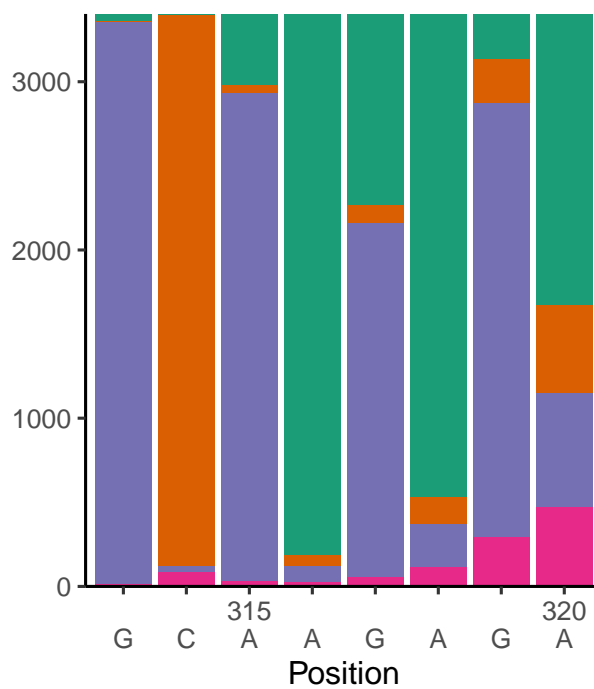
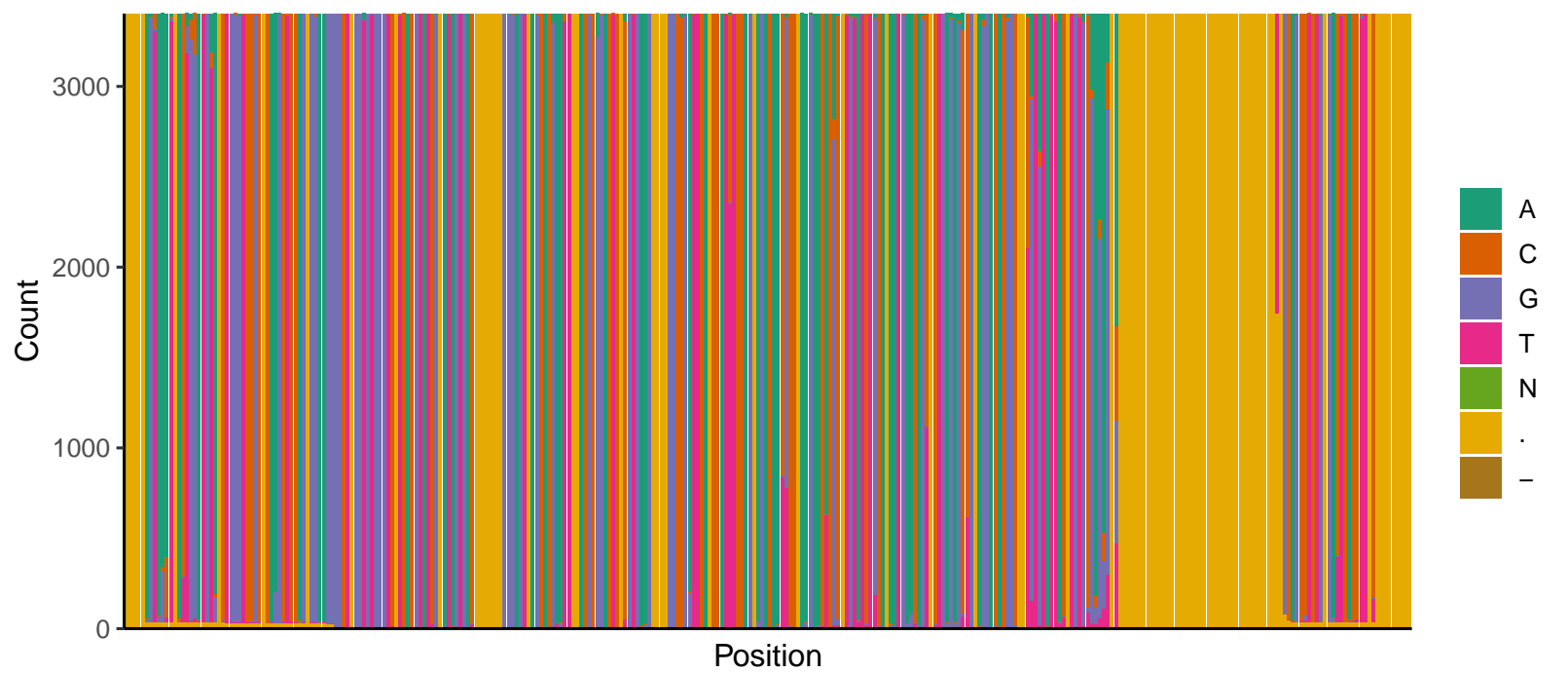
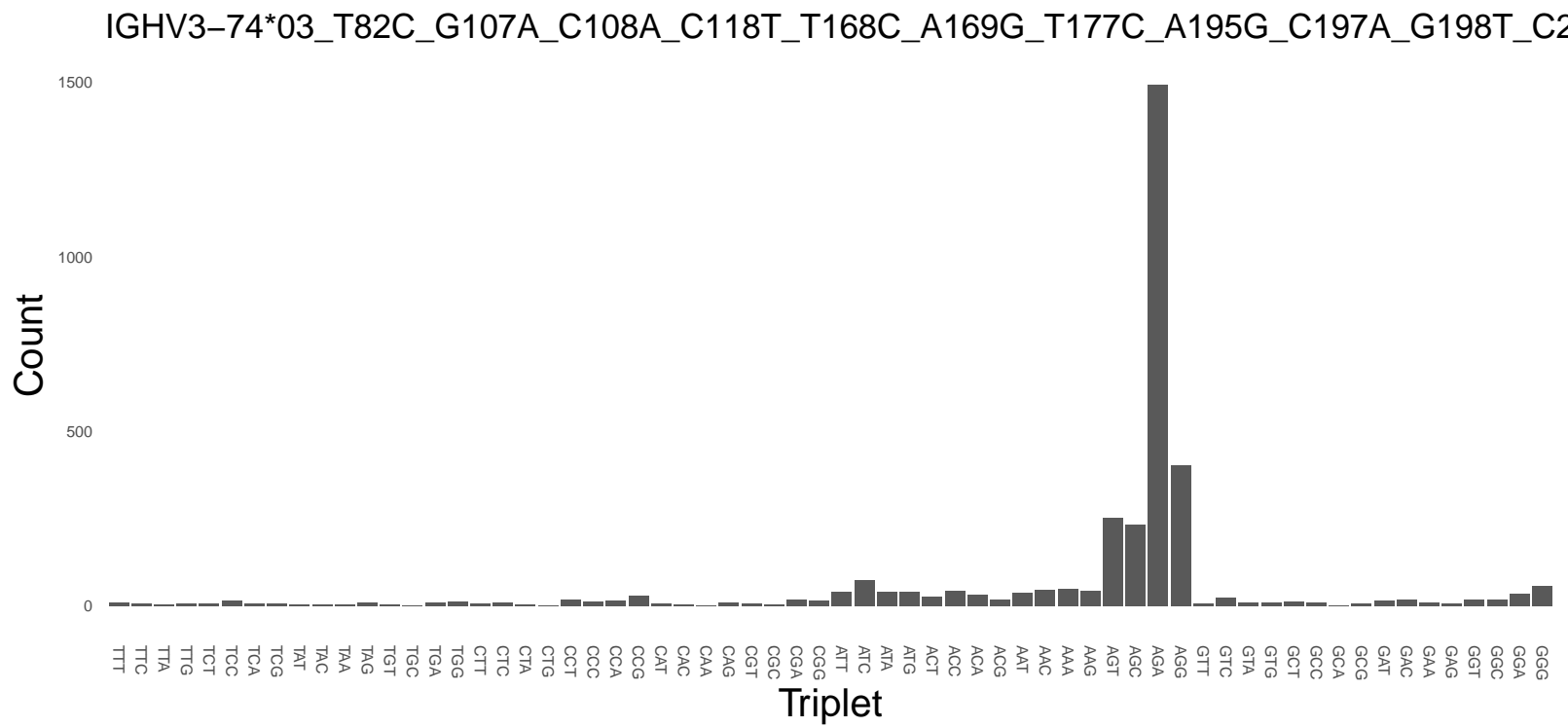


