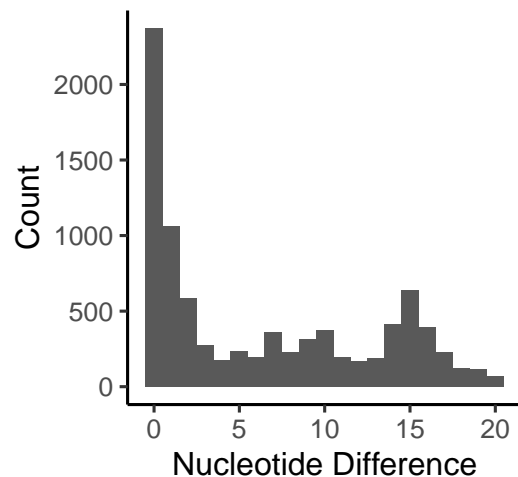


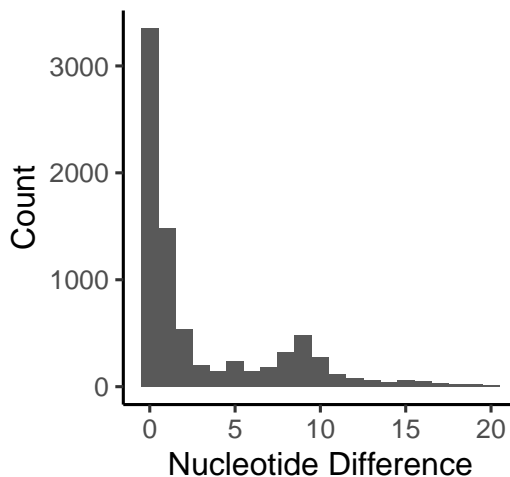
### IGHV1-2\*02

9171 sequences assigned  
2371 (25.9%) exact matches, in which:  
2250 unique CDR3  
6 unique J



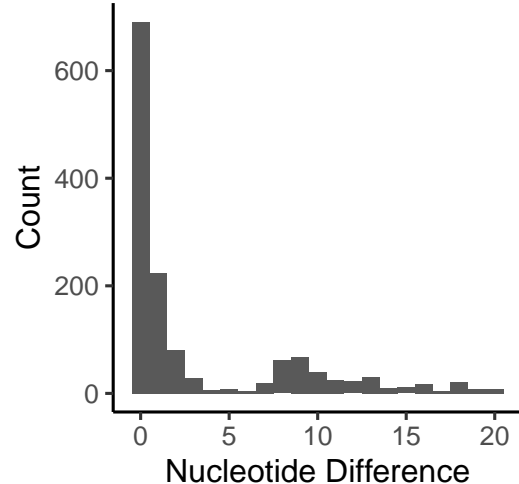
### IGHV1-8\*01

7973 sequences assigned  
3351 (42%) exact matches, in which:  
3154 unique CDR3  
6 unique J



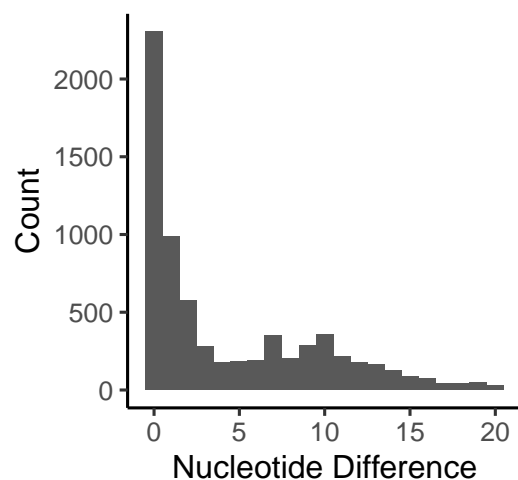
### IGHV1-24\*01

1486 sequences assigned  
691 (46.5%) exact matches, in which:  
645 unique CDR3  
6 unique J



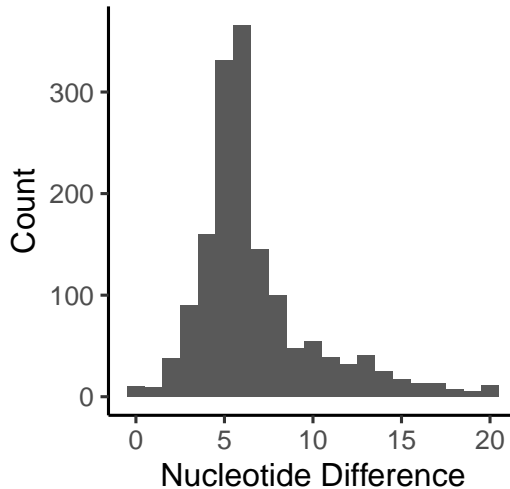
### IGHV1-2\*06

7108 sequences assigned  
2304 (32.4%) exact matches, in which:  
2184 unique CDR3  
6 unique J



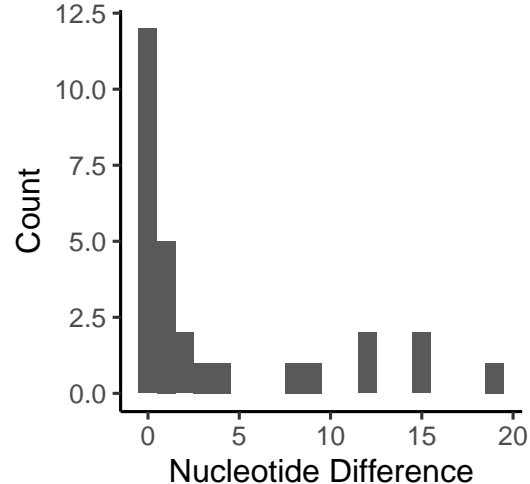
### IGHV1-8\*02

1590 sequences assigned  
10 (0.6%) exact matches, in which:  
10 unique CDR3  
4 unique J



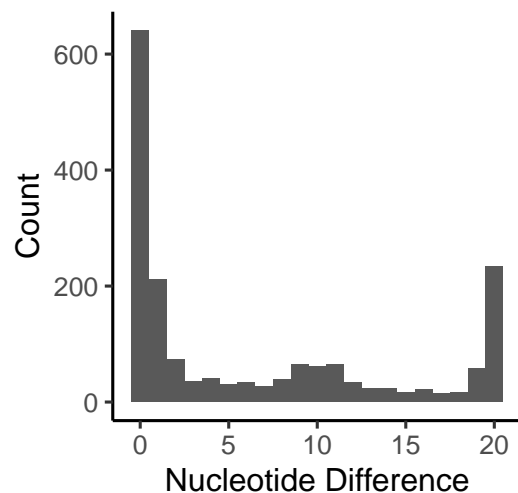
### IGHV1-45\*02

28 sequences assigned  
12 (42.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



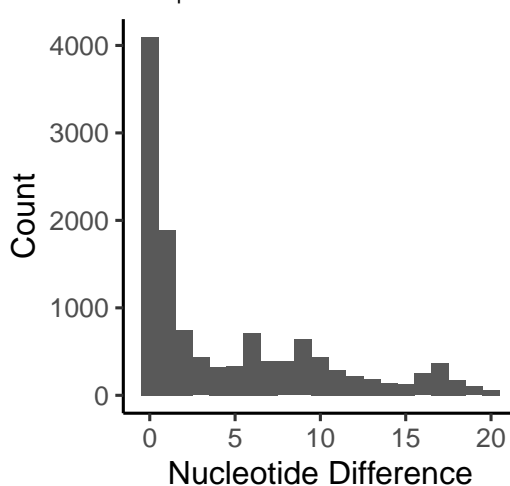
### IGHV1-3\*01\_05

2703 sequences assigned  
641 (23.7%) exact matches, in which:  
596 unique CDR3  
6 unique J



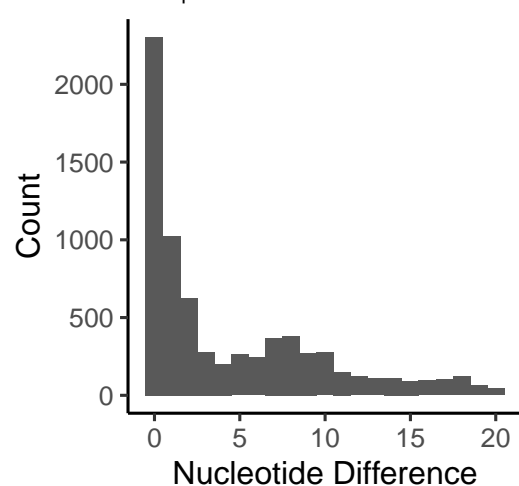
### IGHV1-18\*01

12771 sequences assigned  
4096 (32.1%) exact matches, in which:  
3831 unique CDR3  
6 unique J



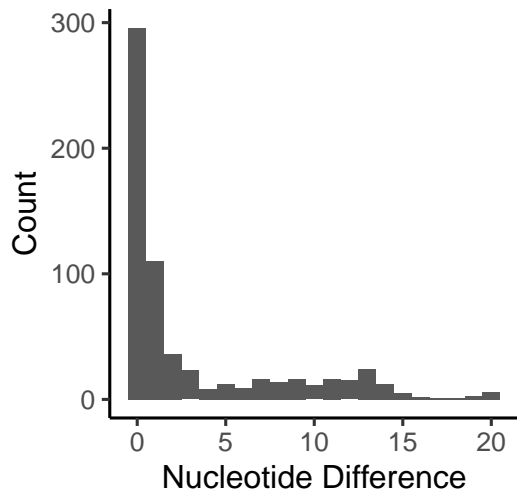
### IGHV1-46\*01

7719 sequences assigned  
2304 (29.8%) exact matches, in which:  
2180 unique CDR3  
6 unique J



