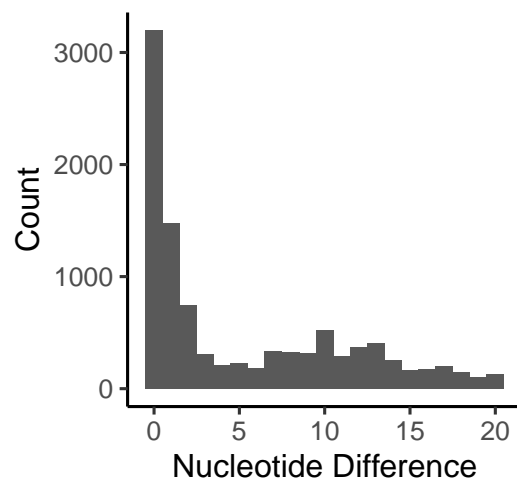


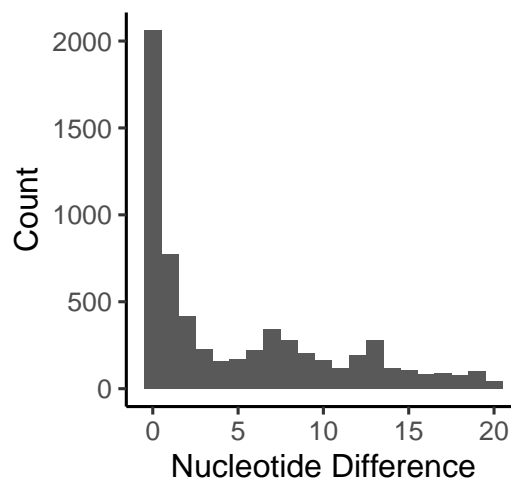
### IGHV1-2\*02

12442 sequences assigned  
3197 (25.7%) exact matches, in which:  
2998 unique CDR3  
6 unique J



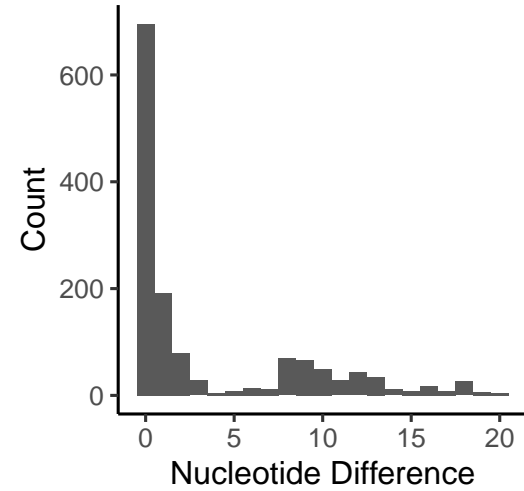
### IGHV1-8\*01

6484 sequences assigned  
2061 (31.8%) exact matches, in which:  
1985 unique CDR3  
6 unique J



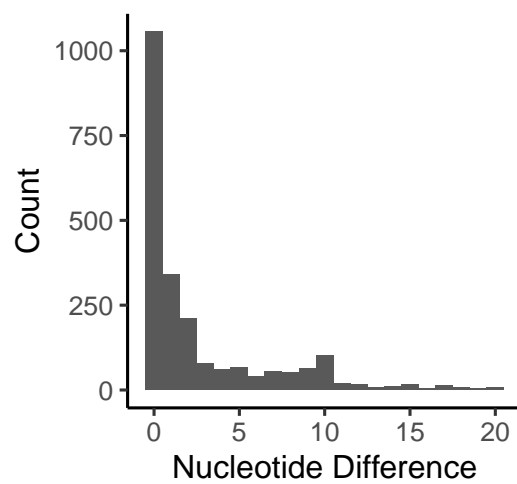
### IGHV1-24\*01

1468 sequences assigned  
696 (47.4%) exact matches, in which:  
662 unique CDR3  
6 unique J



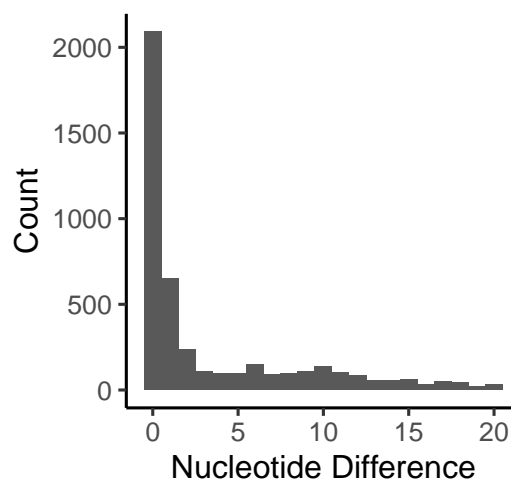
### IGHV1-2\*04

2251 sequences assigned  
1056 (46.9%) exact matches, in which:  
1028 unique CDR3  
6 unique J



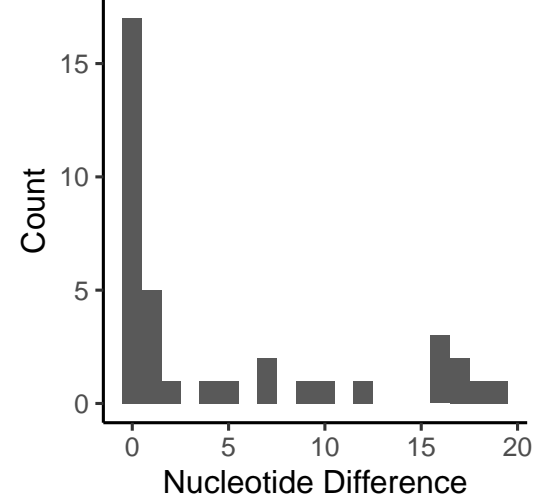
### IGHV1-18\*01

4809 sequences assigned  
2091 (43.5%) exact matches, in which:  
2026 unique CDR3  
6 unique J



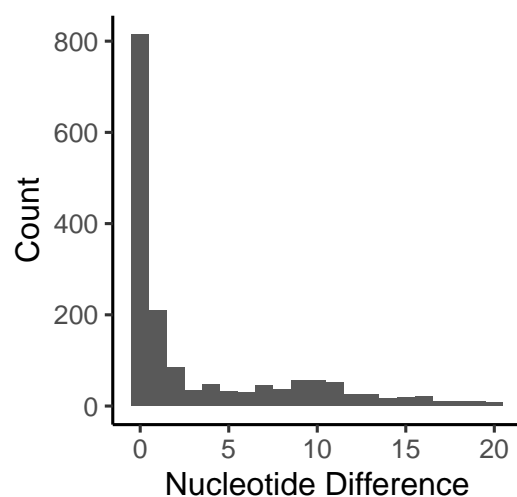
### IGHV1-45\*02

43 sequences assigned  
17 (39.5%) exact matches, in which:  
14 unique CDR3  
5 unique J



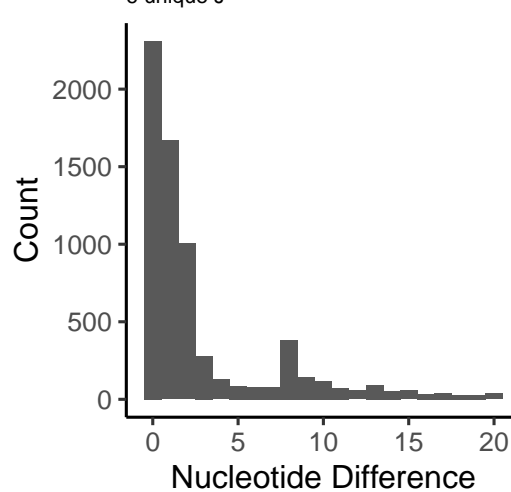
### IGHV1-3\*01\_05

2336 sequences assigned  
815 (34.9%) exact matches, in which:  
775 unique CDR3  
6 unique J



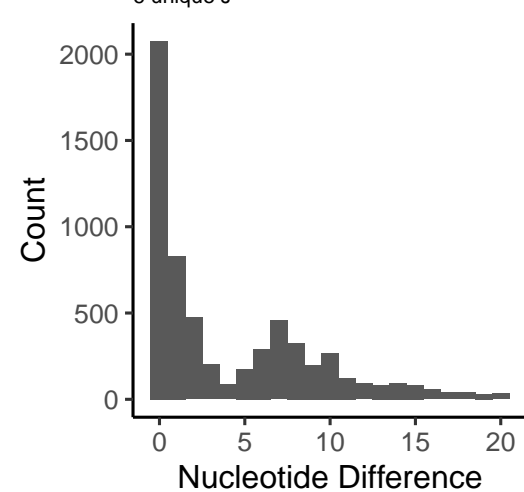
### IGHV1-18\*04

6975 sequences assigned  
2310 (33.1%) exact matches, in which:  
2076 unique CDR3  
6 unique J



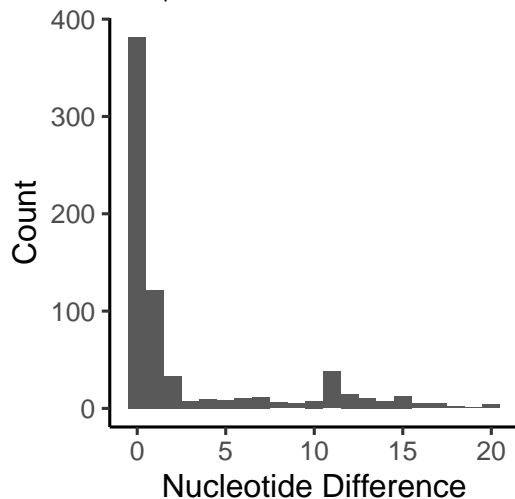
### IGHV1-46\*01

6265 sequences assigned  
2076 (33.1%) exact matches, in which:  
1989 unique CDR3  
6 unique J



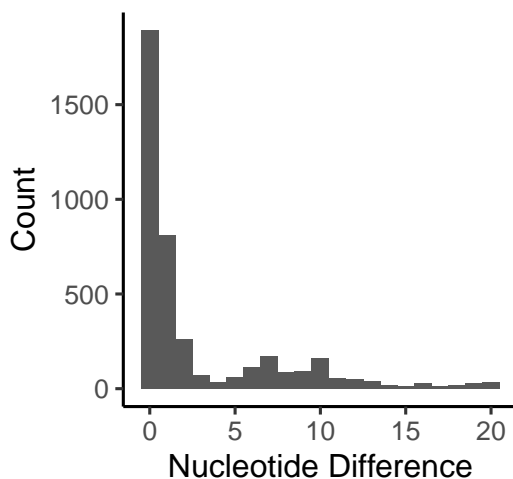
### IGHV1-58\*01\_03

743 sequences assigned  
382 (51.4%) exact matches, in which:  
372 unique CDR3  
6 unique J