Count



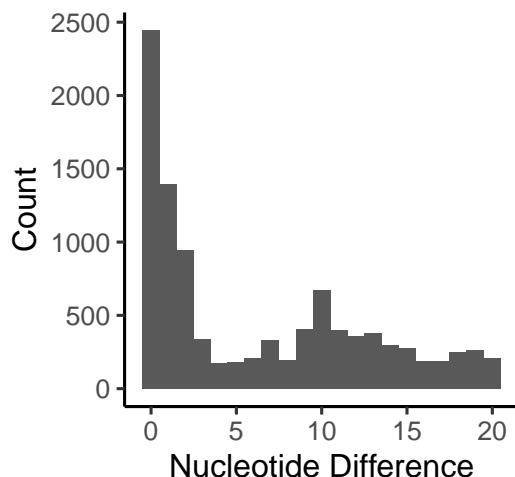
Gene IGHV3-74\*03\_T82C\_G107A\_C108A\_C118T\_T168C\_A169G\_T177C\_A195G\_C19





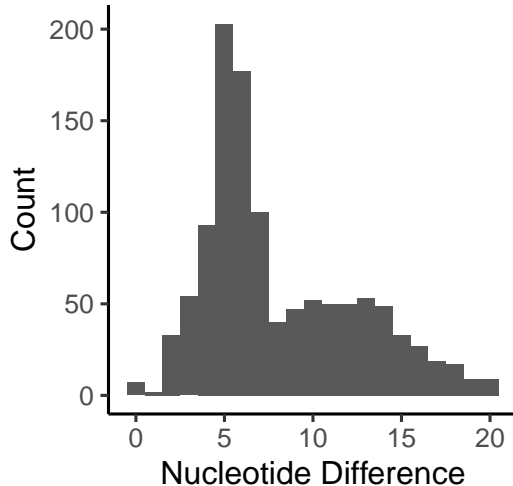
## IGHV1-2\*02

11201 sequences assigned  
2444 (21.8%) exact matches, in which:  
2294 unique CDR3  
7 unique J



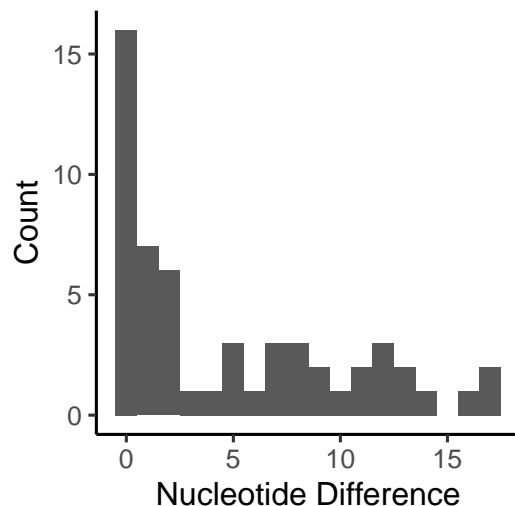
## IGHV1-8\*02

1200 sequences assigned  
7 (0.6%) exact matches, in which:  
7 unique CDR3  
5 unique J



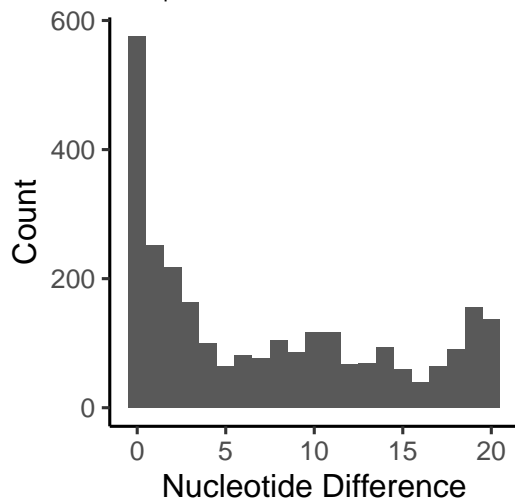
## IGHV1-45\*02

56 sequences assigned  
16 (28.6%) exact matches, in which:  
16 unique CDR3  
4 unique J



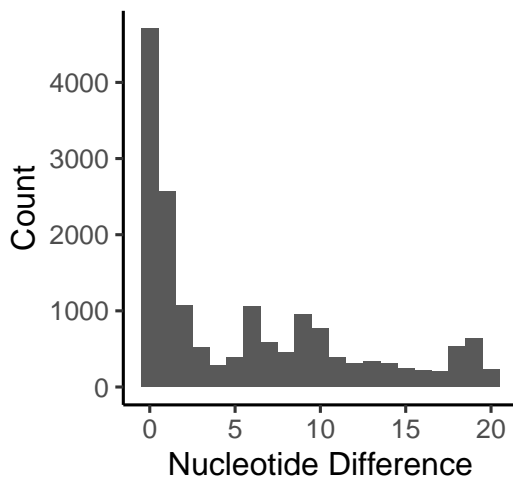
## IGHV1-3\*01\_05

3676 sequences assigned  
576 (15.7%) exact matches, in which:  
534 unique CDR3  
7 unique J