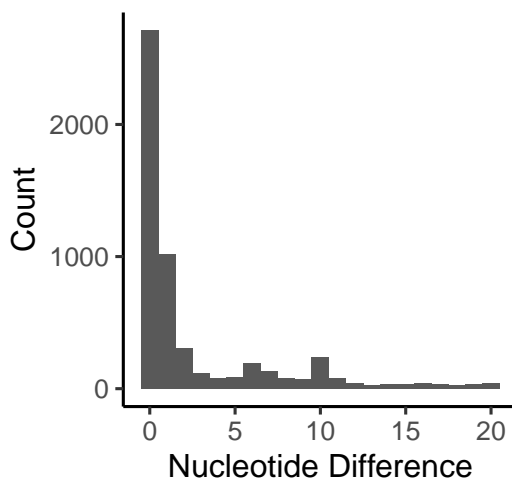
### IGHV1–58\*01\_03

648 sequences assigned  
296 (45.7%) exact matches, in which:  
279 unique CDR3  
6 unique J



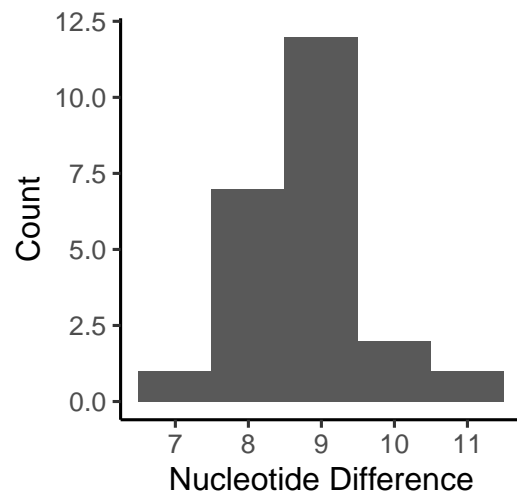
### IGHV1–69\*01\_12\_13

5574 sequences assigned  
2712 (48.7%) exact matches, in which:  
2606 unique CDR3  
6 unique J



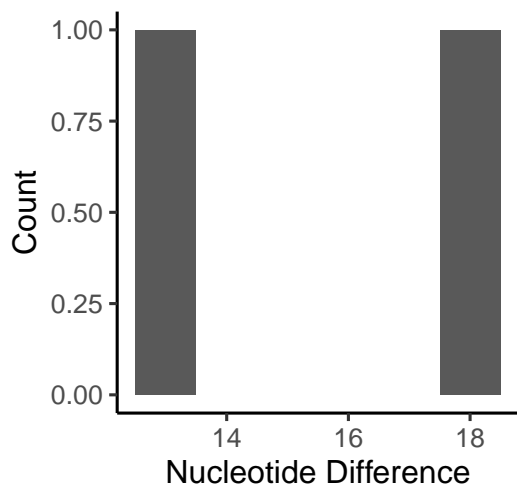
### IGHV1–NL1\*01

23 sequences assigned  
No exact matches.



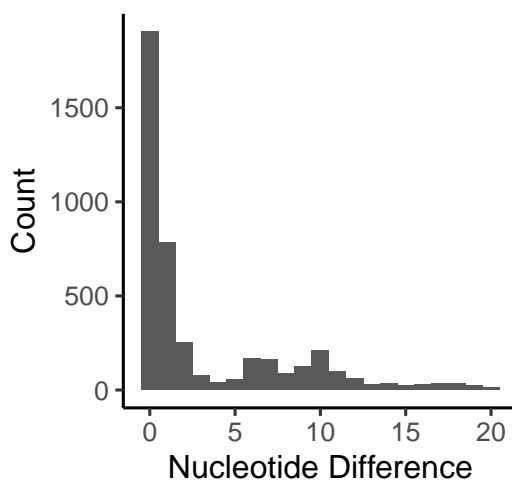
### IGHV1–68\*02\_03

2 sequences assigned  
No exact matches.



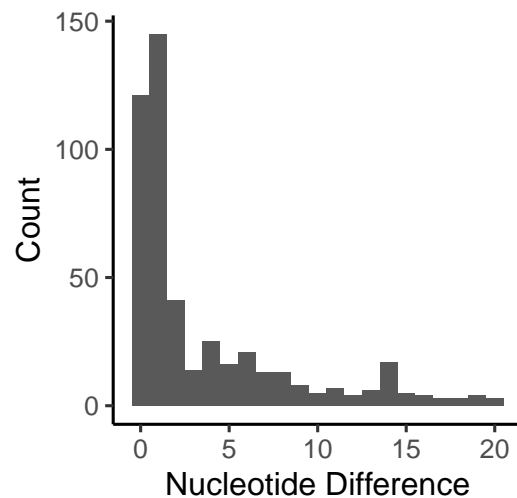
### IGHV1–69\*04\_09

4425 sequences assigned  
1904 (43%) exact matches, in which:  
1834 unique CDR3  
6 unique J



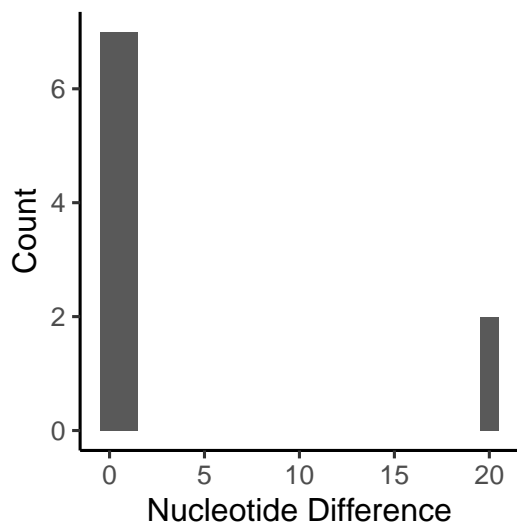
### IGHV2–5\*01

498 sequences assigned  
121 (24.3%) exact matches, in which:  
108 unique CDR3  
5 unique J



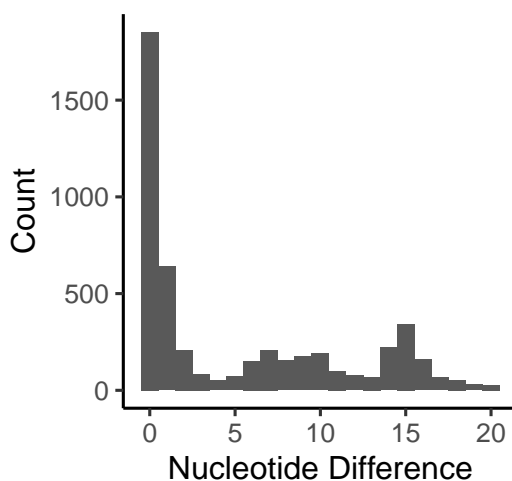
### IGHV1–69–2\*01

19 sequences assigned  
7 (36.8%) exact matches, in which:  
7 unique CDR3  
2 unique J



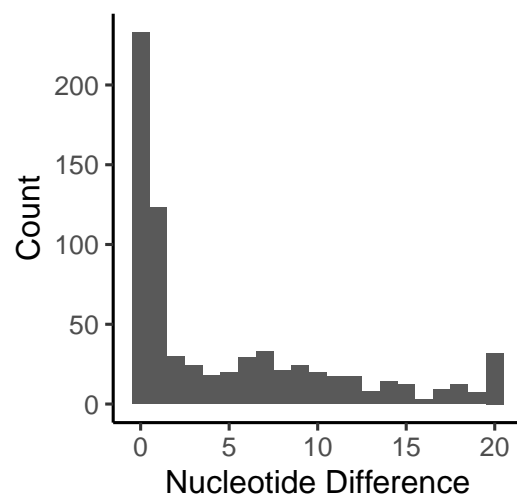
### IGHV1–69\*06\_14

5048 sequences assigned  
1852 (36.7%) exact matches, in which:  
1801 unique CDR3  
6 unique J



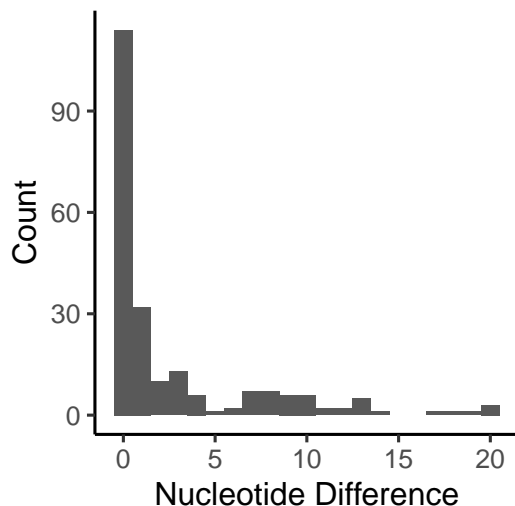
### IGHV2–5\*02

826 sequences assigned  
233 (28.2%) exact matches, in which:  
222 unique CDR3  
6 unique J



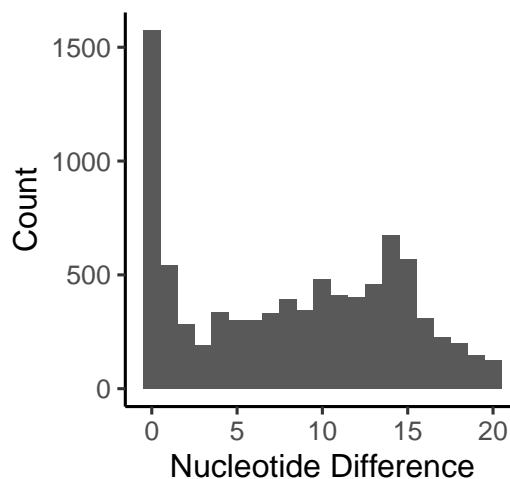
### IGHV2-26\*01

228 sequences assigned  
114 (50%) exact matches, in which:  
107 unique CDR3  
5 unique J