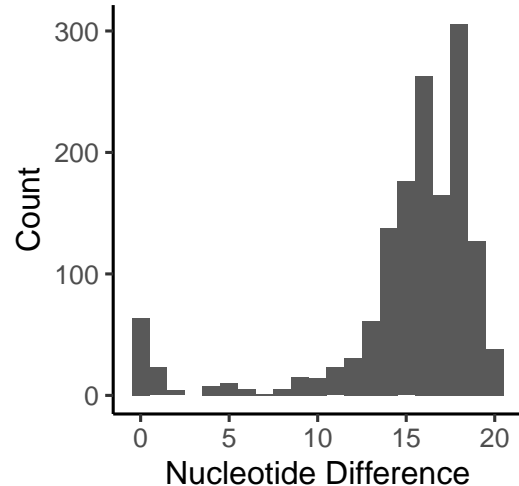
### IGHV1-69\*04\_09

4297 sequences assigned  
1892 (44%) exact matches, in which:  
1854 unique CDR3  
6 unique J



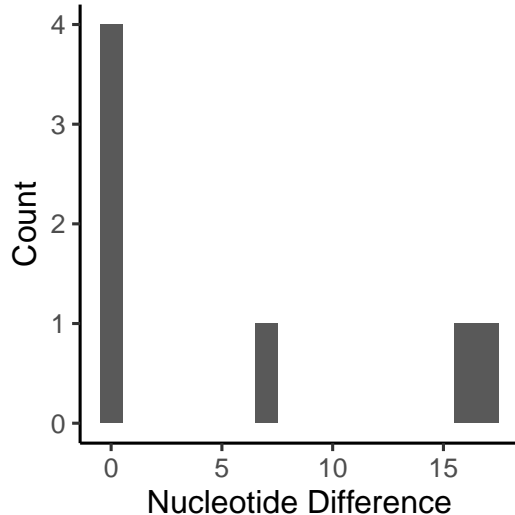
### IGHV2-5\*02

2371 sequences assigned  
64 (2.7%) exact matches, in which:  
63 unique CDR3  
6 unique J



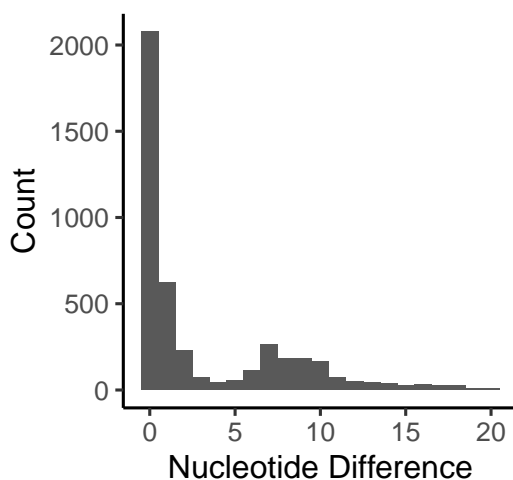
### IGHV1-69-2\*01

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



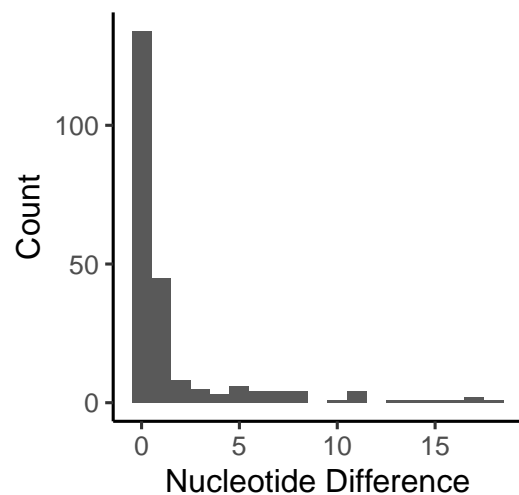
### IGHV1-69\*06\_14

4503 sequences assigned  
2077 (46.1%) exact matches, in which:  
2037 unique CDR3  
6 unique J



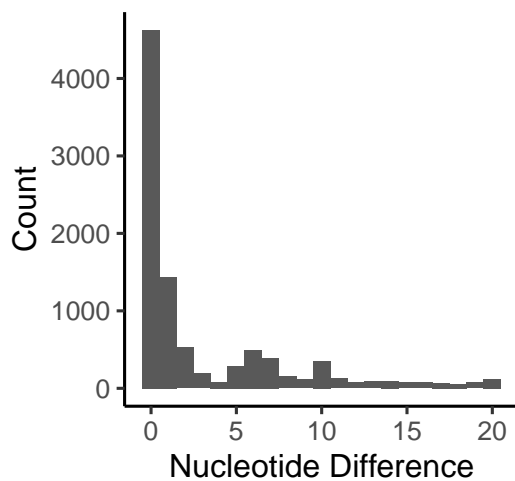
### IGHV2-26\*01

232 sequences assigned  
134 (57.8%) exact matches, in which:  
132 unique CDR3  
6 unique J



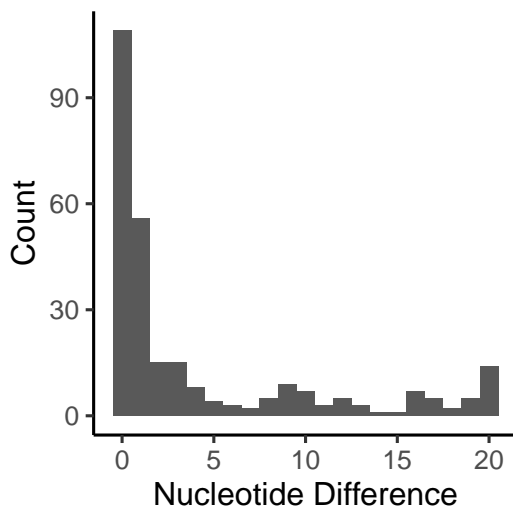
### IGHV1-69\*01\_12\_13

10032 sequences assigned  
4625 (46.1%) exact matches, in which:  
4515 unique CDR3  
6 unique J



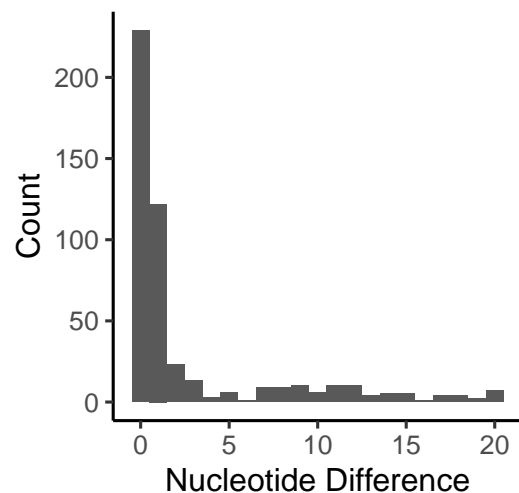
### IGHV2-5\*01

307 sequences assigned  
109 (35.5%) exact matches, in which:  
106 unique CDR3  
6 unique J



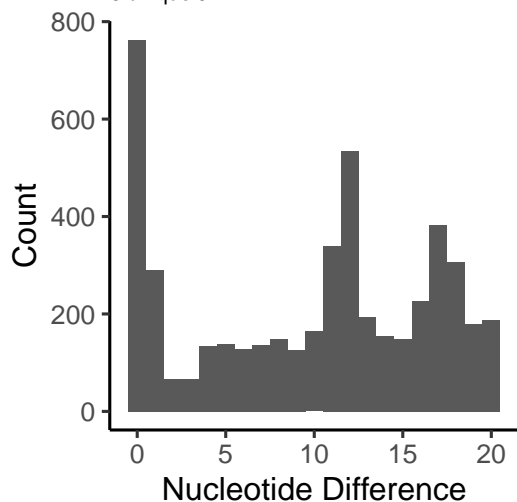
### IGHV2-70\*01

562 sequences assigned  
229 (40.7%) exact matches, in which:  
224 unique CDR3  
6 unique J



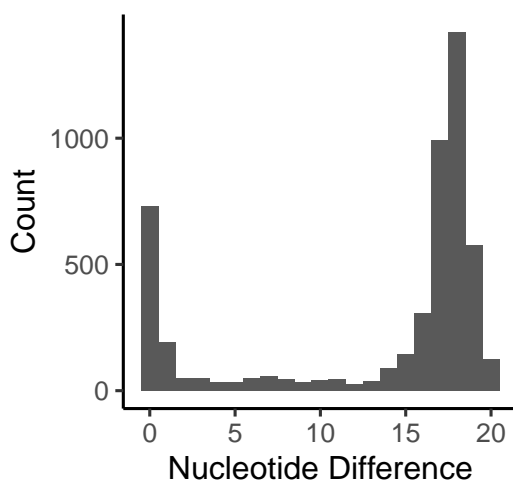
### IGHV3-7\*01

5454 sequences assigned  
763 (14%) exact matches, in which:  
686 unique CDR3  
6 unique J



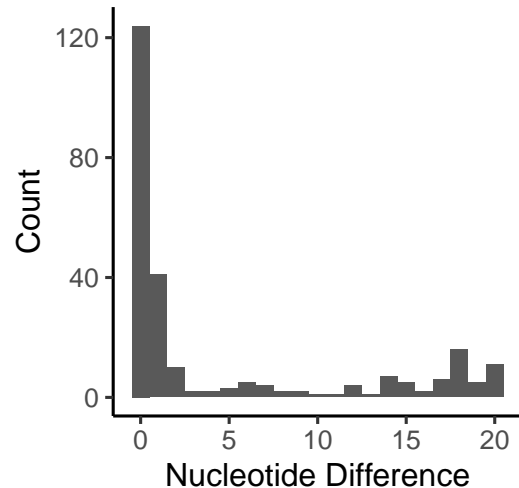
### IGHV3-11\*01

5899 sequences assigned  
730 (12.4%) exact matches, in which:  
646 unique CDR3  
6 unique J