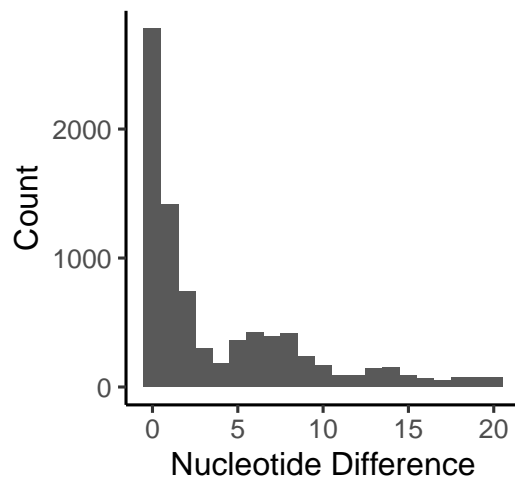
## IGHV1-18\*01

23951 sequences assigned  
4705 (19.6%) exact matches, in which:  
4338 unique CDR3  
7 unique J



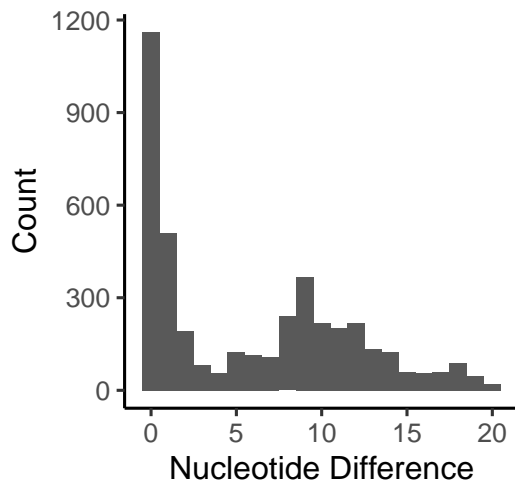
## IGHV1-46\*01

9371 sequences assigned  
2778 (29.6%) exact matches, in which:  
2627 unique CDR3  
7 unique J



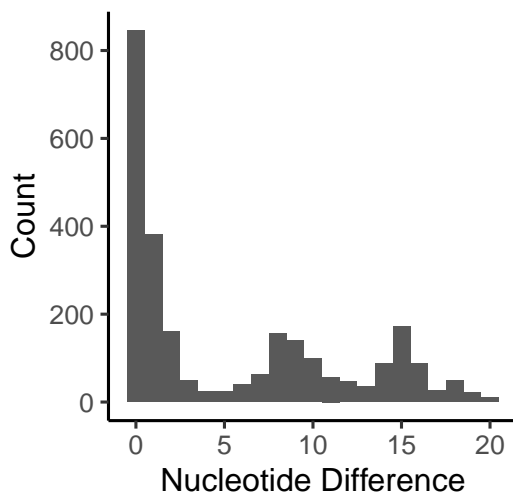
## IGHV1-8\*01

4700 sequences assigned  
1161 (24.7%) exact matches, in which:  
1111 unique CDR3  
7 unique J



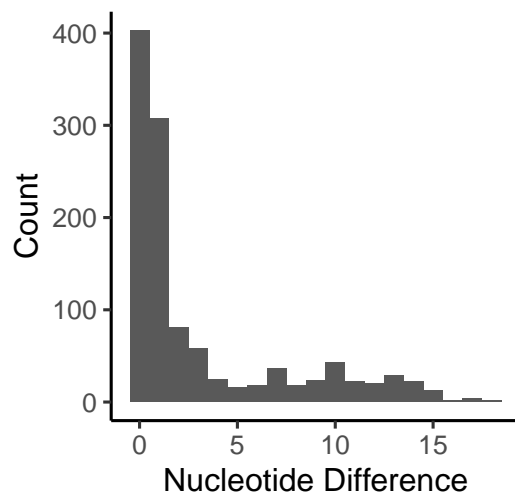
## IGHV1-24\*01

2639 sequences assigned  
846 (32.1%) exact matches, in which:  
801 unique CDR3  
7 unique J



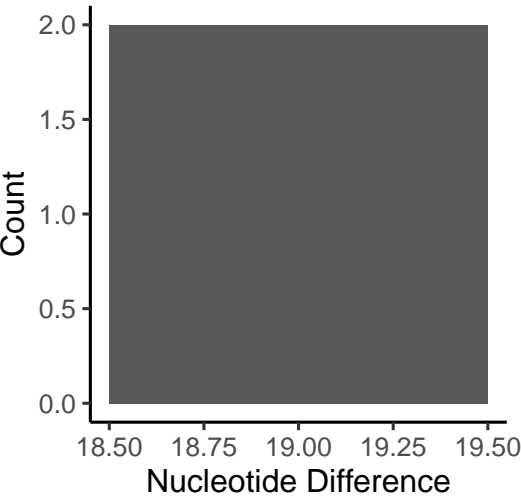
## IGHV1-58\*01\_03

1166 sequences assigned  
403 (34.6%) exact matches, in which:  
377 unique CDR3  
7 unique J



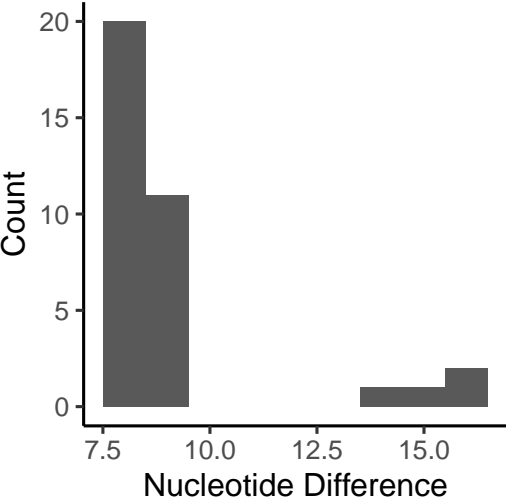
IGHV1-69-2\*01

2 sequences assigned  
No exact matches.



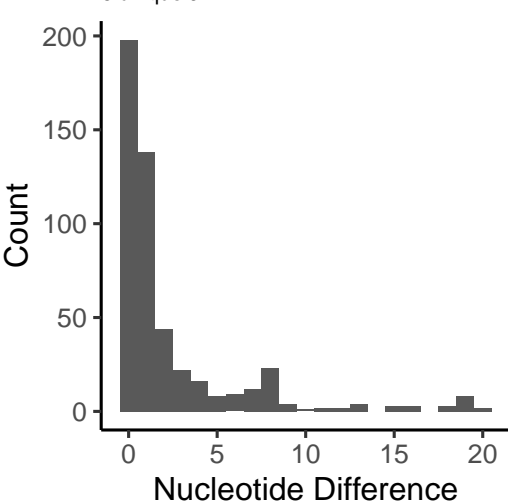
IGHV1-NL1\*01

35 sequences assigned  
No exact matches.