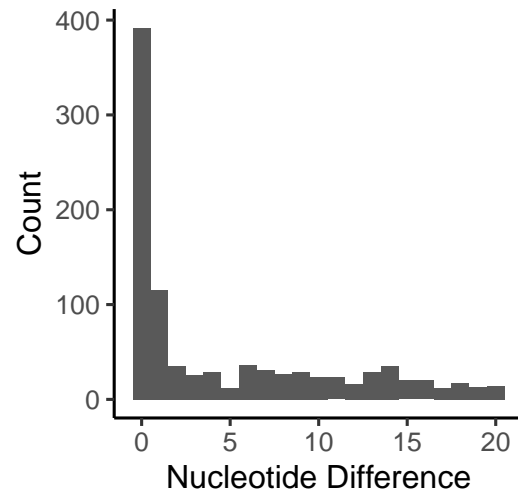
### IGHV3-7\*01

9013 sequences assigned  
1574 (17.5%) exact matches, in which:  
1266 unique CDR3  
6 unique J



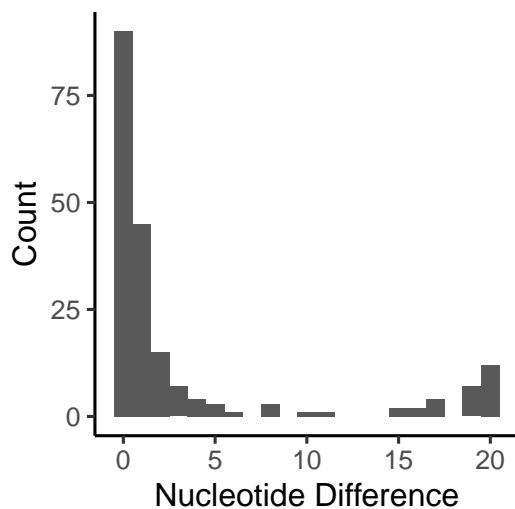
### IGHV3-13\*01

1067 sequences assigned  
392 (36.7%) exact matches, in which:  
304 unique CDR3  
5 unique J



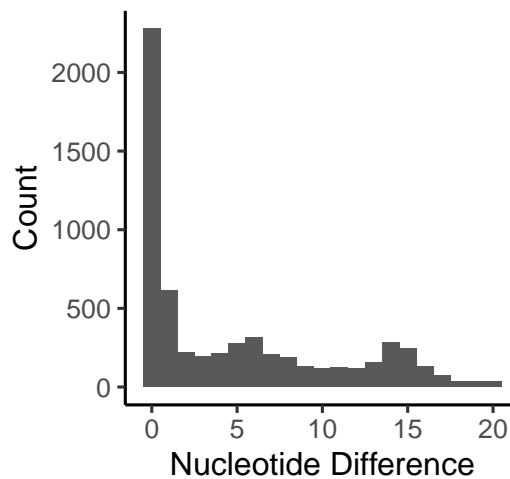
### IGHV2-70\*01

201 sequences assigned  
90 (44.8%) exact matches, in which:  
85 unique CDR3  
4 unique J



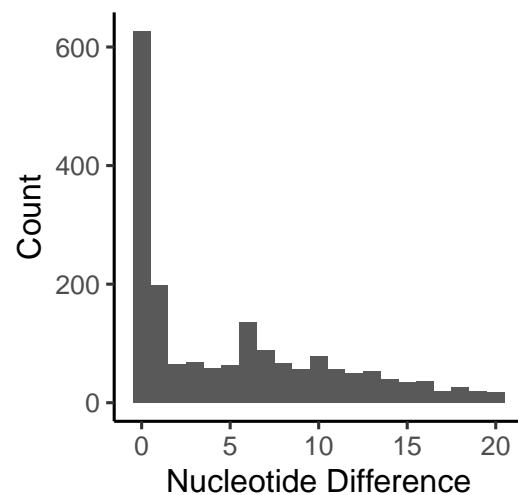
### IGHV3-9\*01

6152 sequences assigned  
2278 (37%) exact matches, in which:  
1833 unique CDR3  
6 unique J



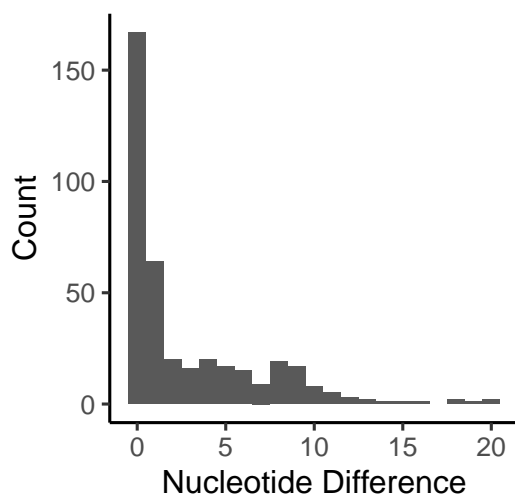
### IGHV3-15\*01\_02

2028 sequences assigned  
627 (30.9%) exact matches, in which:  
526 unique CDR3  
6 unique J



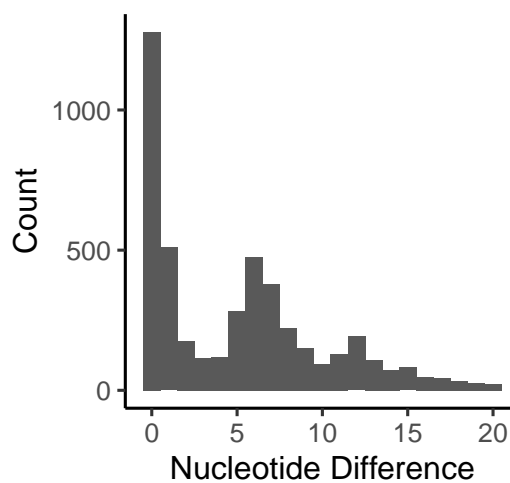
### IGHV2-70\*11\_15

403 sequences assigned  
167 (41.4%) exact matches, in which:  
159 unique CDR3  
5 unique J



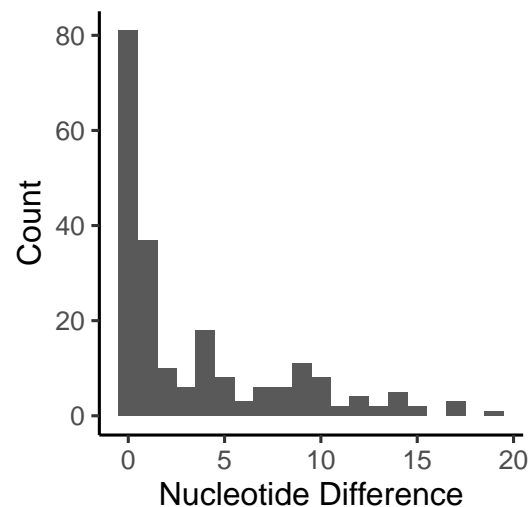
### IGHV3-11\*01

4772 sequences assigned  
1278 (26.8%) exact matches, in which:  
1046 unique CDR3  
6 unique J



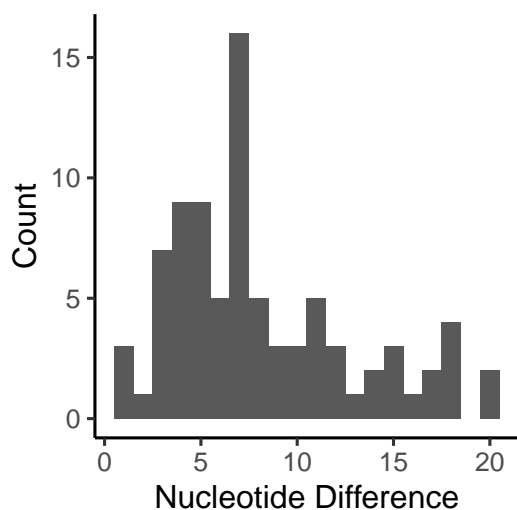
### IGHV3-20\*01\_02

236 sequences assigned  
81 (34.3%) exact matches, in which:  
69 unique CDR3  
5 unique J



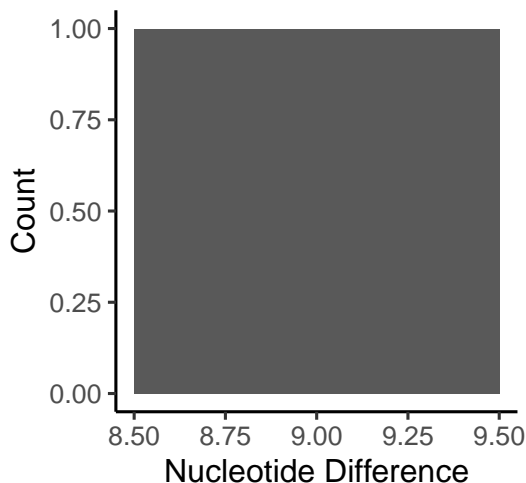
### IGHV3-20\*03\_04

103 sequences assigned  
No exact matches.



