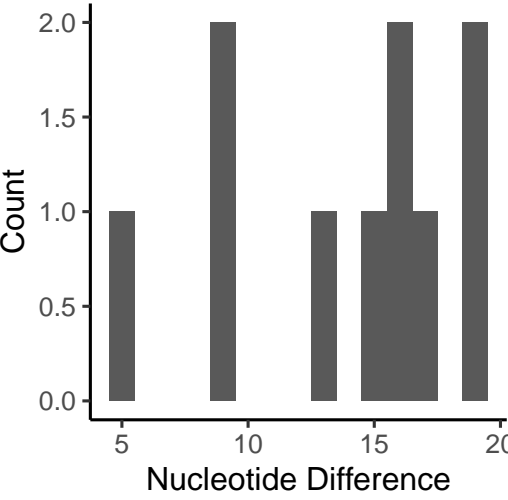
IGHV6-1\*01

1739 sequences assigned  
637 (36.6%) exact matches, in which:  
634 unique CDR3  
6 unique J



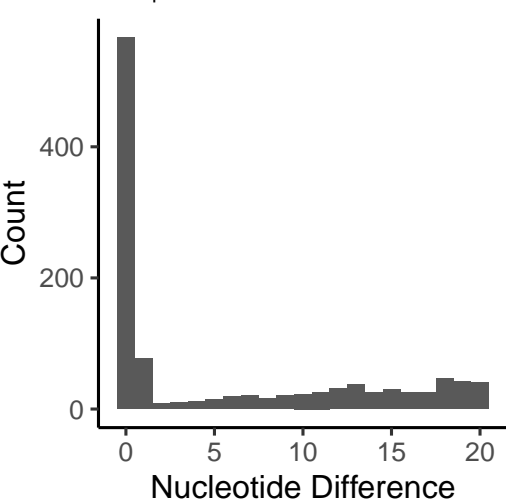
IGHV4/OR15-8\*02

28 sequences assigned  
No exact matches.



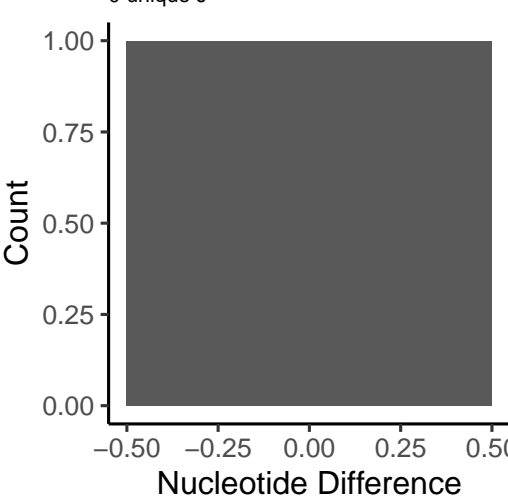
IGHV5-51\*03

1639 sequences assigned  
567 (34.6%) exact matches, in which:  
561 unique CDR3  
6 unique J



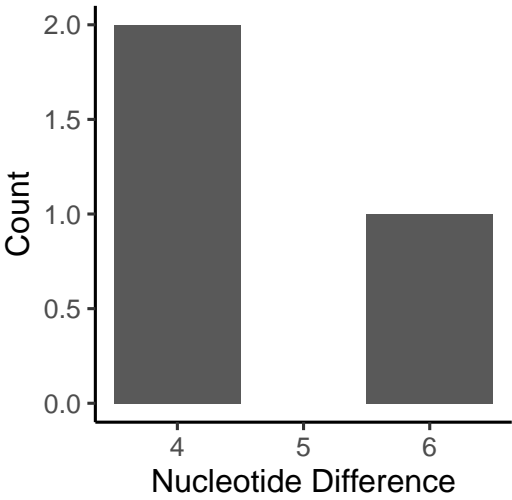
IGHV3/OR16-6\*02

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



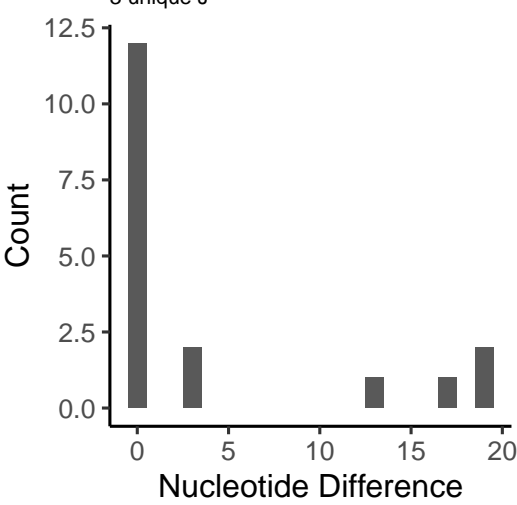
IGHV3/OR16-8\*01

3 sequences assigned  
No exact matches.



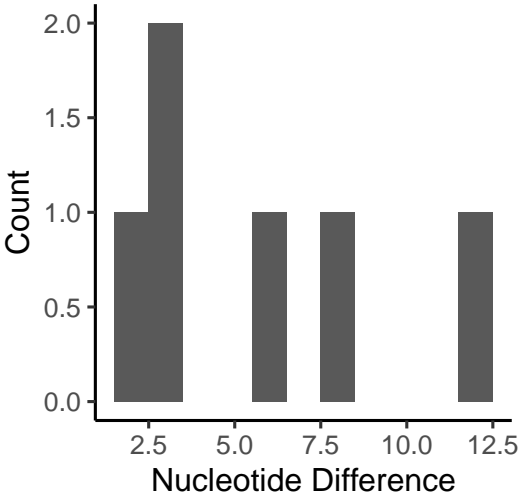
IGHV7-4-1\*01

19 sequences assigned  
12 (63.2%) exact matches, in which:  
12 unique CDR3  
3 unique J



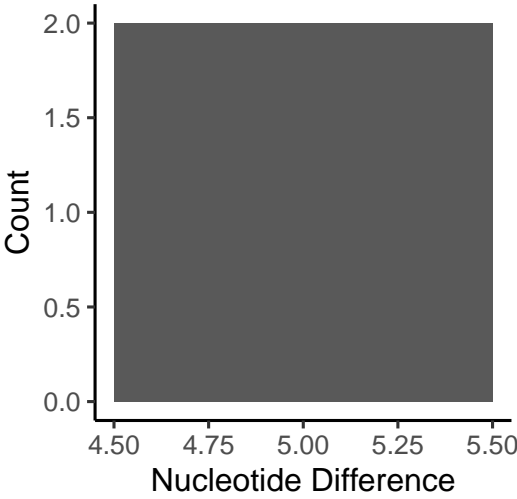
IGHV3/OR16-9\*01

6 sequences assigned  
No exact matches.



IGHV7-81\*01

2 sequences assigned  
No exact matches.



IGHV3/OR16-12\*01

1 sequences assigned  
No exact matches.