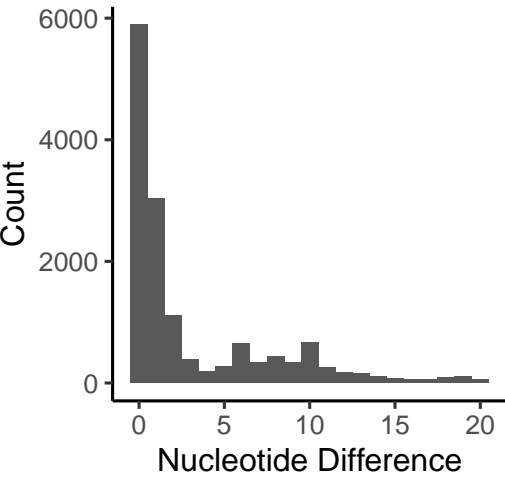
IGHV2-70\*01

509 sequences assigned  
198 (38.9%) exact matches, in which:  
178 unique CDR3  
6 unique J



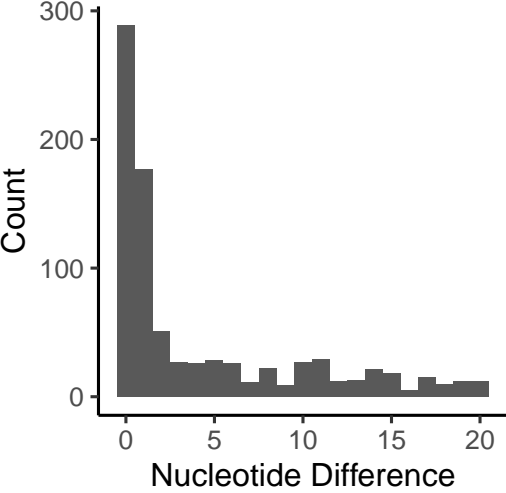
IGHV1-69\*01\_12\_13

14966 sequences assigned  
5892 (39.4%) exact matches, in which:  
5572 unique CDR3  
7 unique J



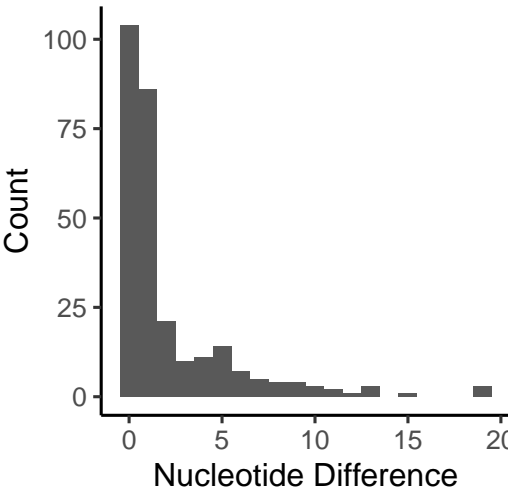
IGHV2-5\*02

924 sequences assigned  
289 (31.3%) exact matches, in which:  
263 unique CDR3  
7 unique J



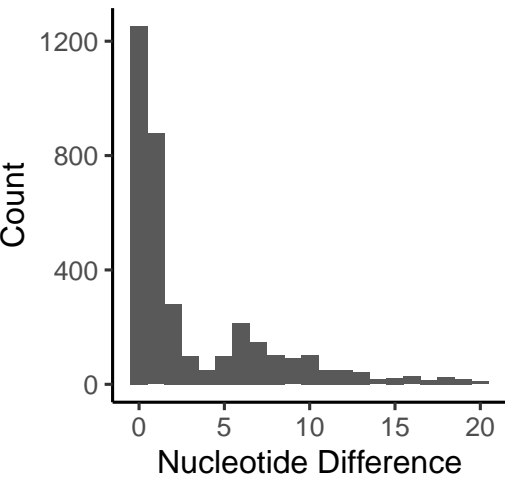
IGHV2-70\*11\_15

281 sequences assigned  
104 (37%) exact matches, in which:  
100 unique CDR3  
7 unique J



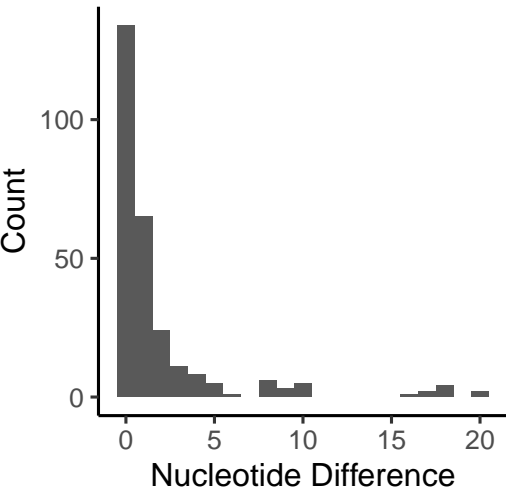
IGHV1-69\*04\_09

3732 sequences assigned  
1253 (33.6%) exact matches, in which:  
1192 unique CDR3  
7 unique J



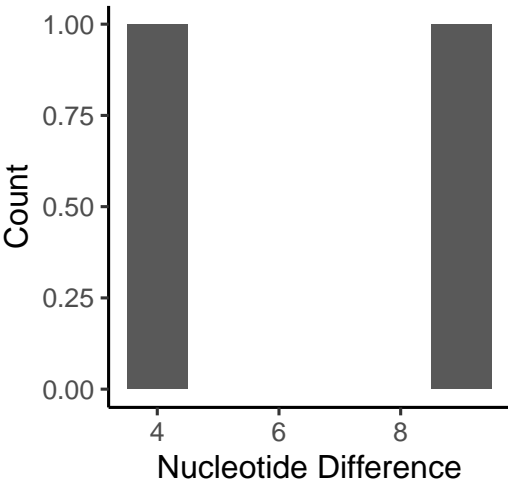
IGHV2-26\*01

281 sequences assigned  
134 (47.7%) exact matches, in which:  
124 unique CDR3  
6 unique J



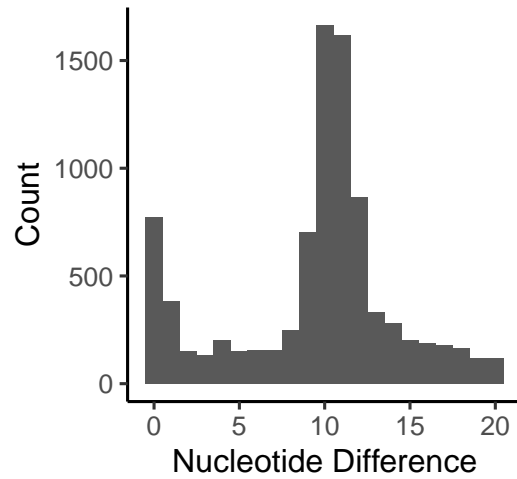
IGHV2-70D\*04

2 sequences assigned  
No exact matches.