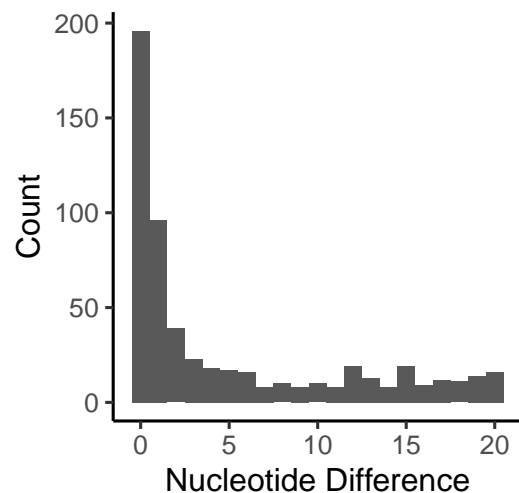
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



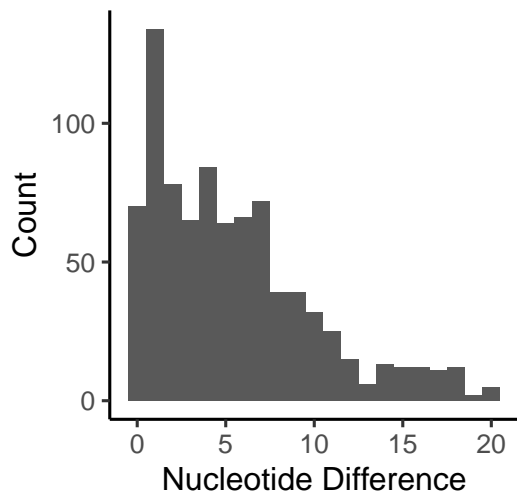
### IGHV3-30\*03

773 sequences assigned  
196 (25.4%) exact matches, in which:  
192 unique CDR3  
6 unique J



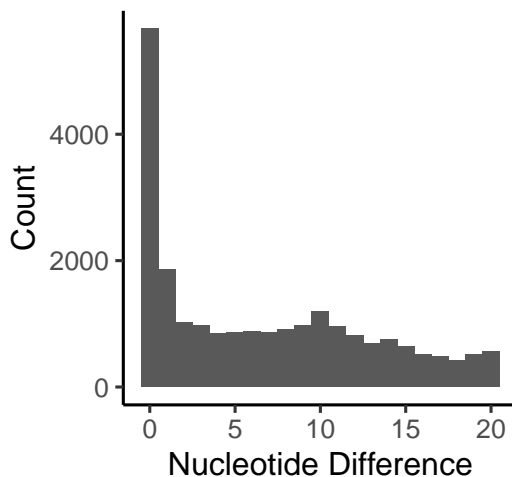
### IGHV3-21\*04

918 sequences assigned  
70 (7.6%) exact matches, in which:  
70 unique CDR3  
5 unique J



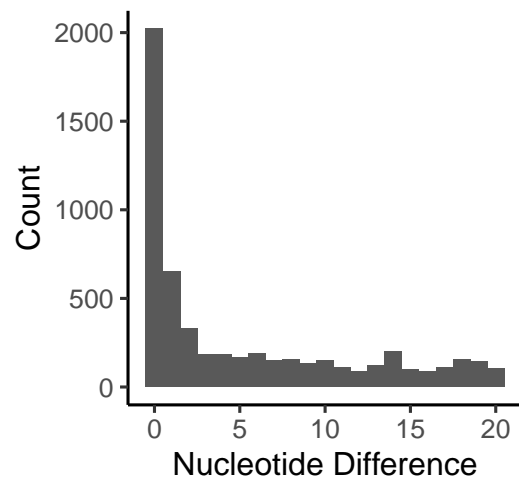
### IGHV3-23\*01\_04

27139 sequences assigned  
5670 (20.9%) exact matches, in which:  
4470 unique CDR3  
6 unique J



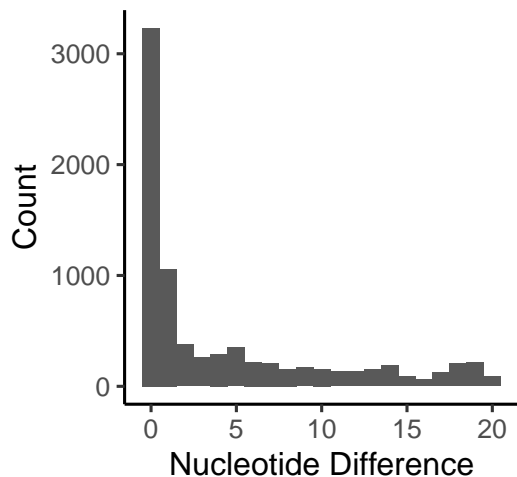
### IGHV3-33\*01

7638 sequences assigned  
2022 (26.5%) exact matches, in which:  
1713 unique CDR3  
6 unique J



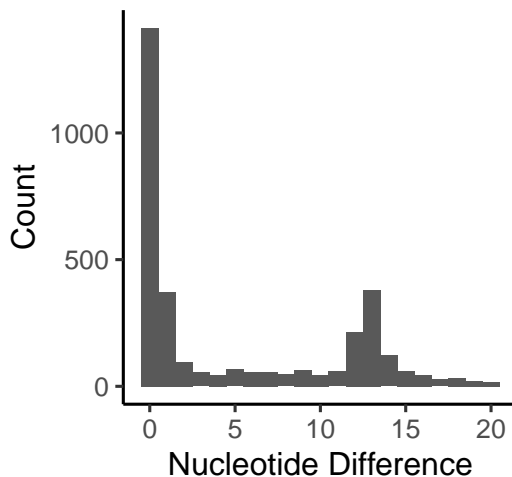
### IGHV3-21\*01\_02

10952 sequences assigned  
3232 (29.5%) exact matches, in which:  
2590 unique CDR3  
6 unique J



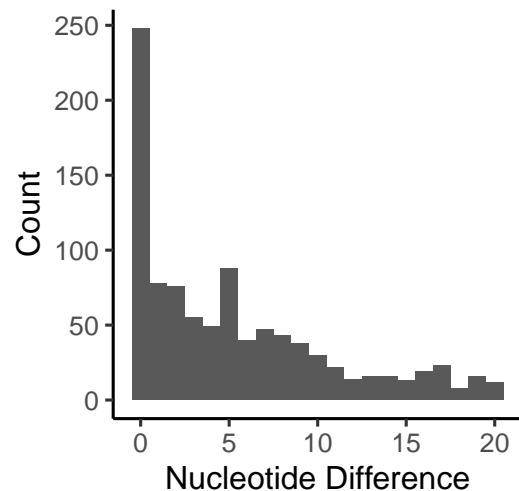
### IGHV3-30-3\*01

3445 sequences assigned  
1414 (41%) exact matches, in which:  
1162 unique CDR3  
6 unique J



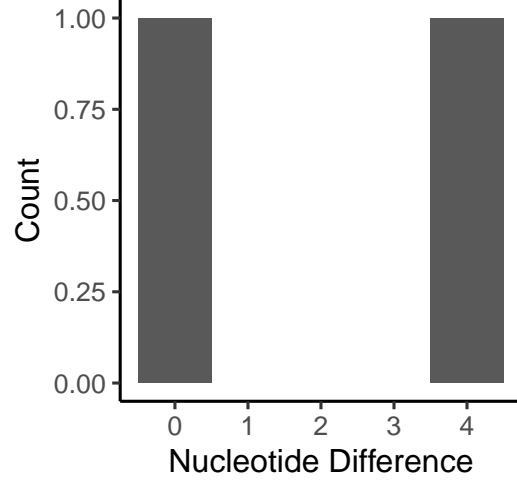
### IGHV3-33\*08

1329 sequences assigned  
248 (18.7%) exact matches, in which:  
246 unique CDR3  
6 unique J



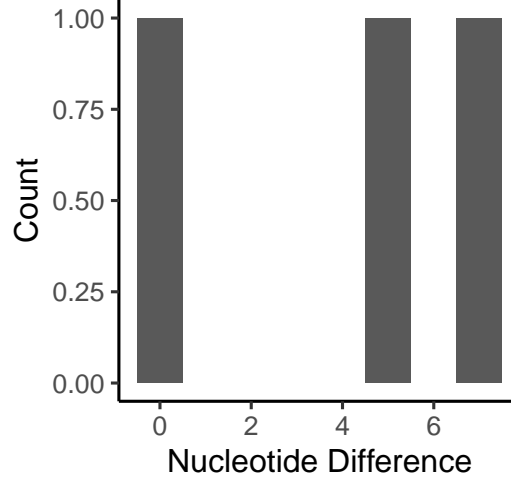
### IGHV3-35\*01

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



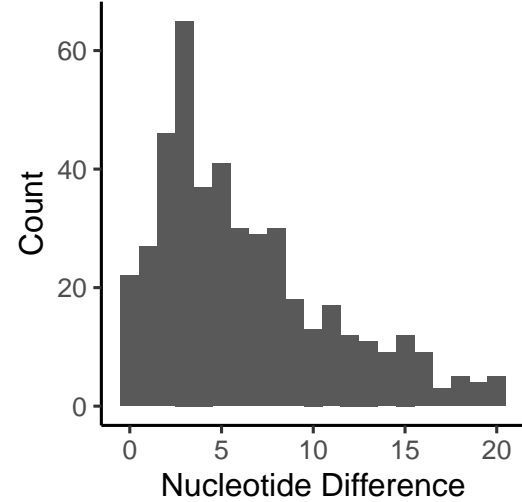
### IGHV3-47\*02

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



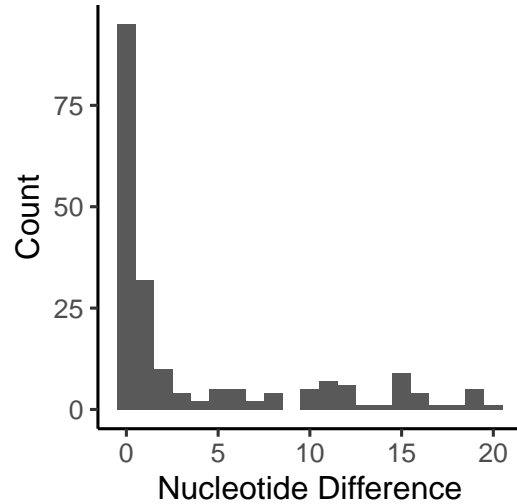
### IGHV3-48\*04

455 sequences assigned  
22 (4.8%) exact matches, in which:  
22 unique CDR3  
4 unique J