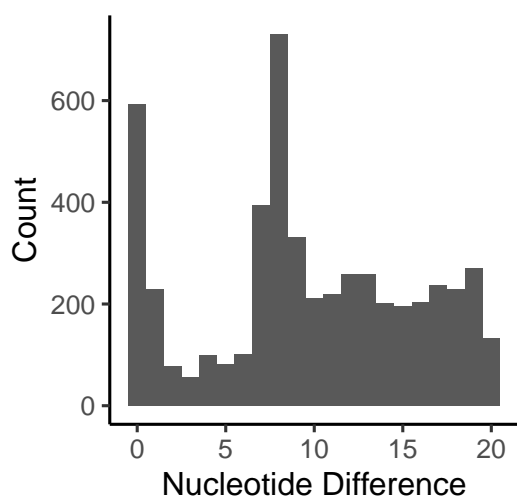
### IGHV3-13\*01

267 sequences assigned  
124 (46.4%) exact matches, in which:  
108 unique CDR3  
6 unique J



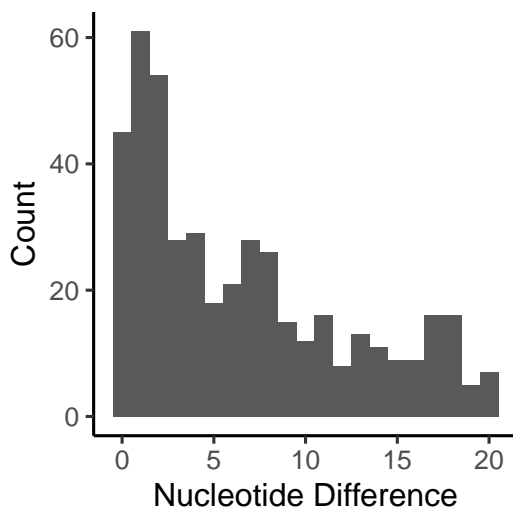
### IGHV3-7\*03

5547 sequences assigned  
592 (10.7%) exact matches, in which:  
507 unique CDR3  
6 unique J



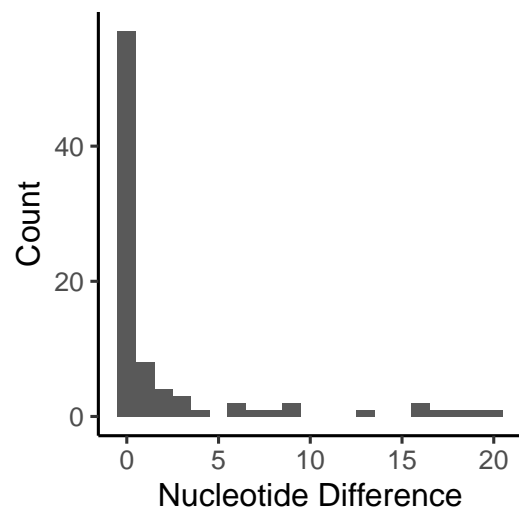
### IGHV3-11\*04

484 sequences assigned  
45 (9.3%) exact matches, in which:  
45 unique CDR3  
5 unique J



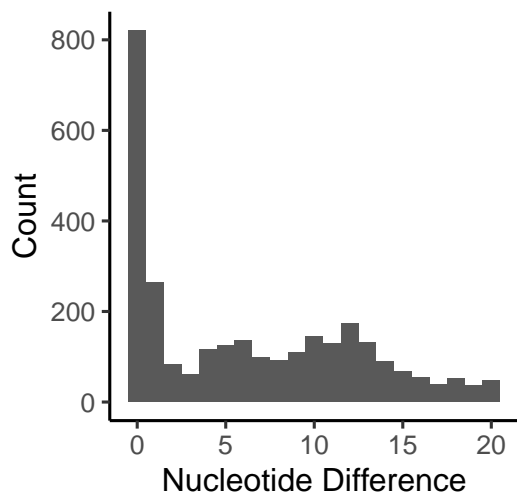
### IGHV3-13\*05

89 sequences assigned  
57 (64%) exact matches, in which:  
45 unique CDR3  
5 unique J



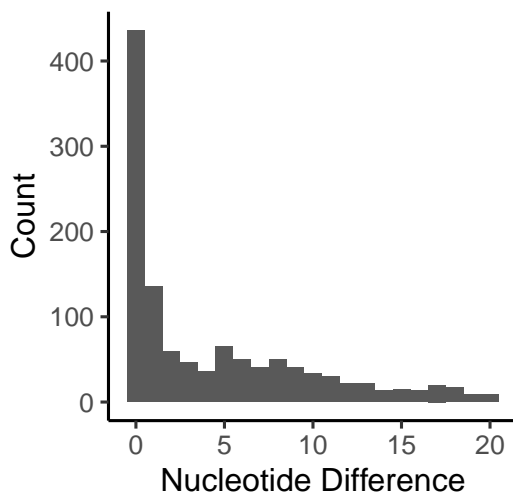
### IGHV3-9\*01

3438 sequences assigned  
821 (23.9%) exact matches, in which:  
707 unique CDR3  
6 unique J



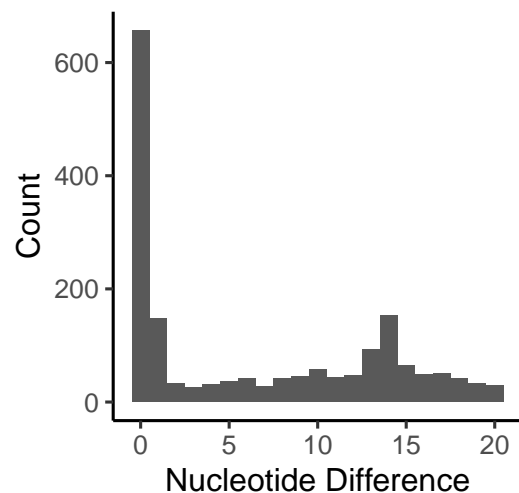
### IGHV3-11\*06

1398 sequences assigned  
436 (31.2%) exact matches, in which:  
381 unique CDR3  
6 unique J



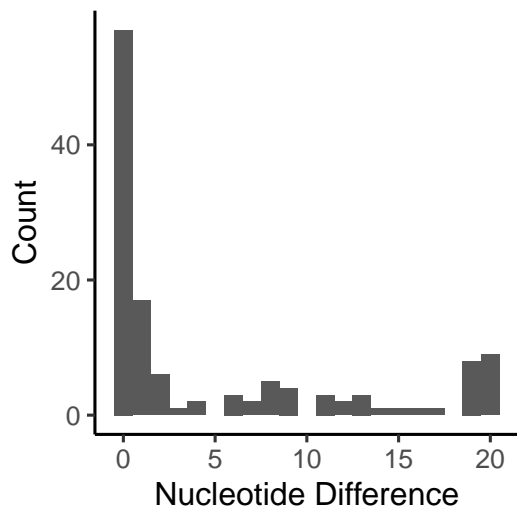
### IGHV3-15\*01\_02

2211 sequences assigned  
657 (29.7%) exact matches, in which:  
575 unique CDR3  
6 unique J



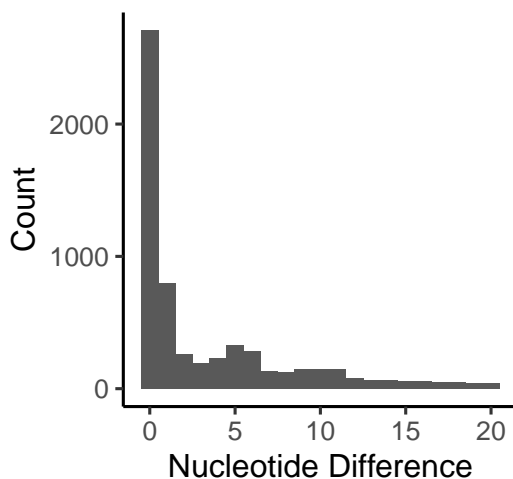
### IGHV3-20\*01\_02

139 sequences assigned  
57 (41%) exact matches, in which:  
52 unique CDR3  
5 unique J



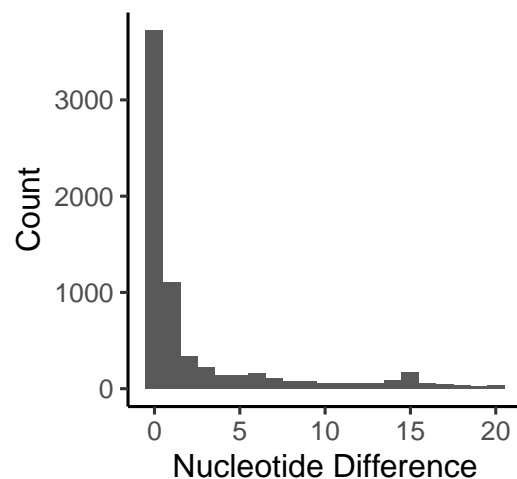
### IGHV3-21\*01\_02

6481 sequences assigned  
2708 (41.8%) exact matches, in which:  
2286 unique CDR3  
6 unique J



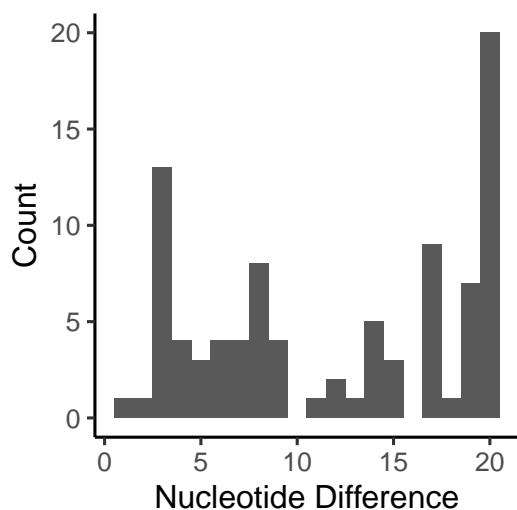
### IGHV3-30-3\*01

7235 sequences assigned  
3722 (51.4%) exact matches, in which:  
3217 unique CDR3  
6 unique J



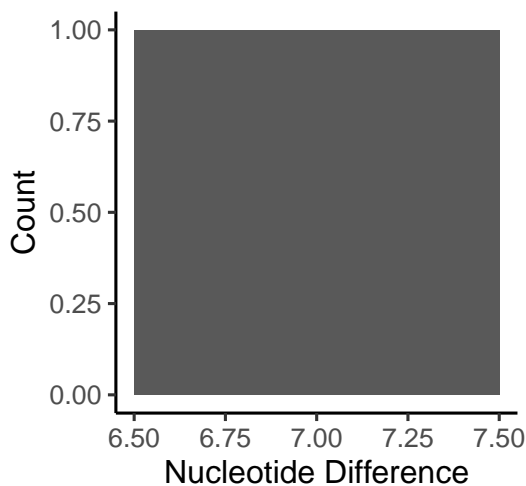
### IGHV3-20\*03\_04

423 sequences assigned  
No exact matches.