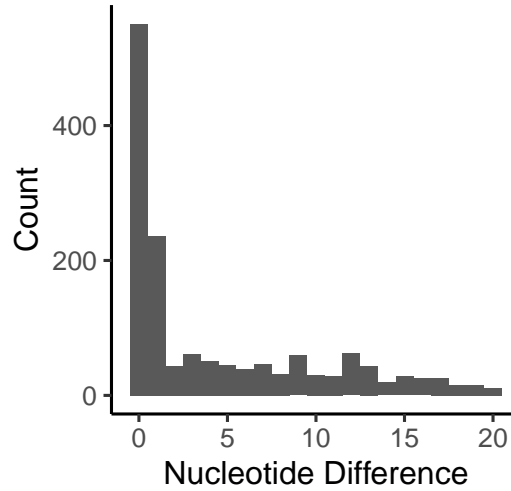
### IGHV3-7\*01

9331 sequences assigned  
773 (8.3%) exact matches, in which:  
633 unique CDR3  
7 unique J



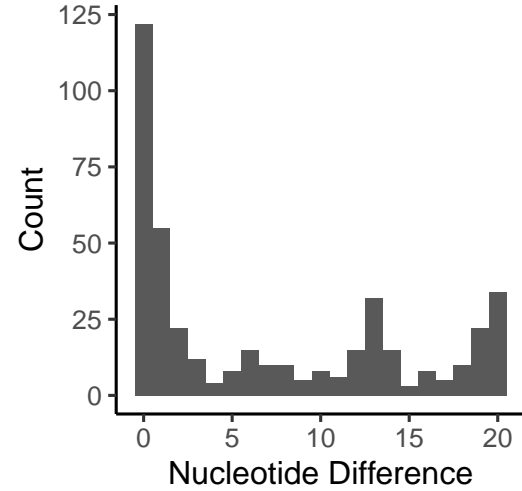
### IGHV3-11\*01

1573 sequences assigned  
551 (35%) exact matches, in which:  
425 unique CDR3  
7 unique J



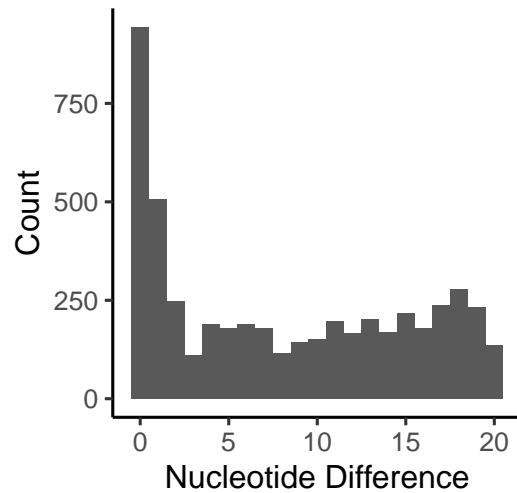
### IGHV3-13\*01

515 sequences assigned  
122 (23.7%) exact matches, in which:  
91 unique CDR3  
6 unique J



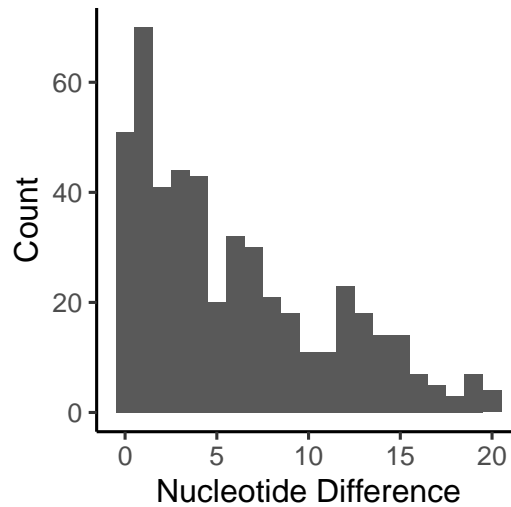
### IGHV3-7\*03

5770 sequences assigned  
944 (16.4%) exact matches, in which:  
754 unique CDR3  
7 unique J



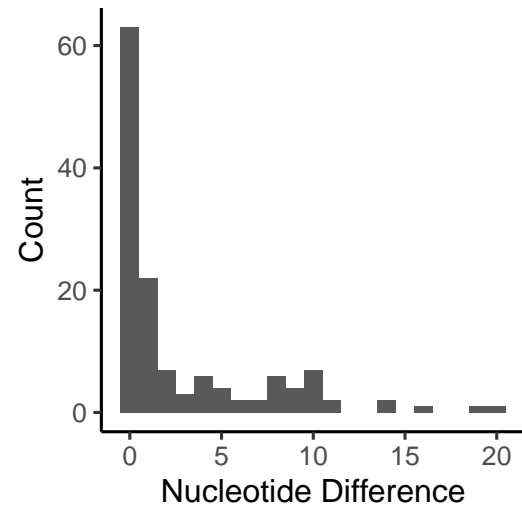
### IGHV3-11\*04

525 sequences assigned  
51 (9.7%) exact matches, in which:  
51 unique CDR3  
7 unique J



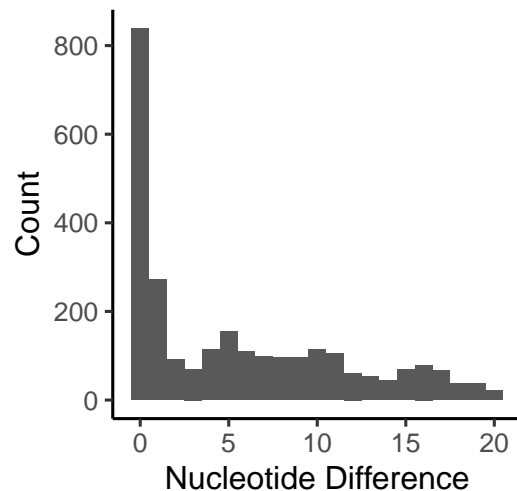
### IGHV3-13\*05

142 sequences assigned  
63 (44.4%) exact matches, in which:  
50 unique CDR3  
6 unique J