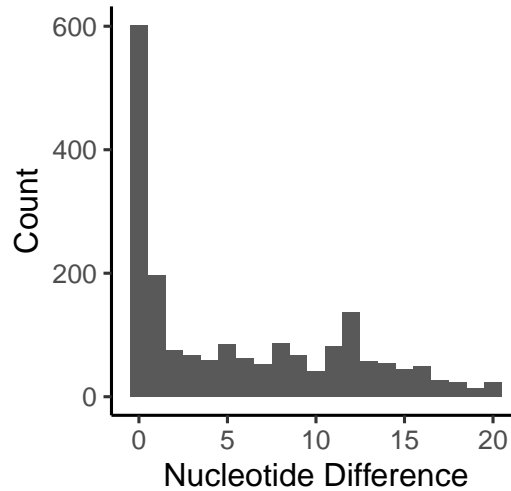
### IGHV3-43\*01

210 sequences assigned  
95 (45.2%) exact matches, in which:  
81 unique CDR3  
6 unique J



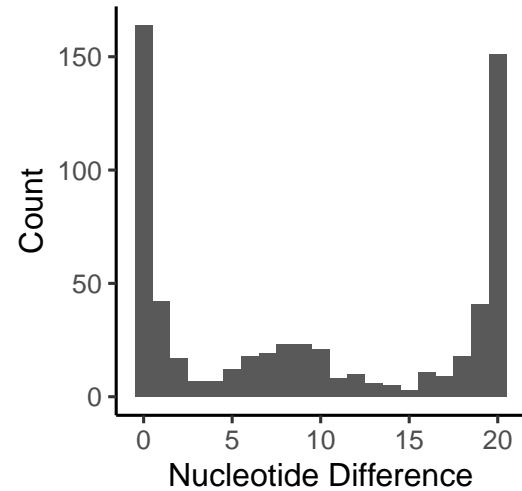
### IGHV3-48\*02

2048 sequences assigned  
602 (29.4%) exact matches, in which:  
498 unique CDR3  
6 unique J



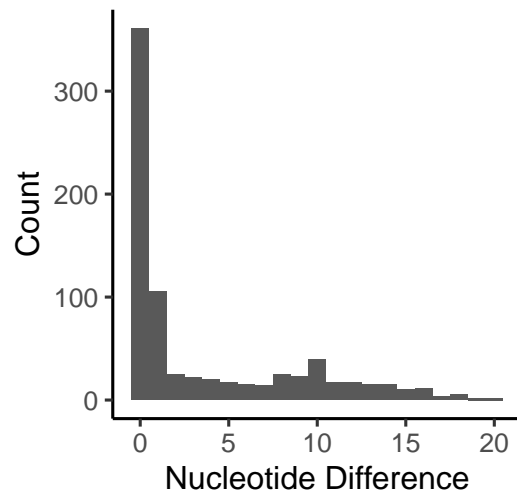
### IGHV3-49\*04

1189 sequences assigned  
164 (13.8%) exact matches, in which:  
137 unique CDR3  
6 unique J



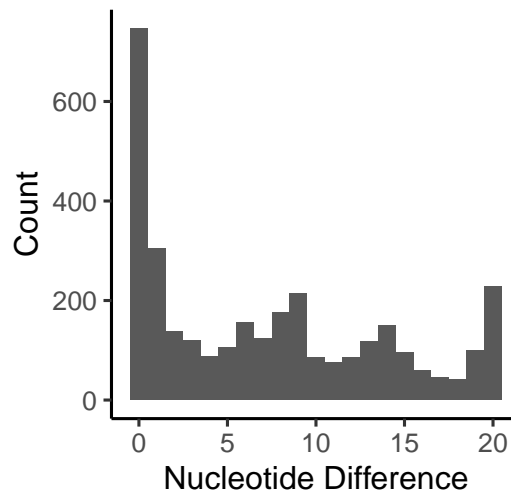
### IGHV3-43\*02

793 sequences assigned  
361 (45.5%) exact matches, in which:  
297 unique CDR3  
6 unique J



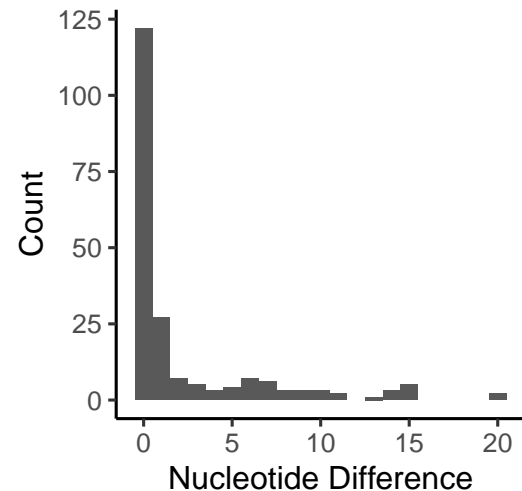
### IGHV3-48\*03

3532 sequences assigned  
747 (21.1%) exact matches, in which:  
611 unique CDR3  
6 unique J



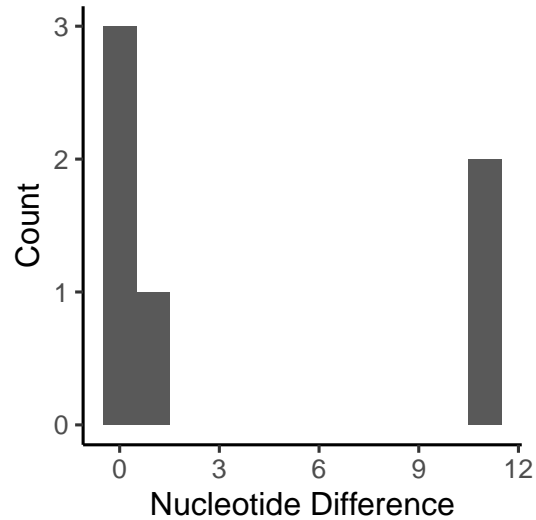
### IGHV3-49\*03\_05

207 sequences assigned  
122 (58.9%) exact matches, in which:  
105 unique CDR3  
4 unique J



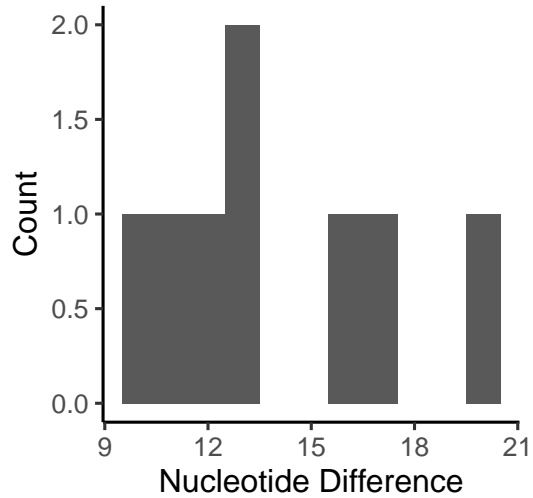
### IGHV3-52\*01\_03

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



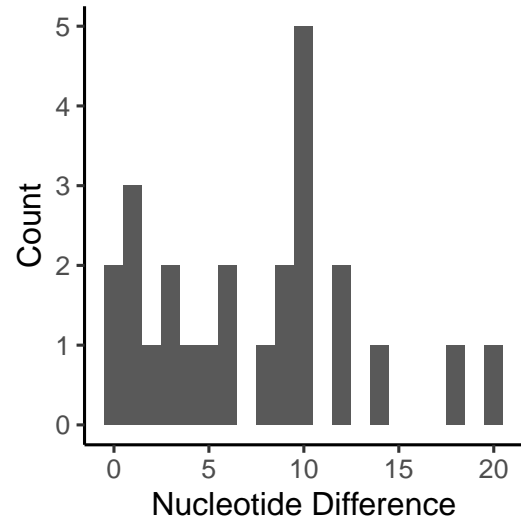
### IGHV3-64\*04

8 sequences assigned  
No exact matches.



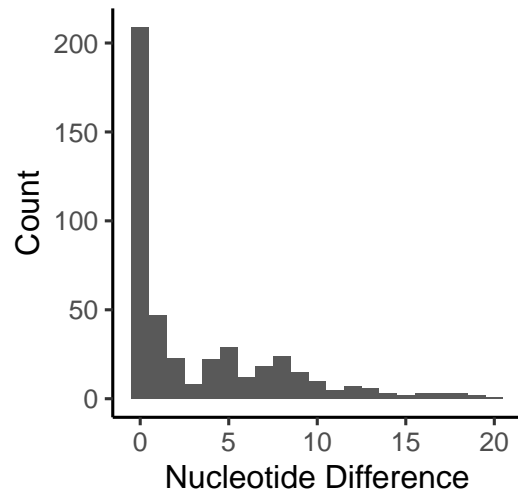
### IGHV3-69-1\*01

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



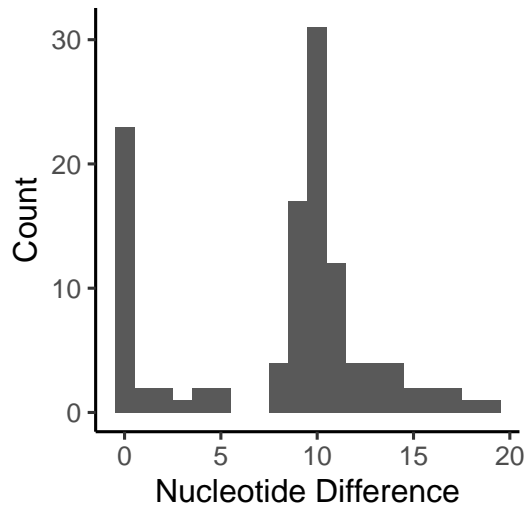
### IGHV3-53\*04

466 sequences assigned  
209 (44.8%) exact matches, in which:  
169 unique CDR3  
5 unique J