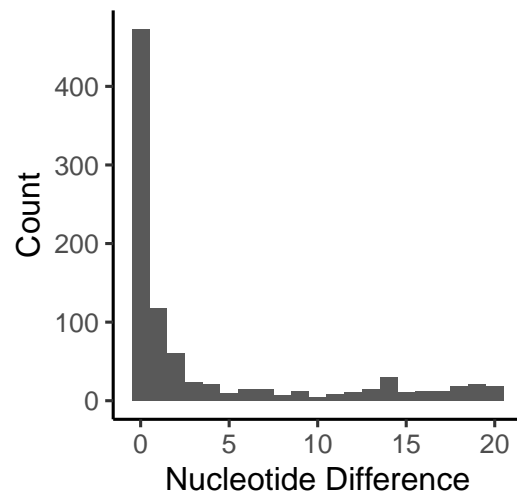
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



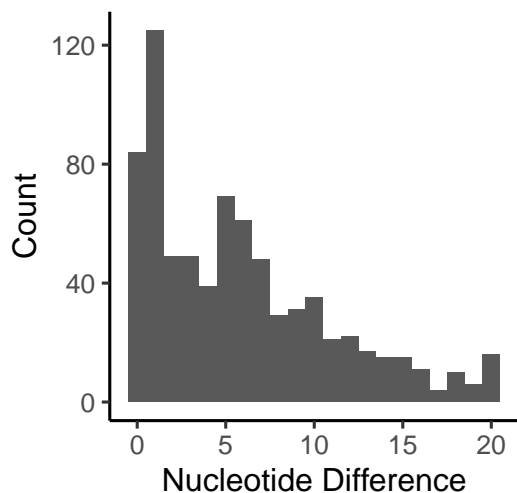
### IGHV3-30\*03

1026 sequences assigned  
473 (46.1%) exact matches, in which:  
460 unique CDR3  
6 unique J



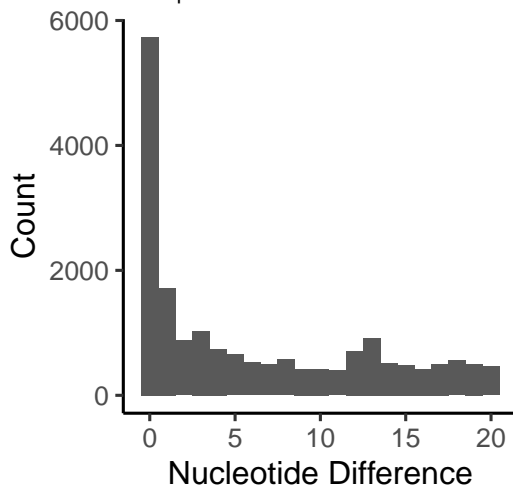
### IGHV3-21\*04

797 sequences assigned  
84 (10.5%) exact matches, in which:  
84 unique CDR3  
6 unique J



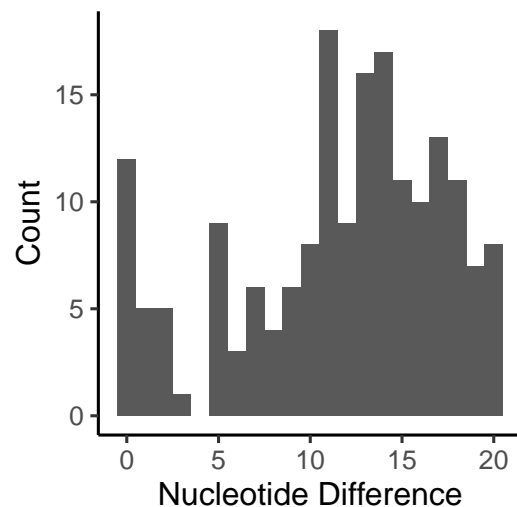
### IGHV3-23\*01\_04

22387 sequences assigned  
5735 (25.6%) exact matches, in which:  
4805 unique CDR3  
6 unique J



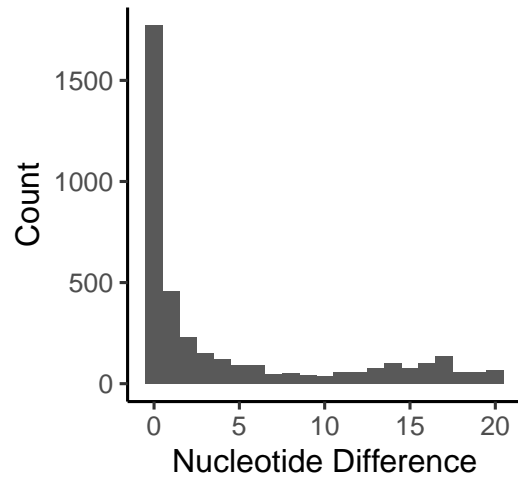
### IGHV3-30\*04

356 sequences assigned  
12 (3.4%) exact matches, in which:  
12 unique CDR3  
4 unique J



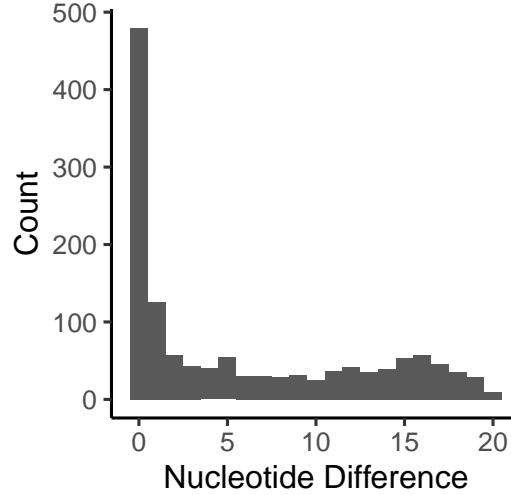
### IGHV3-33\*01

4247 sequences assigned  
1772 (41.7%) exact matches, in which:  
1585 unique CDR3  
6 unique J



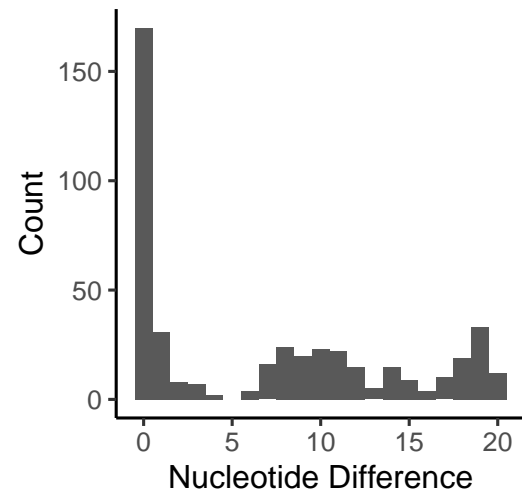
### IGHV3-48\*02

1758 sequences assigned  
480 (27.3%) exact matches, in which:  
407 unique CDR3  
6 unique J



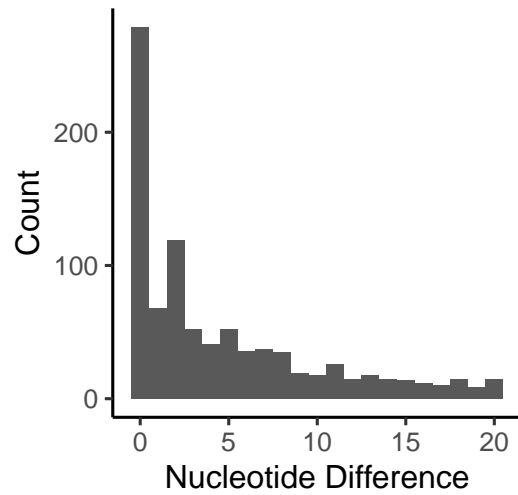
### IGHV3-49\*04

544 sequences assigned  
170 (31.2%) exact matches, in which:  
148 unique CDR3  
5 unique J



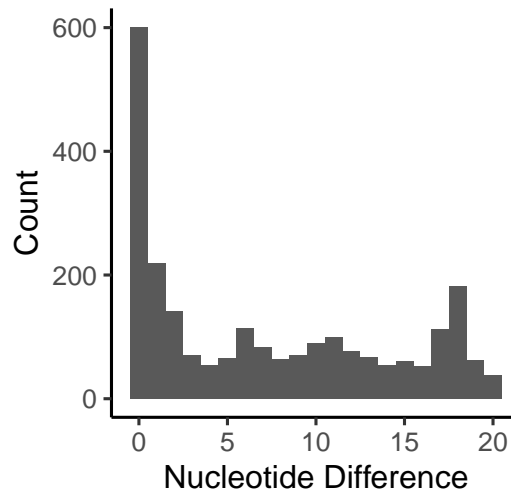
### IGHV3-33\*08

987 sequences assigned  
279 (28.3%) exact matches, in which:  
273 unique CDR3  
6 unique J



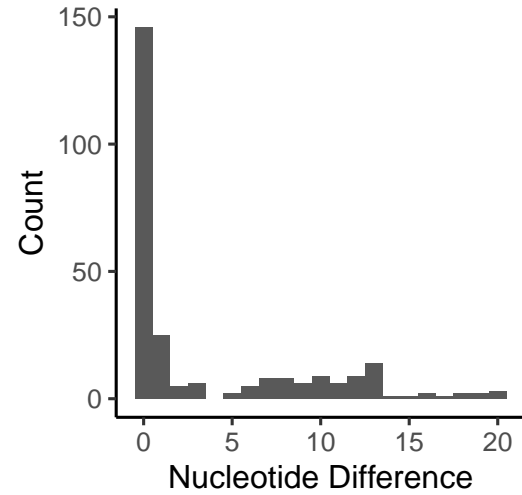
### IGHV3-48\*03

2575 sequences assigned  
601 (23.3%) exact matches, in which:  
521 unique CDR3  
6 unique J



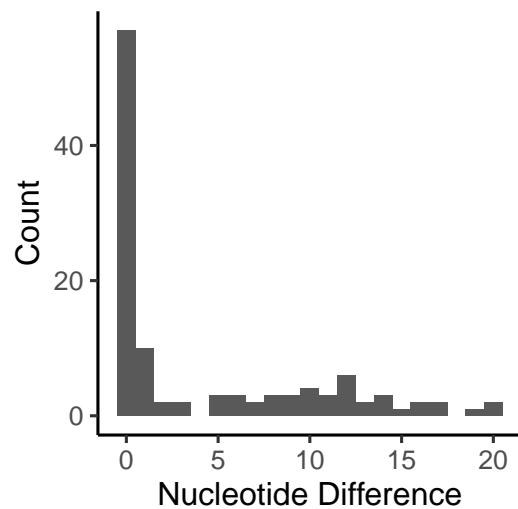
### IGHV3-49\*03\_05

283 sequences assigned  
146 (51.6%) exact matches, in which:  
129 unique CDR3  
6 unique J