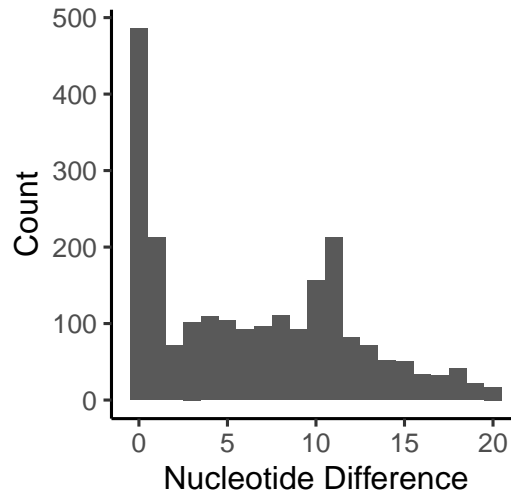
### IGHV3-9\*01

3197 sequences assigned  
839 (26.2%) exact matches, in which:  
658 unique CDR3  
7 unique J



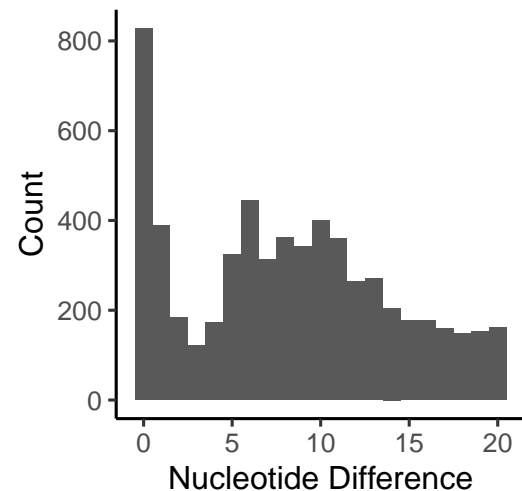
### IGHV3-11\*06

2753 sequences assigned  
486 (17.7%) exact matches, in which:  
394 unique CDR3  
6 unique J



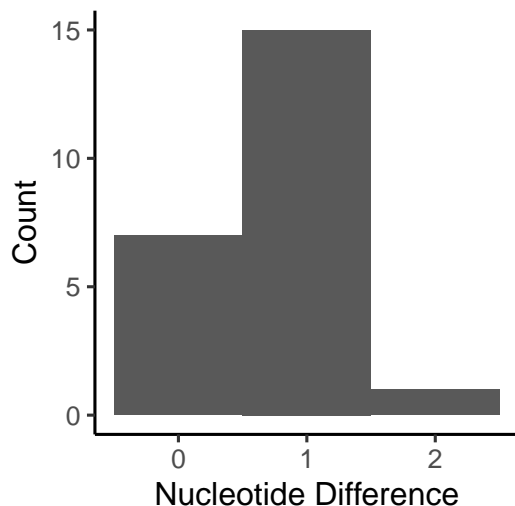
### IGHV3-15\*01\_02

6827 sequences assigned  
828 (12.1%) exact matches, in which:  
629 unique CDR3  
7 unique J



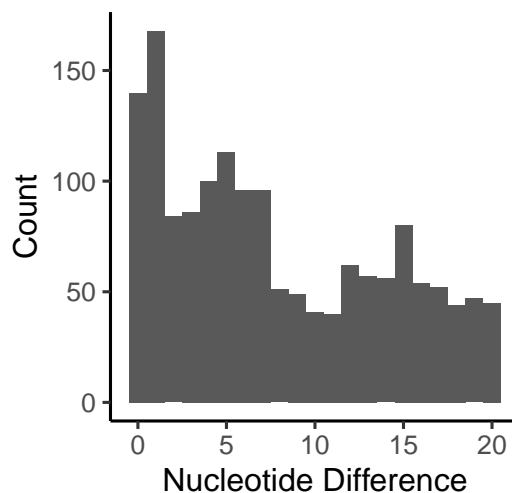
### IGHV3-19\*01

23 sequences assigned  
7 (30.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



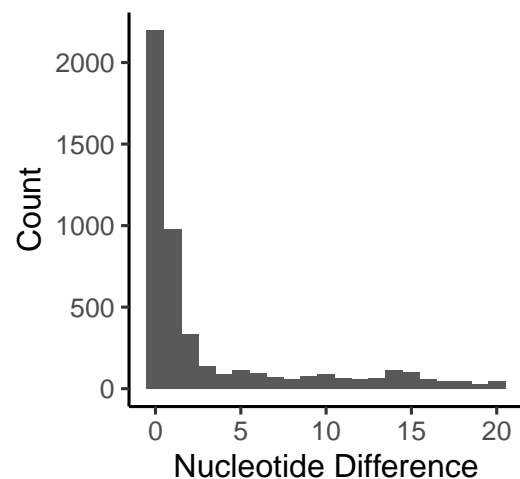
### IGHV3-21\*04

1805 sequences assigned  
140 (7.8%) exact matches, in which:  
136 unique CDR3  
6 unique J



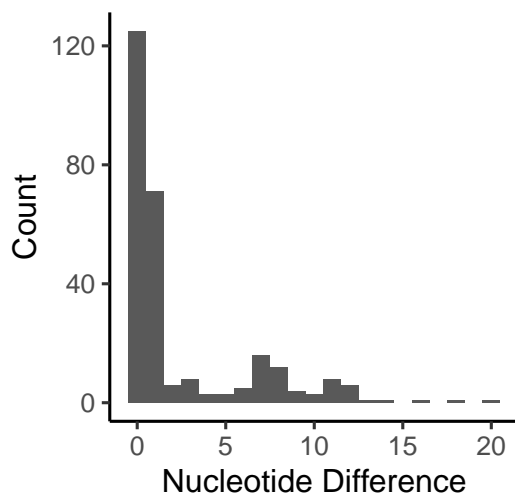
### IGHV3-30-3\*01

5250 sequences assigned  
2197 (41.8%) exact matches, in which:  
1775 unique CDR3  
7 unique J



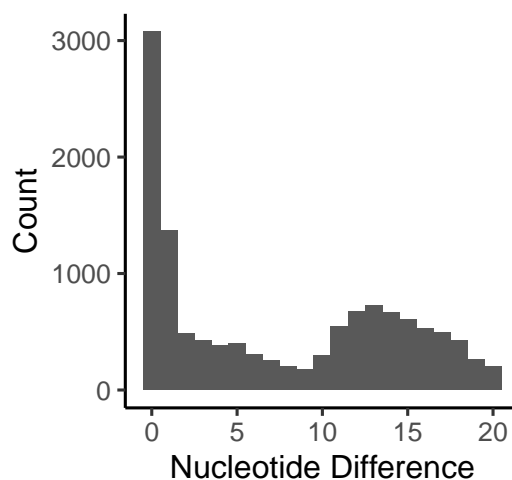
### IGHV3-20\*01\_02

295 sequences assigned  
125 (42.4%) exact matches, in which:  
91 unique CDR3  
6 unique J