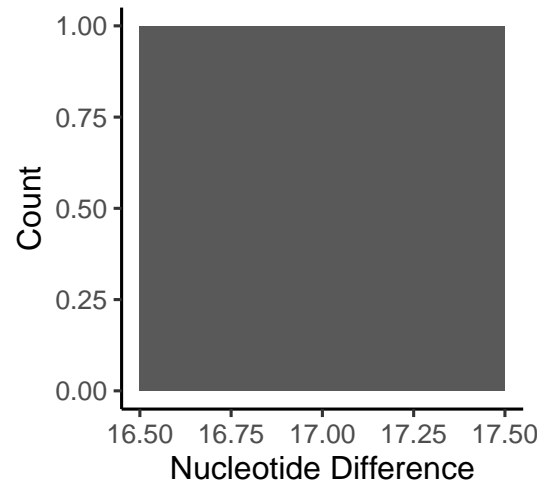
### IGHV3-64\*02\_07

119 sequences assigned  
23 (19.3%) exact matches, in which:  
18 unique CDR3  
5 unique J



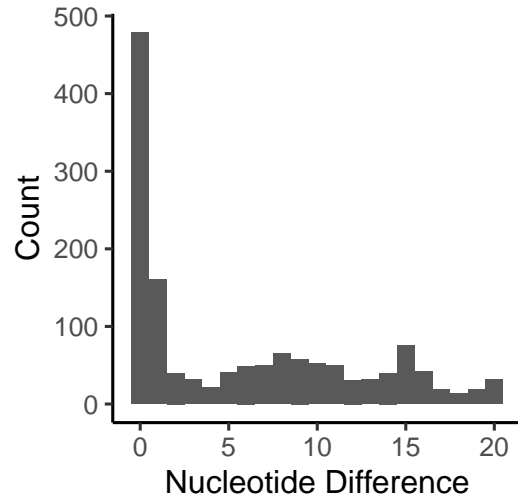
### IGHV3-69-1\*02

17 sequences assigned  
No exact matches.



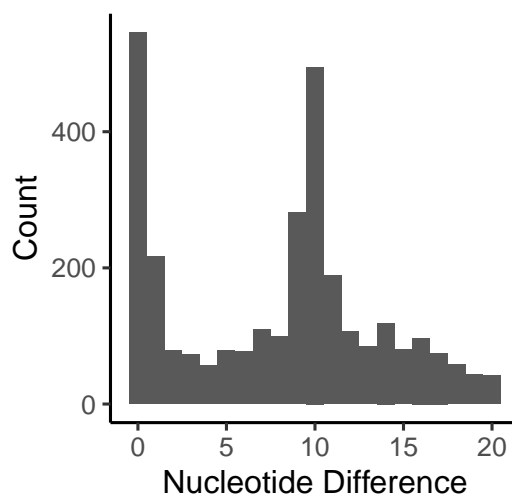
### IGHV3-53\*01\_02

2821 sequences assigned  
479 (17%) exact matches, in which:  
397 unique CDR3  
5 unique J



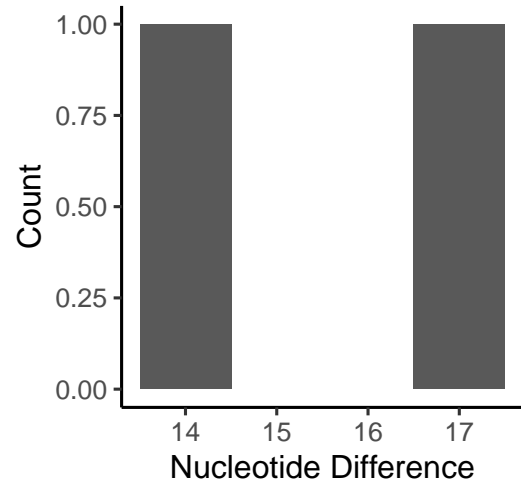
### IGHV3-66\*01

3445 sequences assigned  
546 (15.8%) exact matches, in which:  
440 unique CDR3  
6 unique J

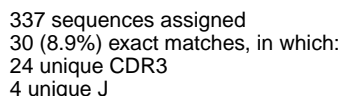


### IGHV3-71\*01\_04

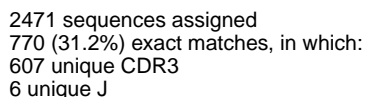
8 sequences assigned  
No exact matches.



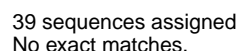
337 sequences assigned  
30 (8.9%) exact matches, in which:  
24 unique CDR3  
4 unique J



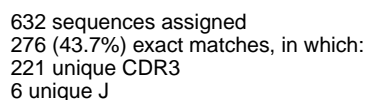
2471 sequences assigned  
770 (31.2%) exact matches, in which:  
607 unique CDR3  
6 unique J



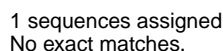
39 sequences assigned  
No exact matches.



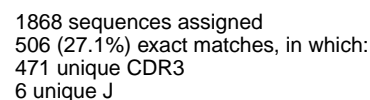
632 sequences assigned  
276 (43.7%) exact matches, in which:  
221 unique CDR3  
6 unique J



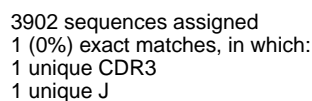
1 sequences assigned  
No exact matches.



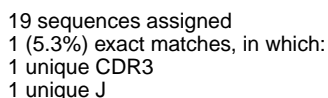
1868 sequences assigned  
506 (27.1%) exact matches, in which:  
471 unique CDR3  
6 unique J



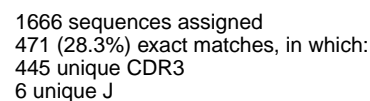
3902 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



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

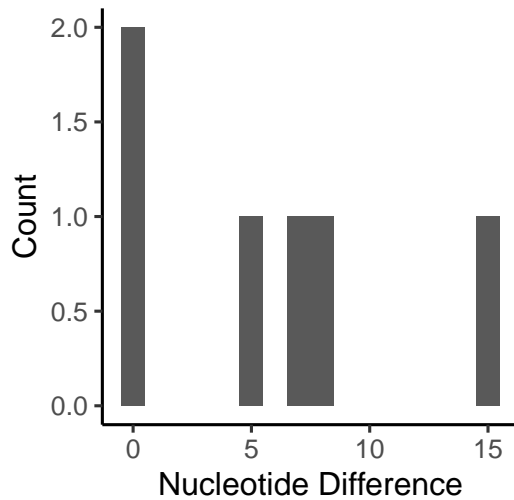


1666 sequences assigned  
471 (28.3%) exact matches, in which:  
445 unique CDR3  
6 unique J



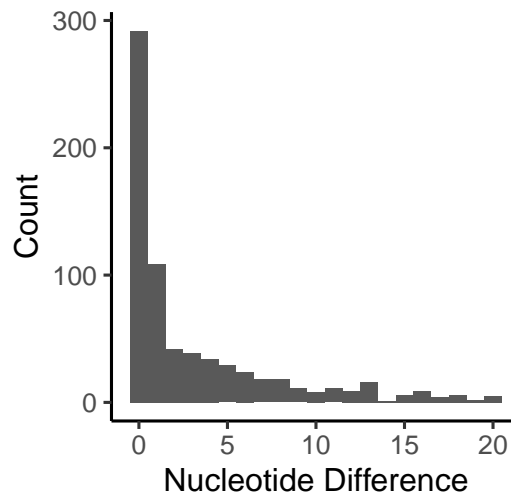
### IGHV4-28\*03

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



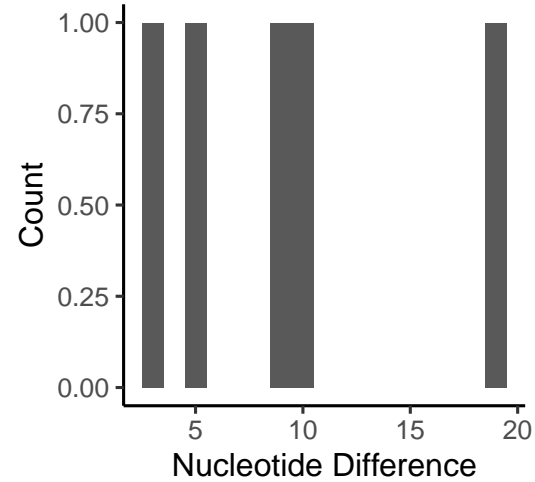
### IGHV4-30-4\*01

924 sequences assigned  
292 (31.6%) exact matches, in which:  
277 unique CDR3  
6 unique J



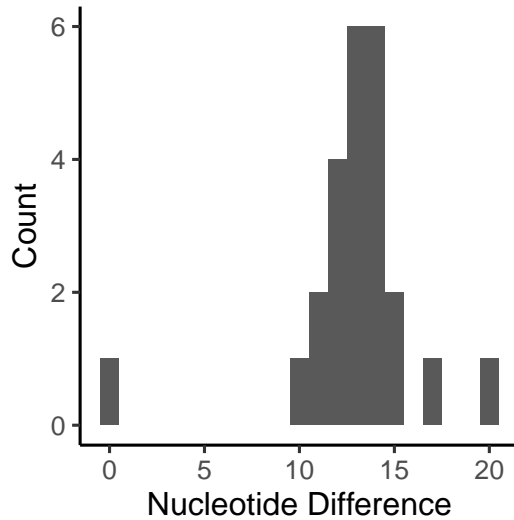
### IGHV4-38-2\*01

6 sequences assigned  
No exact matches.