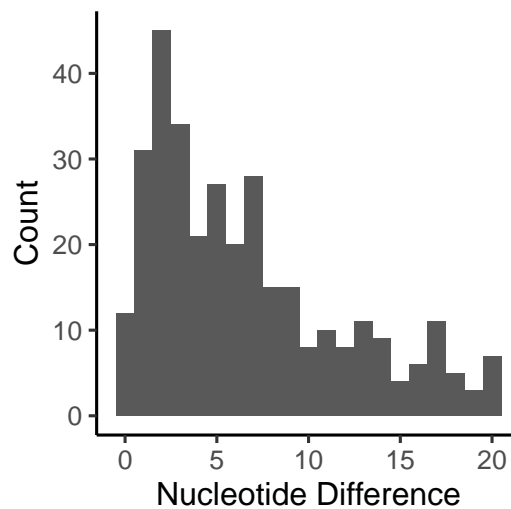
### IGHV3-43\*01

118 sequences assigned  
57 (48.3%) exact matches, in which:  
50 unique CDR3  
5 unique J



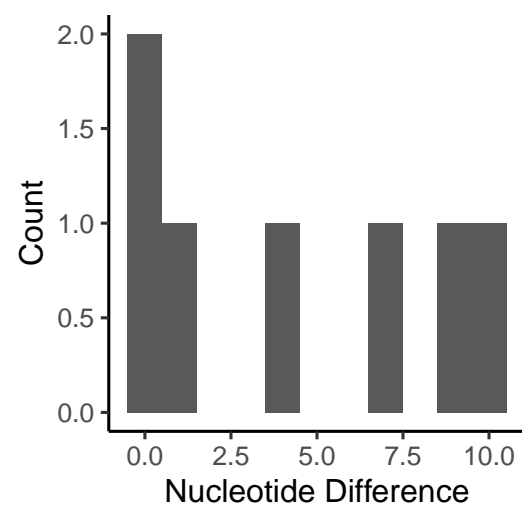
### IGHV3-48\*04

381 sequences assigned  
12 (3.1%) exact matches, in which:  
11 unique CDR3  
3 unique J



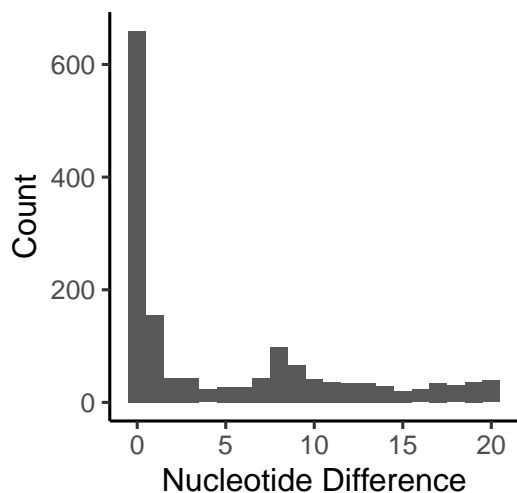
### IGHV3-52\*01\_03

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



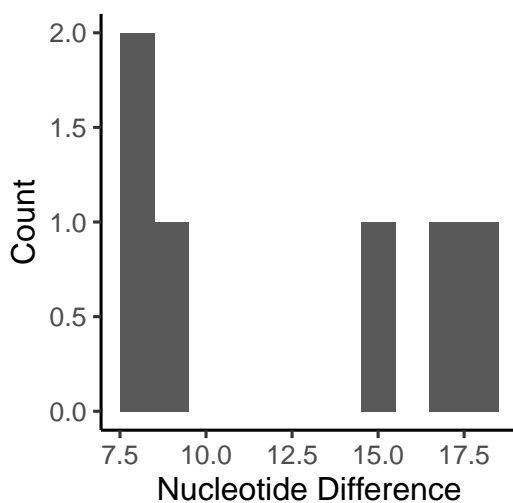
### IGHV3–53\*01\_02

2216 sequences assigned  
660 (29.8%) exact matches, in which:  
579 unique CDR3  
6 unique J



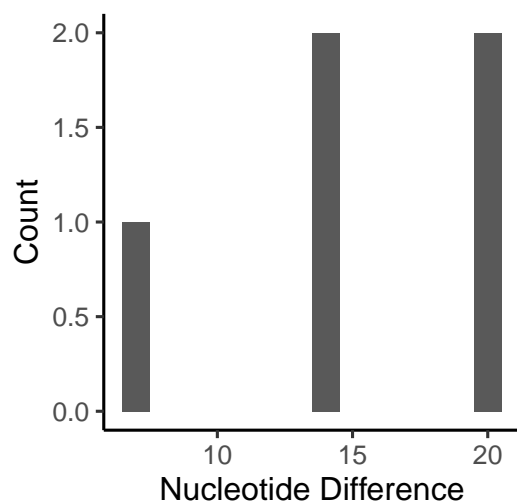
### IGHV3–66\*01

9 sequences assigned  
No exact matches.



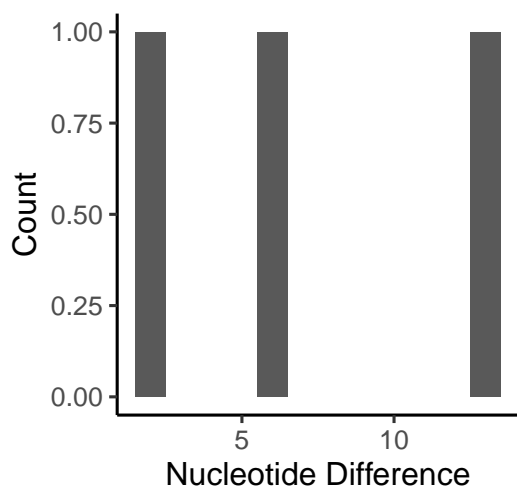
### IGHV3–66\*04

14 sequences assigned  
No exact matches.



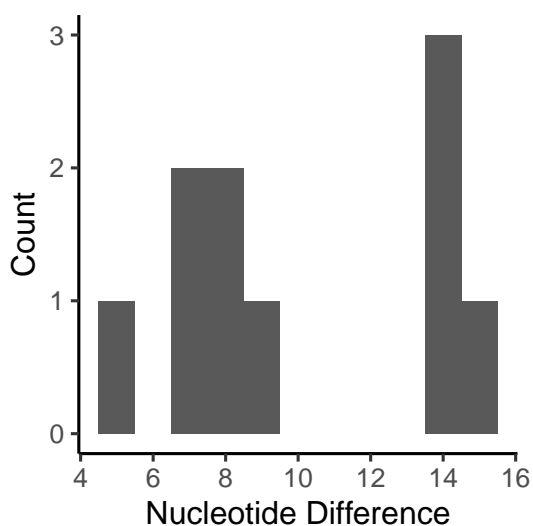
### IGHV3–64\*04

4 sequences assigned  
No exact matches.



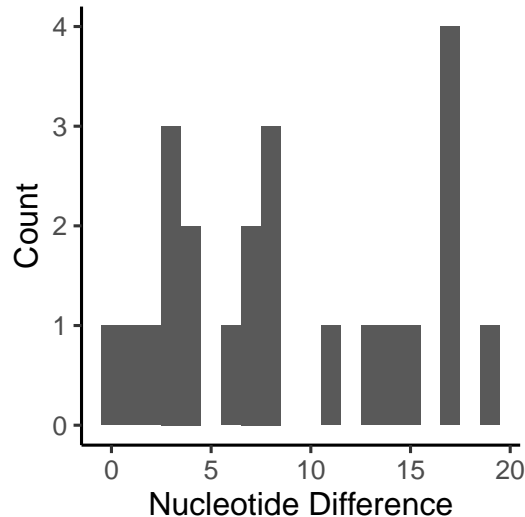
### IGHV3–66\*02

14 sequences assigned  
No exact matches.



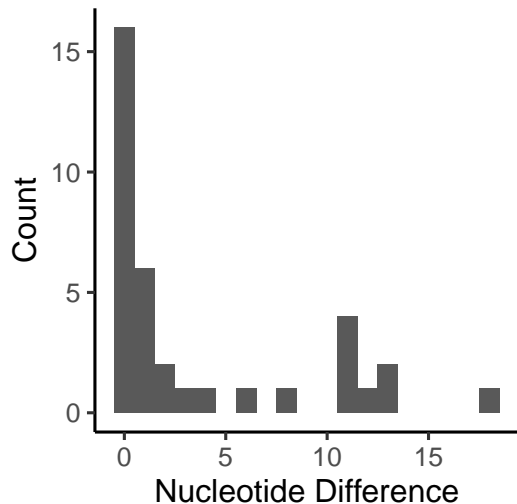
### IGHV3–69–1\*01

35 sequences assigned  
1 (2.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



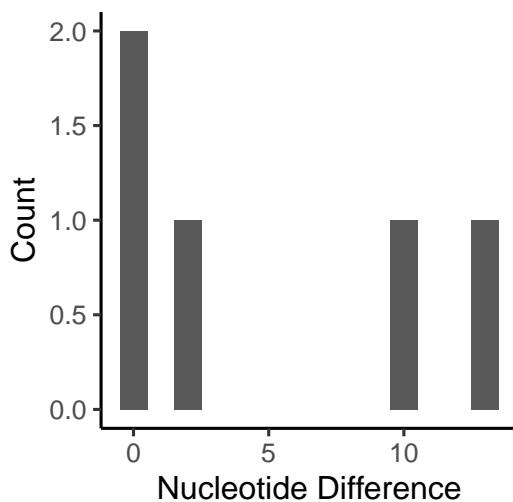
### IGHV3–64\*02\_07

52 sequences assigned  
16 (30.8%) exact matches, in which:  
15 unique CDR3  
3 unique J



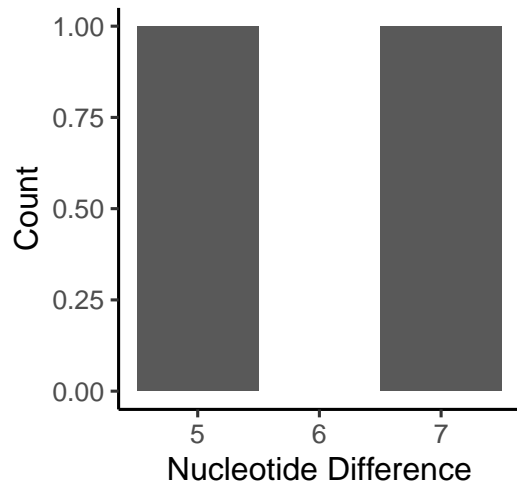
### IGHV3–66\*03

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



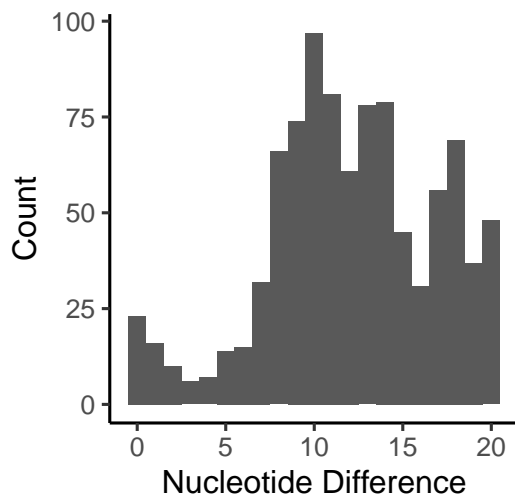
### IGHV3–69–1\*02

3 sequences assigned  
No exact matches.