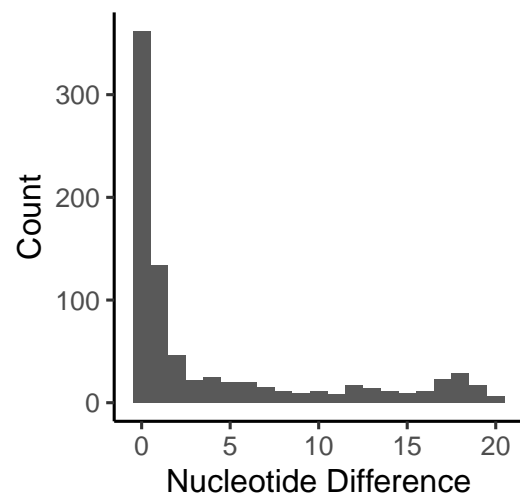
### IGHV3-21\*01\_02

13534 sequences assigned  
3076 (22.7%) exact matches, in which:  
2416 unique CDR3  
7 unique J



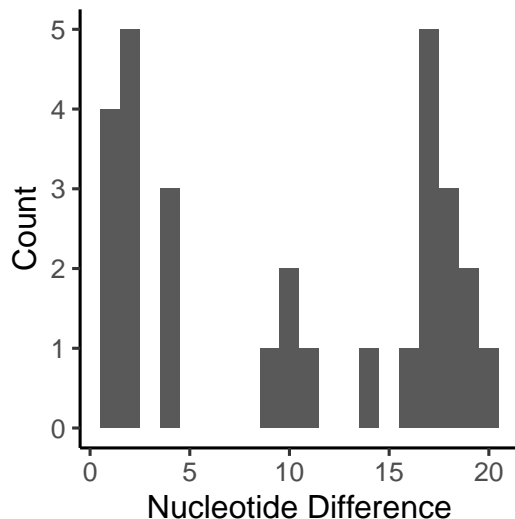
### IGHV3-30\*03

1085 sequences assigned  
362 (33.4%) exact matches, in which:  
343 unique CDR3  
7 unique J



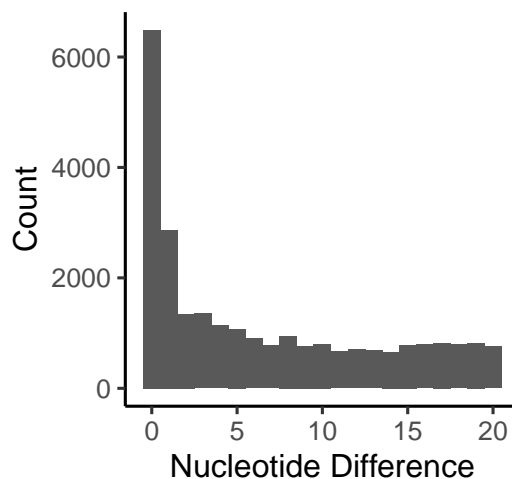
### IGHV3-20\*03\_04

33 sequences assigned  
No exact matches.



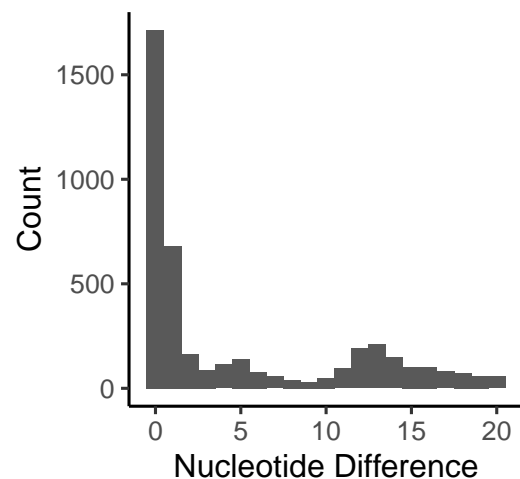
### IGHV3-23\*01\_04

32387 sequences assigned  
6488 (20%) exact matches, in which:  
4852 unique CDR3  
7 unique J



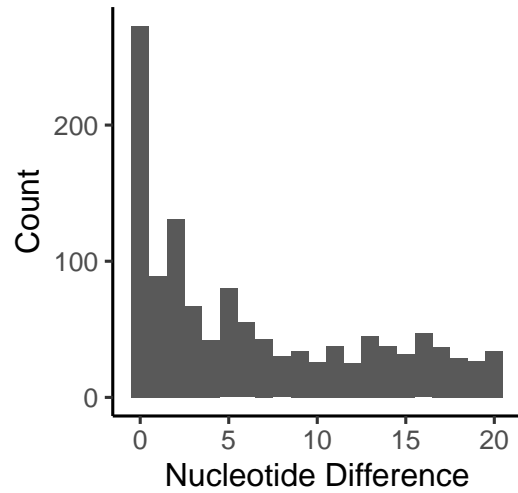
### IGHV3-33\*01

4801 sequences assigned  
1714 (35.7%) exact matches, in which:  
1429 unique CDR3  
7 unique J



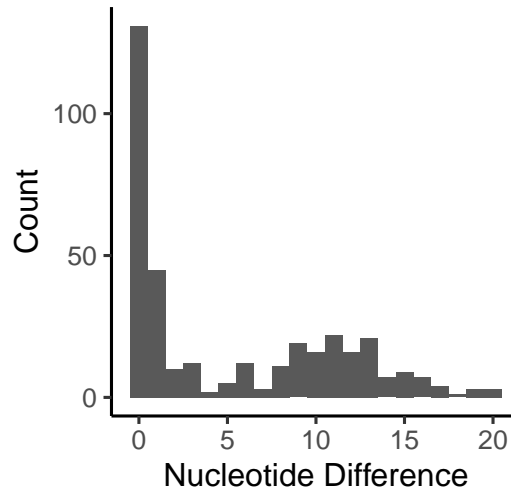
### IGHV3–33\*08

1433 sequences assigned  
273 (19.1%) exact matches, in which:  
259 unique CDR3  
7 unique J