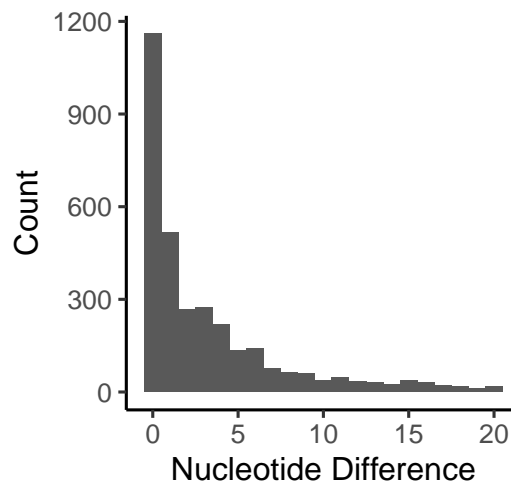
### IGHV4-28\*01\_07

24 sequences assigned  
1 (4.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



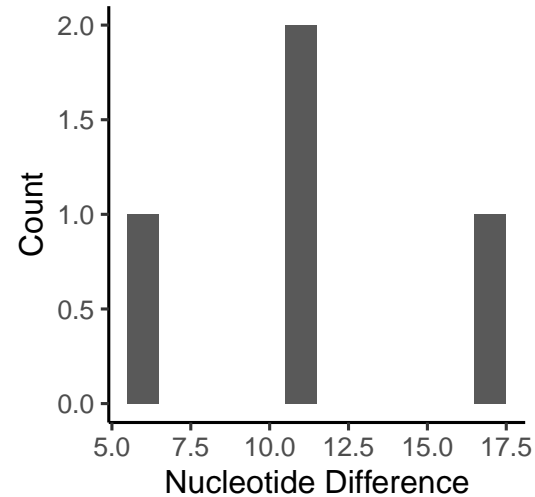
### IGHV4-31\*02

3588 sequences assigned  
1160 (32.3%) exact matches, in which:  
1114 unique CDR3  
6 unique J



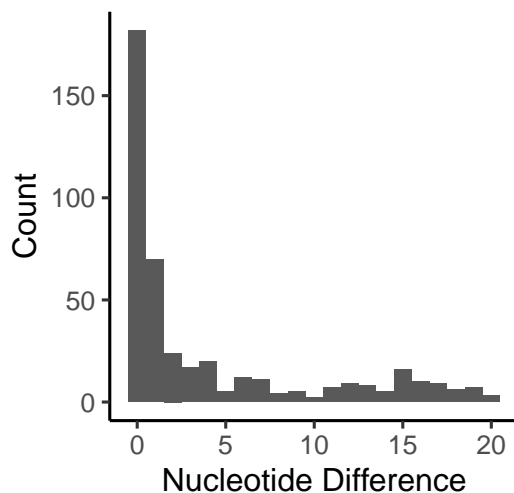
### IGHV4-38-2\*02

9 sequences assigned  
No exact matches.



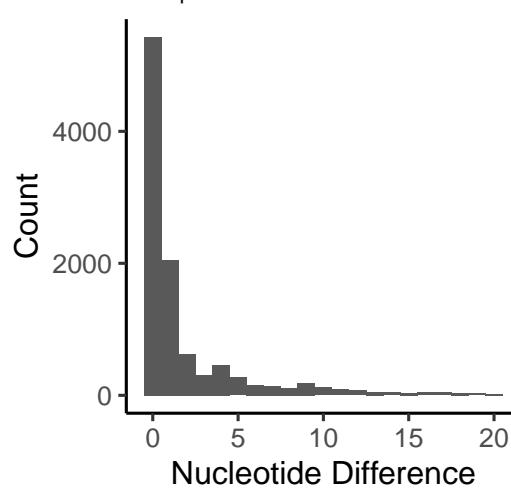
### IGHV4-30-2\*01

476 sequences assigned  
182 (38.2%) exact matches, in which:  
166 unique CDR3  
6 unique J



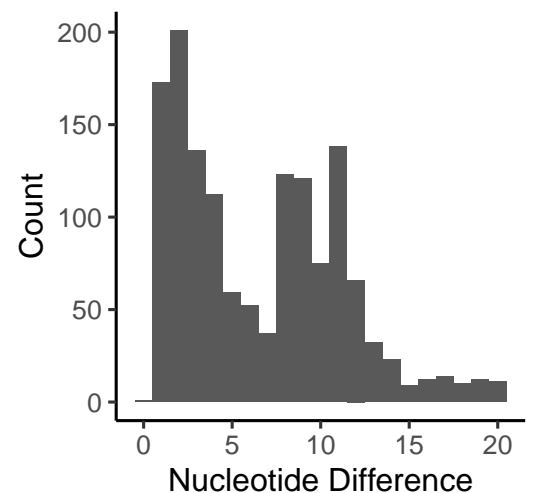
### IGHV4-34\*01\_02

10489 sequences assigned  
5429 (51.8%) exact matches, in which:  
5038 unique CDR3  
6 unique J



### IGHV4-39\*07

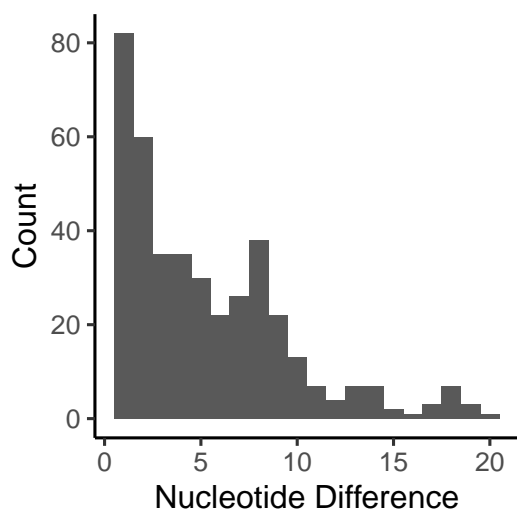
1476 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J





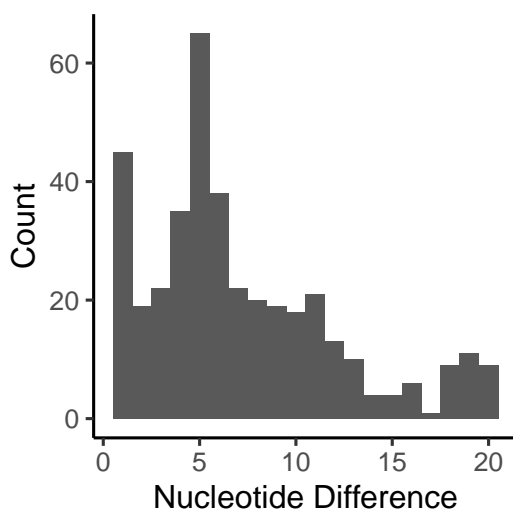
### IGHV4–59\*08

449 sequences assigned  
No exact matches.



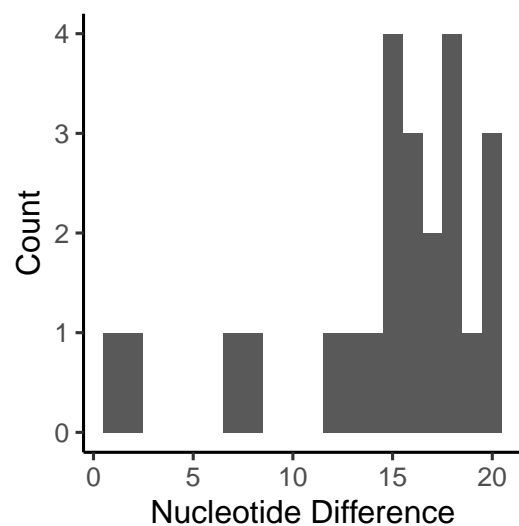
### IGHV4–61\*08

435 sequences assigned  
No exact matches.



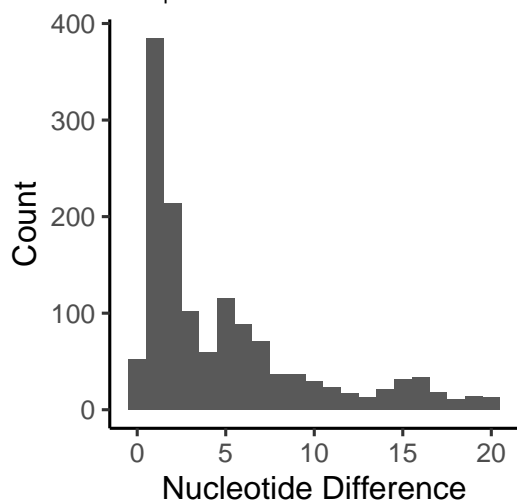
### IGHV4/OR15–8\*01

34 sequences assigned  
No exact matches.