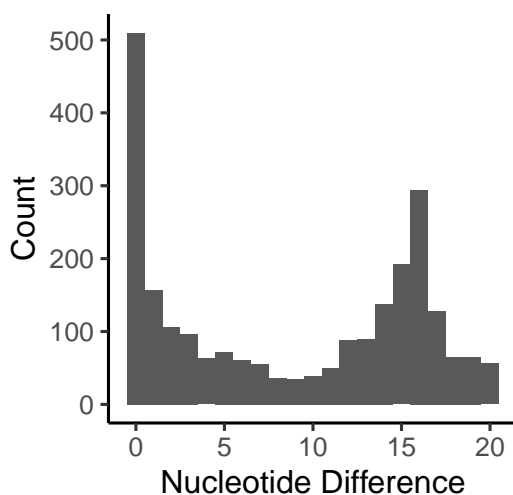
### IGHV3-72\*01

1065 sequences assigned  
23 (2.2%) exact matches, in which:  
21 unique CDR3  
4 unique J



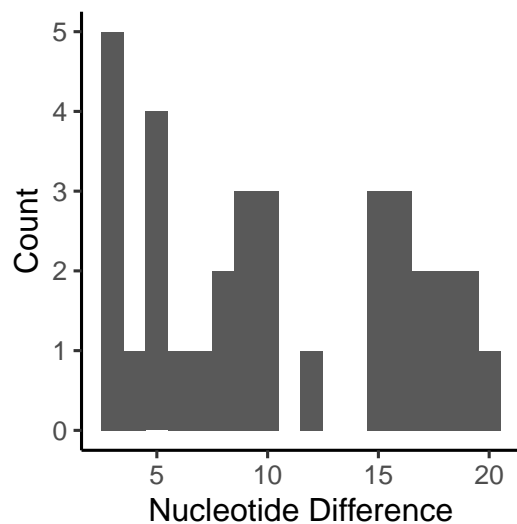
### IGHV3-74\*01\_02

2763 sequences assigned  
510 (18.5%) exact matches, in which:  
441 unique CDR3  
6 unique J



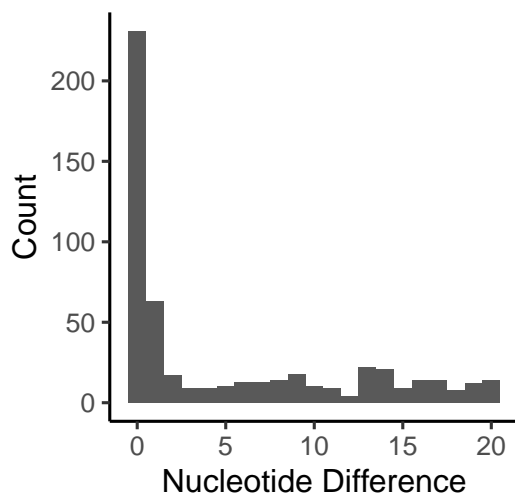
### IGHV3-NL1\*01

63 sequences assigned  
No exact matches.



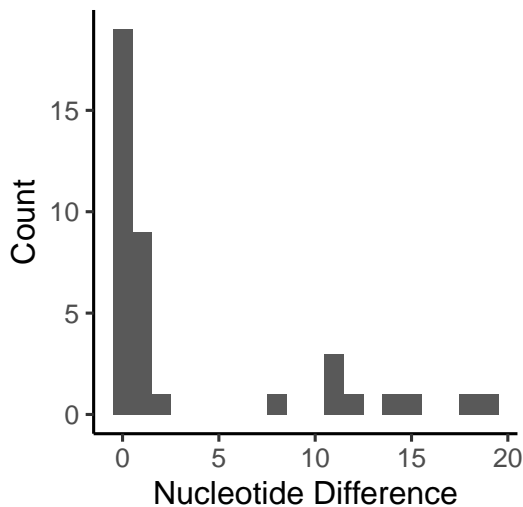
### IGHV3-73\*01\_02

558 sequences assigned  
231 (41.4%) exact matches, in which:  
206 unique CDR3  
6 unique J



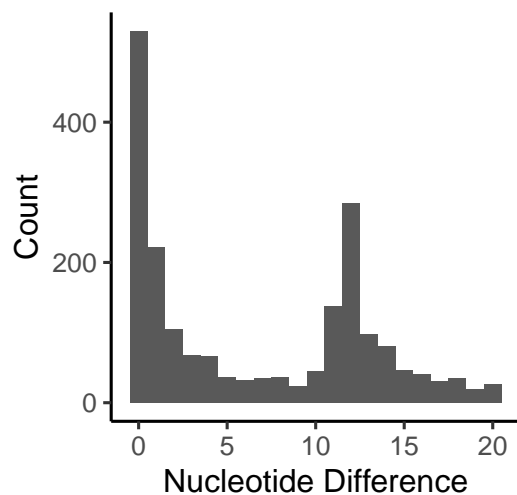
### IGHV3-43D\*04

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



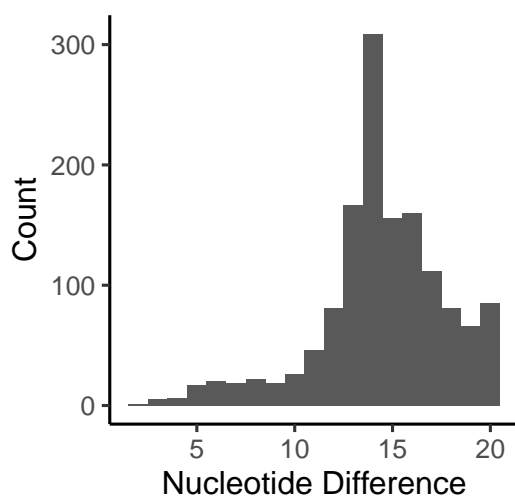
### IGHV4-4\*07

2235 sequences assigned  
530 (23.7%) exact matches, in which:  
514 unique CDR3  
6 unique J



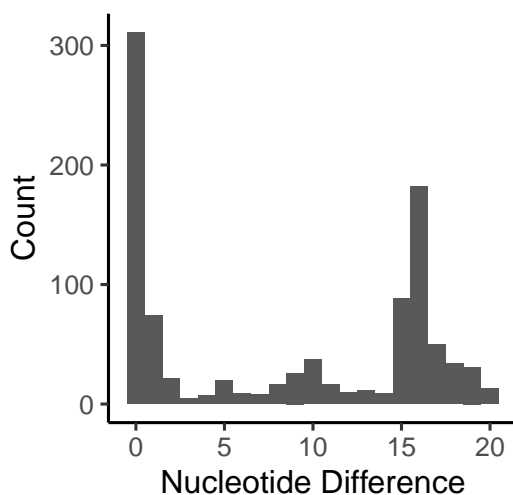
### IGHV3-74\*03

1913 sequences assigned  
No exact matches.



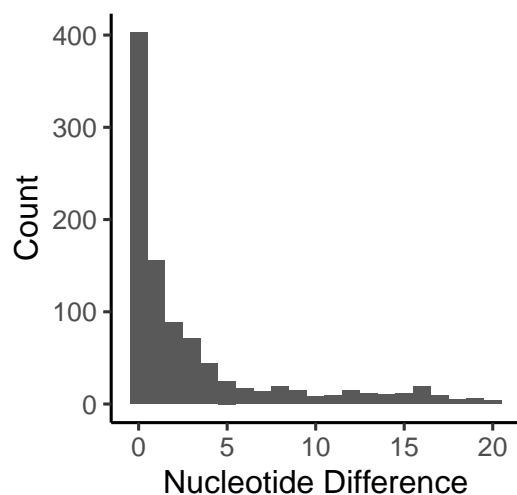
### IGHV3-64D\*06

1078 sequences assigned  
311 (28.8%) exact matches, in which:  
255 unique CDR3  
6 unique J



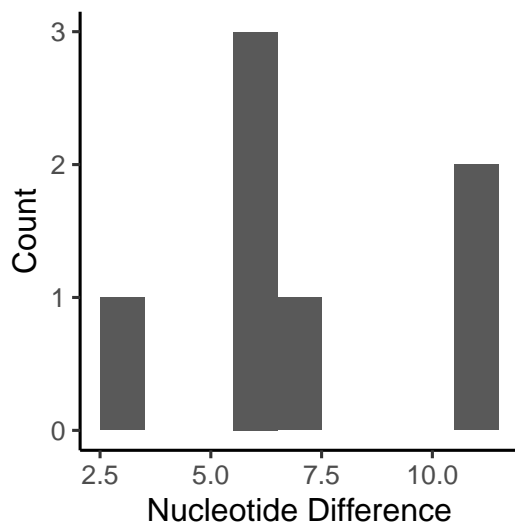
### IGHV4-4\*02\_03

1425 sequences assigned  
403 (28.3%) exact matches, in which:  
387 unique CDR3  
6 unique J



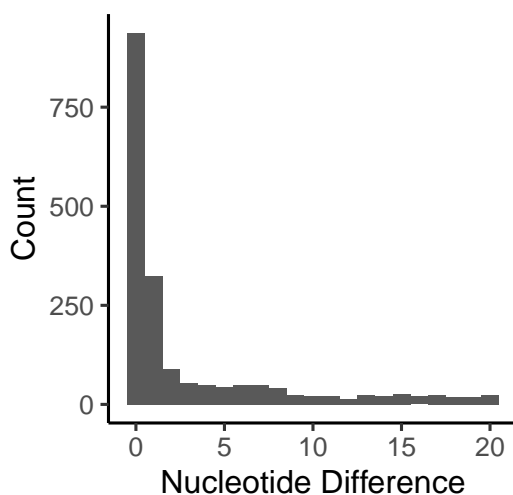
### IGHV4-28\*03

8 sequences assigned  
No exact matches.



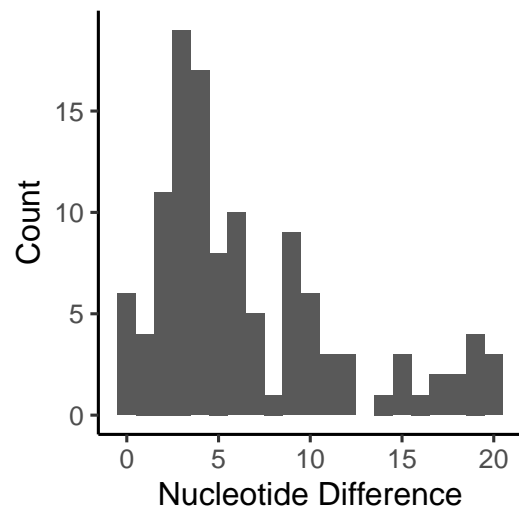
### IGHV4-30-4\*01

2094 sequences assigned  
938 (44.8%) exact matches, in which:  
907 unique CDR3  
6 unique J



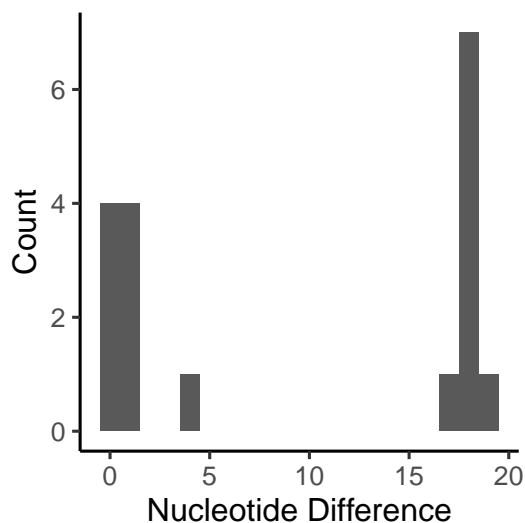
### IGHV4-38-2\*02

142 sequences assigned  
6 (4.2%) exact matches, in which:  
6 unique CDR3  
3 unique J



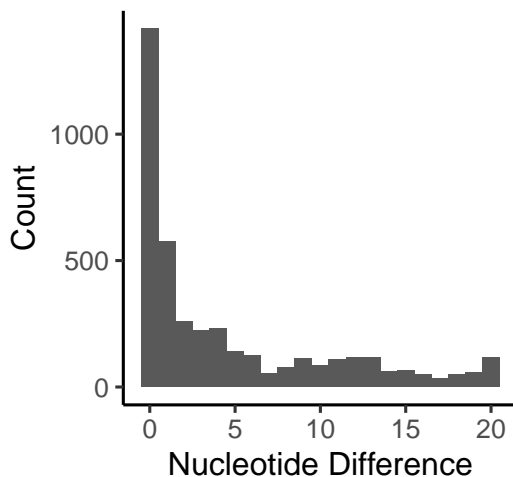
### IGHV4-28\*01\_07

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



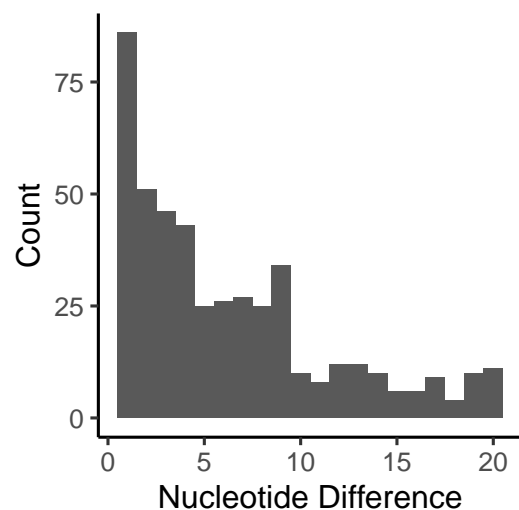
### IGHV4-31\*02

4770 sequences assigned  
1417 (29.7%) exact matches, in which:  
1368 unique CDR3  
6 unique J



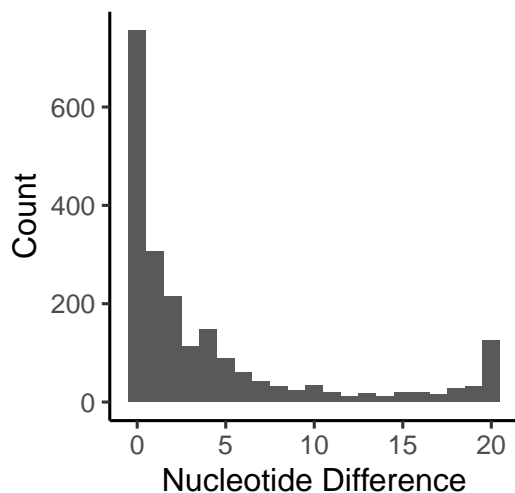
### IGHV4-39\*07

563 sequences assigned  
No exact matches.



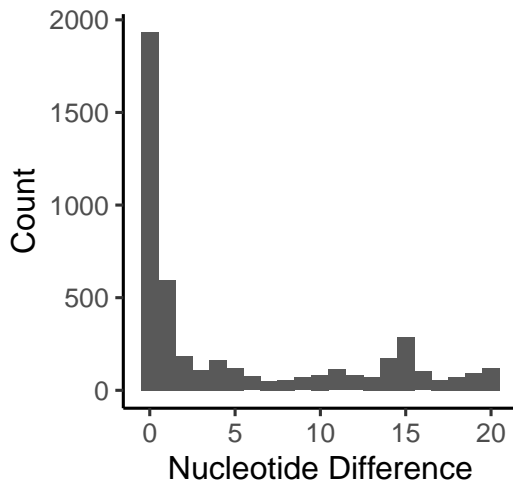
### IGHV4-30-2\*01

2796 sequences assigned  
756 (27%) exact matches, in which:  
708 unique CDR3  
6 unique J



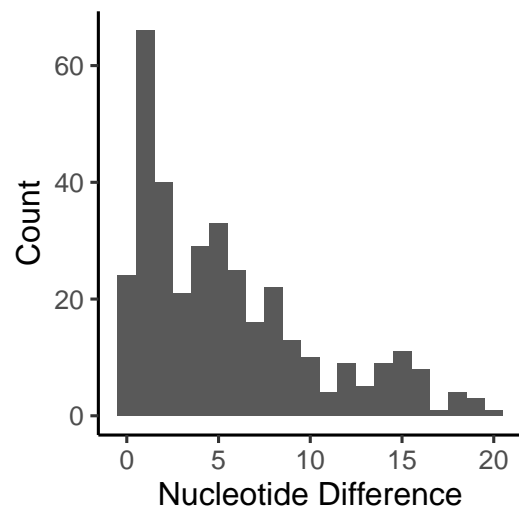
### IGHV4-34\*01\_02

5161 sequences assigned  
1934 (37.5%) exact matches, in which:  
1847 unique CDR3  
6 unique J



### IGHV4-59\*08

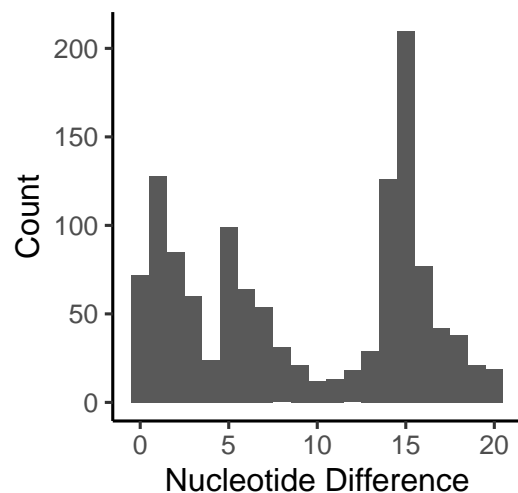
417 sequences assigned  
24 (5.8%) exact matches, in which:  
24 unique CDR3  
5 unique J





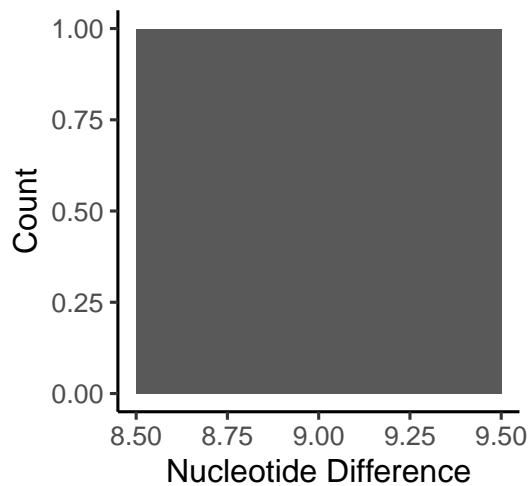
### IGHV4–59\*12

1599 sequences assigned  
72 (4.5%) exact matches, in which:  
72 unique CDR3  
6 unique J



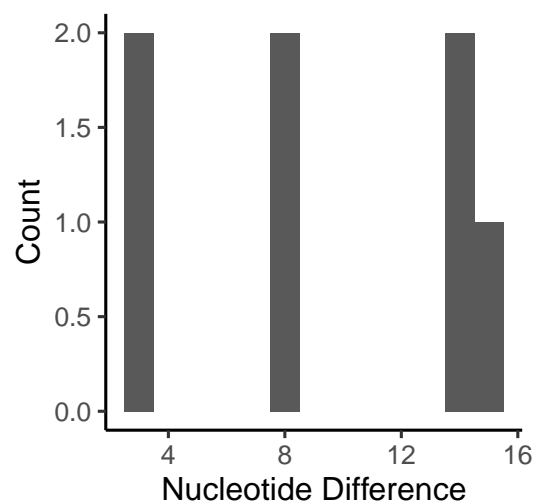
### IGHV1/OR15–1\*04

1 sequences assigned  
No exact matches.