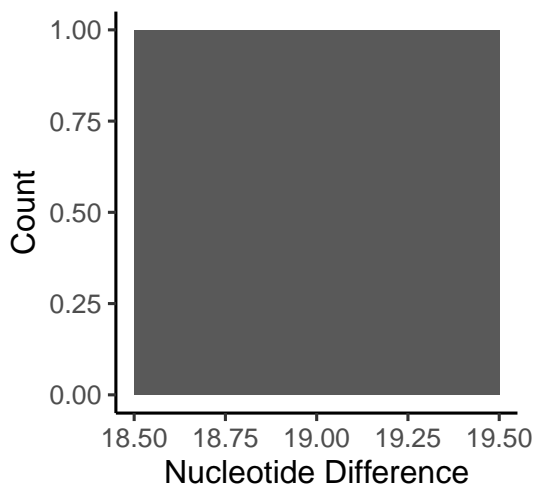
### IGHV4–59\*12

1584 sequences assigned  
52 (3.3%) exact matches, in which:  
52 unique CDR3  
4 unique J



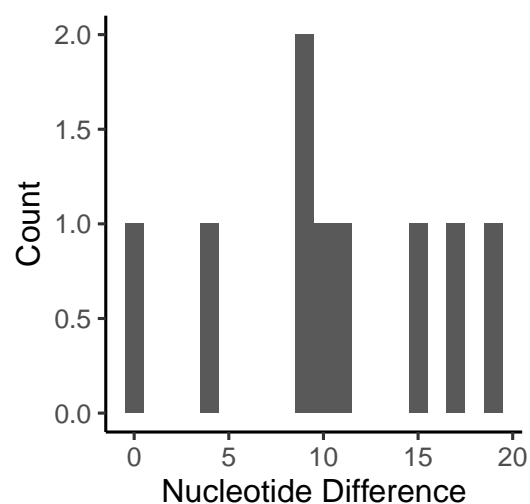
### IGHV1/OR15–1\*04

1 sequences assigned  
No exact matches.



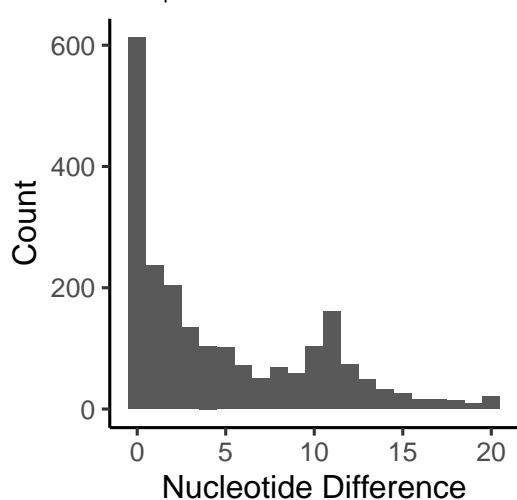
### IGHV5–10–1\*01\_03

11 sequences assigned  
1 (9.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



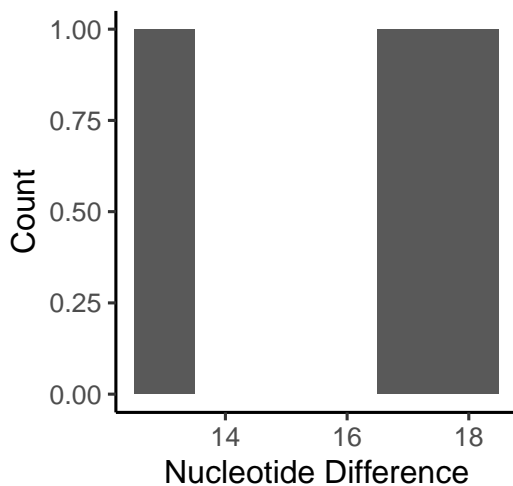
### IGHV4–61\*01

2303 sequences assigned  
613 (26.6%) exact matches, in which:  
594 unique CDR3  
6 unique J



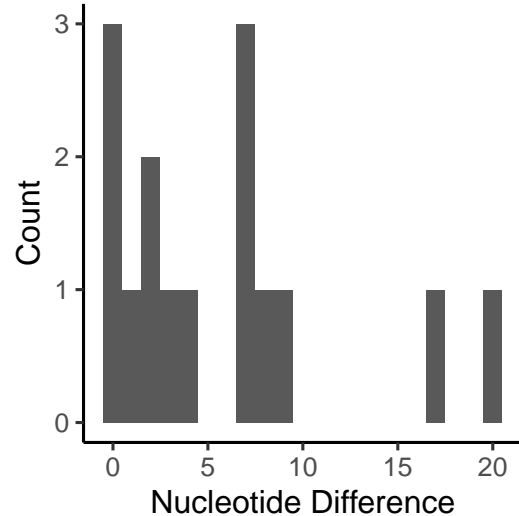
### IGHV1/OR15–2\*02\_03

3 sequences assigned  
No exact matches.



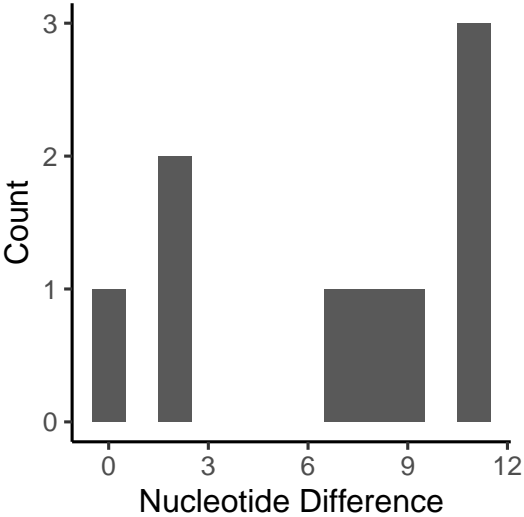
### IGHV5–51\*04

21 sequences assigned  
3 (14.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



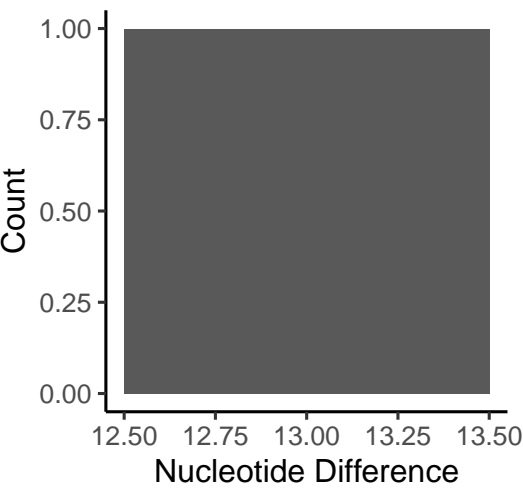
IGHV5-51\*06

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



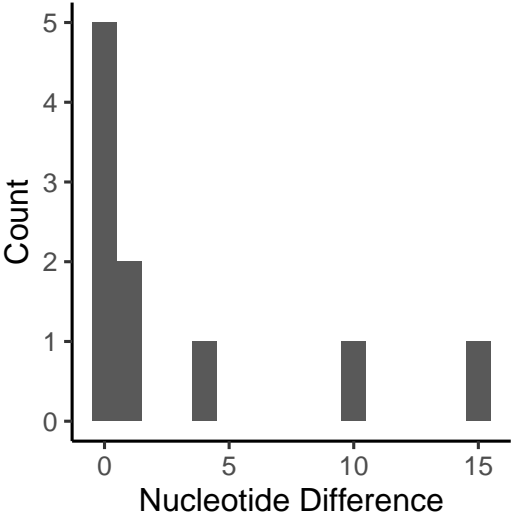
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



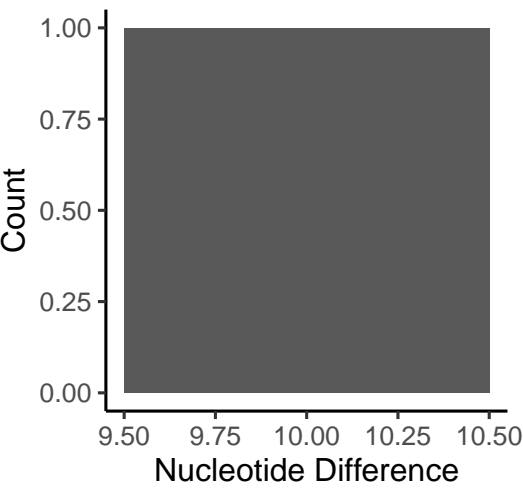
IGHV5-51\*07

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



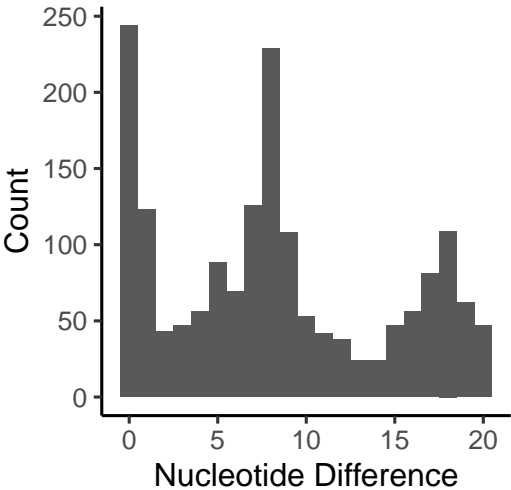
IGHV3/OR16-10\*01\_03

1 sequences assigned  
No exact matches.



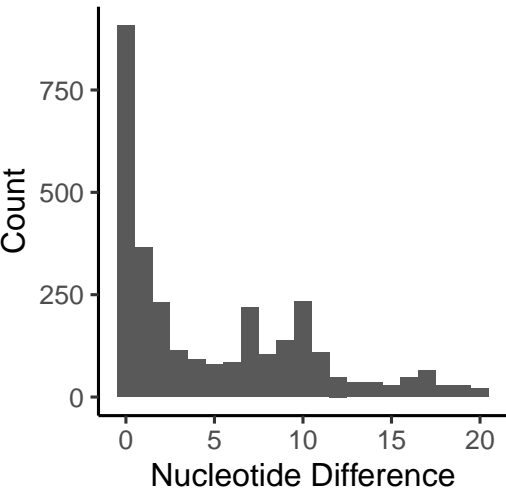
IGHV6-1\*01\_02

4439 sequences assigned  
244 (5.5%) exact matches, in which:  
233 unique CDR3  
6 unique J



IGHV7-4-1\*02

3086 sequences assigned  
908 (29.4%) exact matches, in which:  
858 unique CDR3  
6 unique J





[illegible]