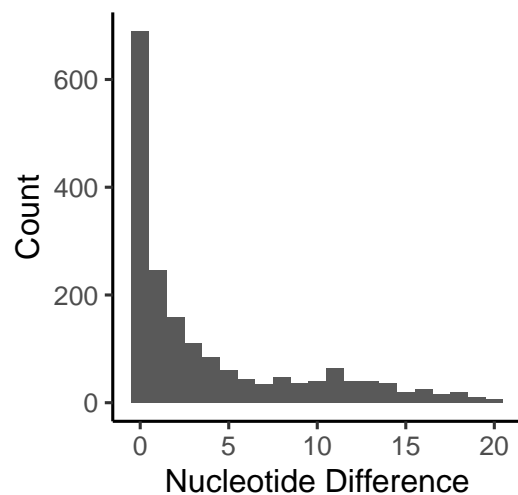
### IGHV4/OR15–8\*01

31 sequences assigned  
No exact matches.



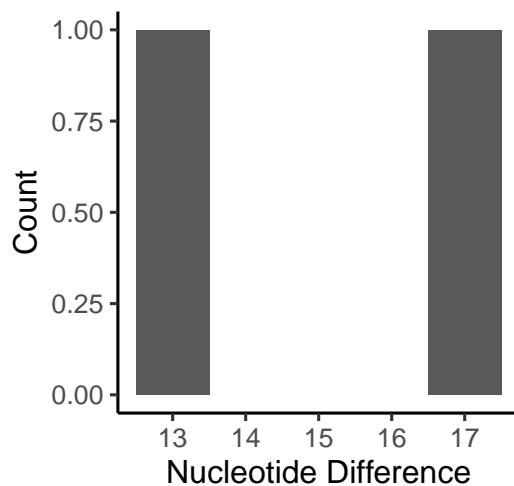
### IGHV4–61\*01

1999 sequences assigned  
690 (34.5%) exact matches, in which:  
677 unique CDR3  
6 unique J



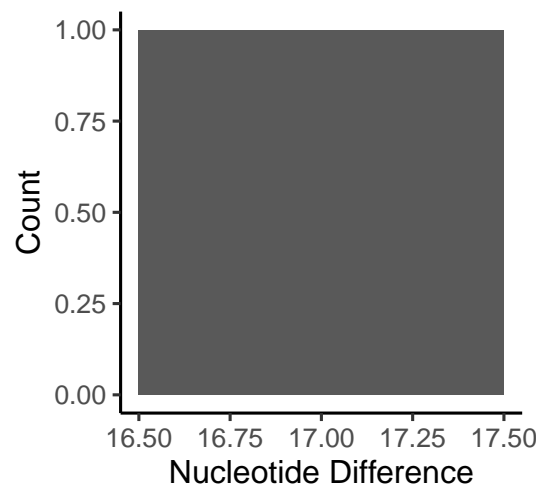
### IGHV1/OR15–2\*02\_03

2 sequences assigned  
No exact matches.



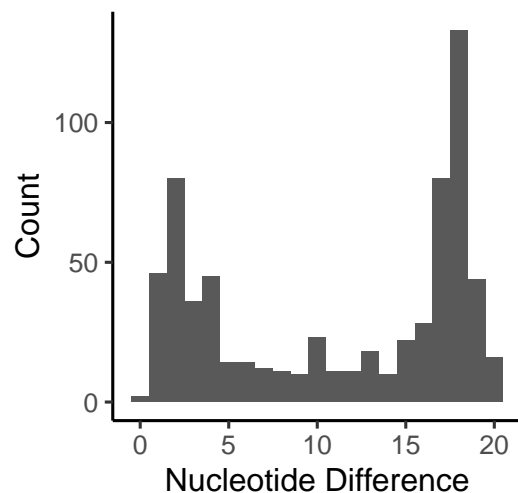
### IGHV4/OR15–8\*02

4 sequences assigned  
No exact matches.



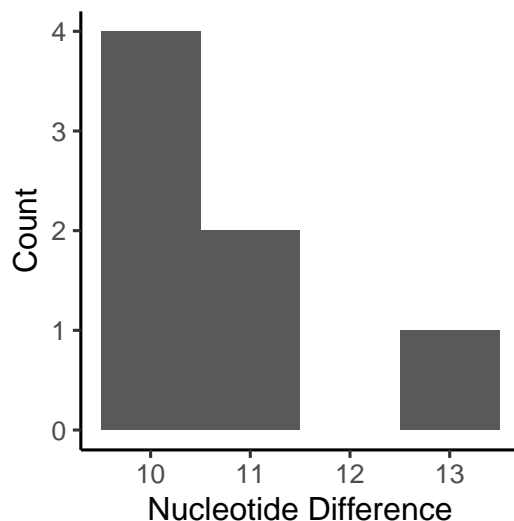
### IGHV4–61\*08

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



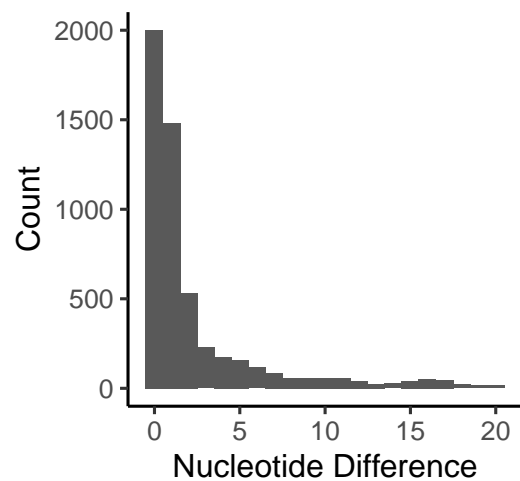
### IGHV1/OR15–3\*02

7 sequences assigned  
No exact matches.



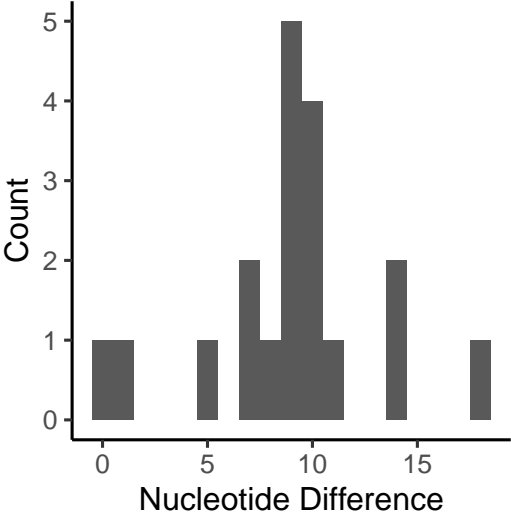
### IGHV5–10–1\*01\_03

5435 sequences assigned  
2001 (36.8%) exact matches, in which:  
1685 unique CDR3  
6 unique J



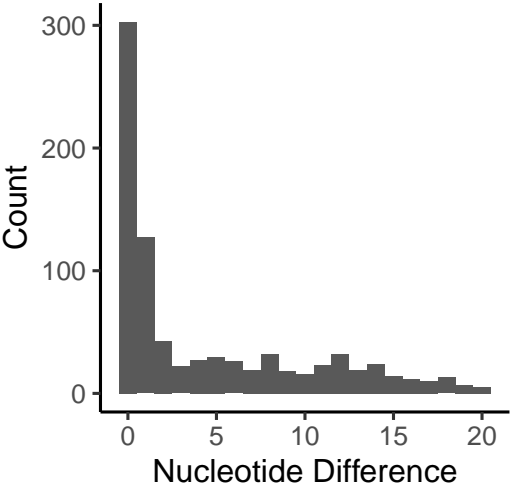
IGHV5-51\*04

26 sequences assigned  
1 (3.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



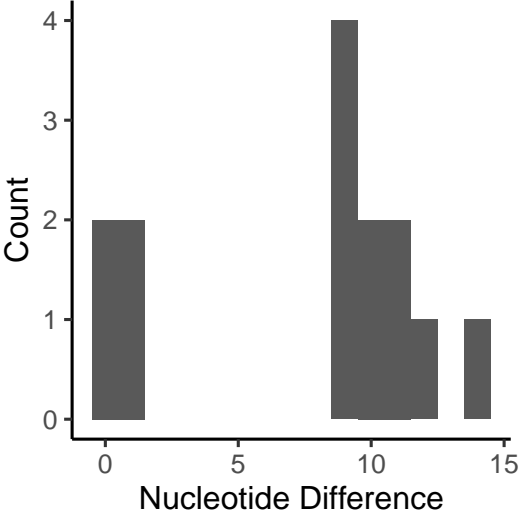
IGHV6-1\*01\_02

1133 sequences assigned  
303 (26.7%) exact matches, in which:  
292 unique CDR3  
6 unique J



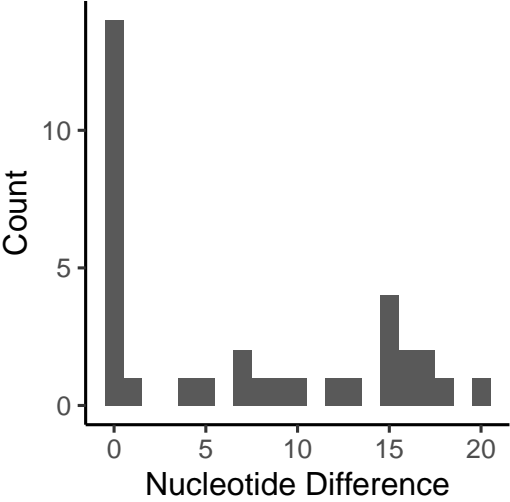
IGHV5-51\*06

18 sequences assigned  
2 (11.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



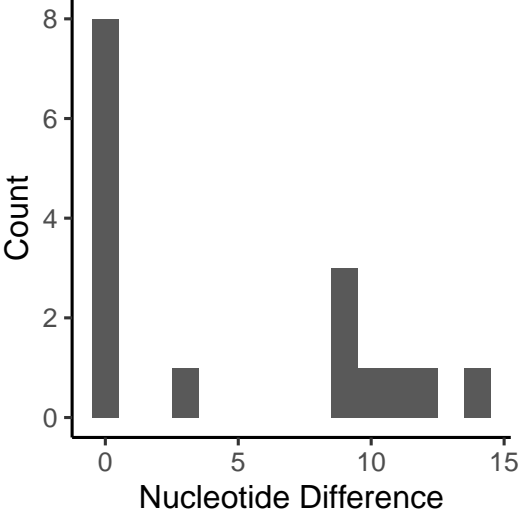
IGHV7-4-1\*01

35 sequences assigned  
14 (40%) exact matches, in which:  
14 unique CDR3  
3 unique J



IGHV5-51\*07

17 sequences assigned  
8 (47.1%) exact matches, in which:  
8 unique CDR3  
4 unique J





[illegible]