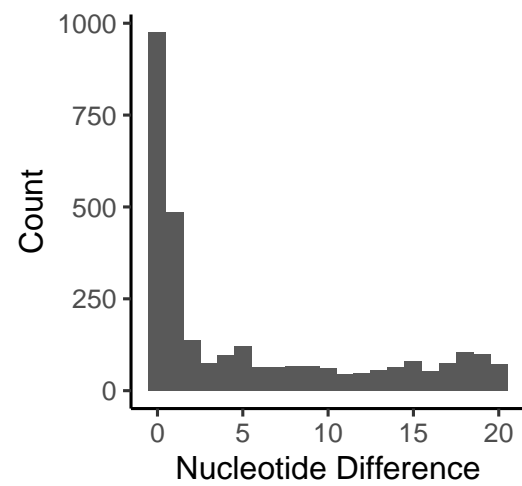
### IGHV3–43\*01

387 sequences assigned  
131 (33.9%) exact matches, in which:  
105 unique CDR3  
7 unique J



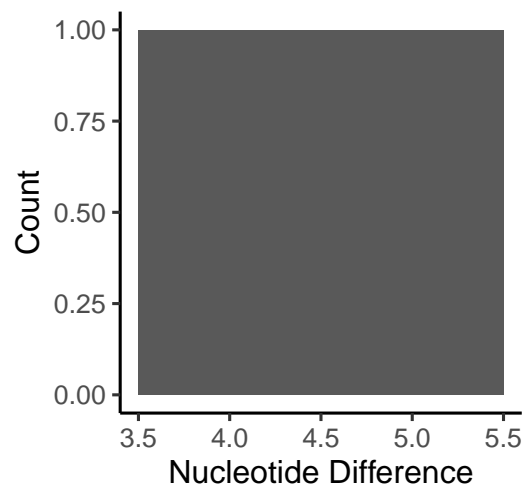
### IGHV3–48\*02

3979 sequences assigned  
975 (24.5%) exact matches, in which:  
756 unique CDR3  
7 unique J



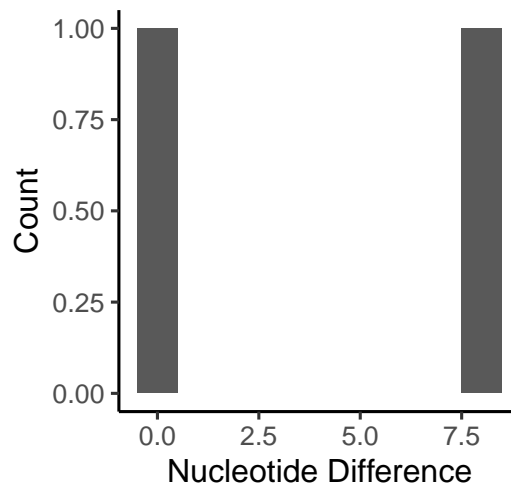
### IGHV3–35\*01

2 sequences assigned  
No exact matches.



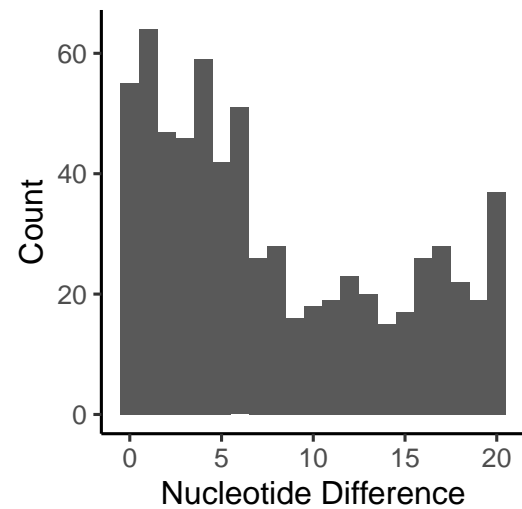
### IGHV3–47\*02

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



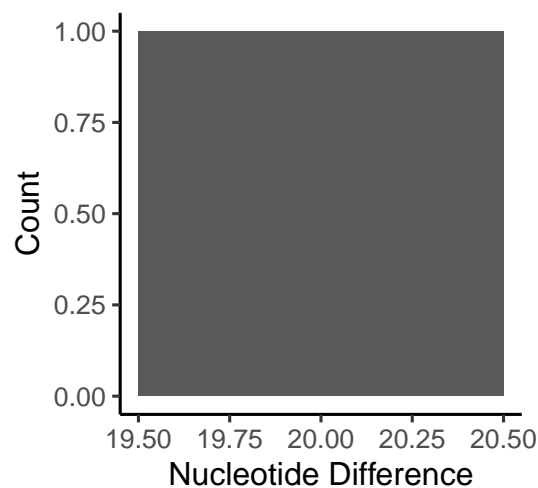
### IGHV3–48\*04

928 sequences assigned  
55 (5.9%) exact matches, in which:  
54 unique CDR3  
6 unique J



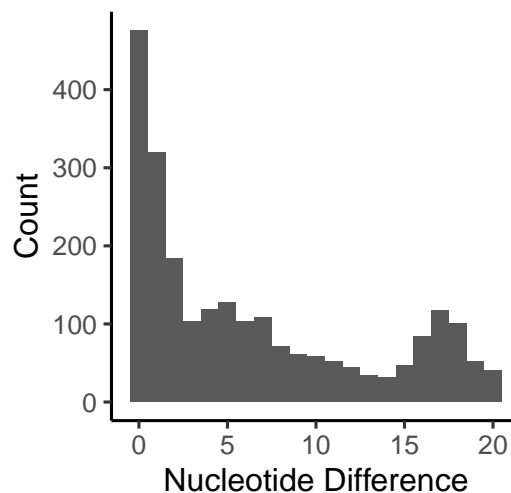
### IGHV3–38–3\*01

1 sequences assigned  
No exact matches.



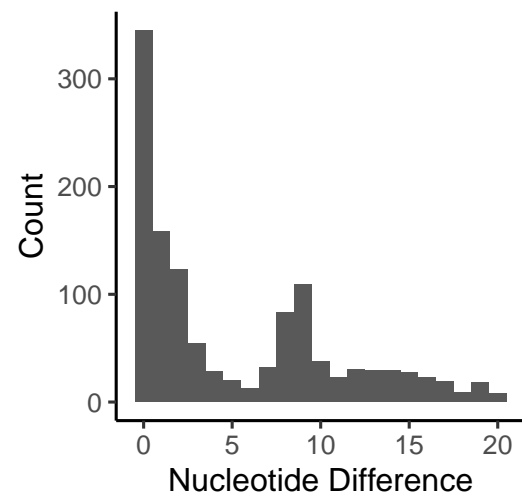
### IGHV3–48\*01

2706 sequences assigned  
476 (17.6%) exact matches, in which:  
384 unique CDR3  
7 unique J



### IGHV3–49\*03\_05

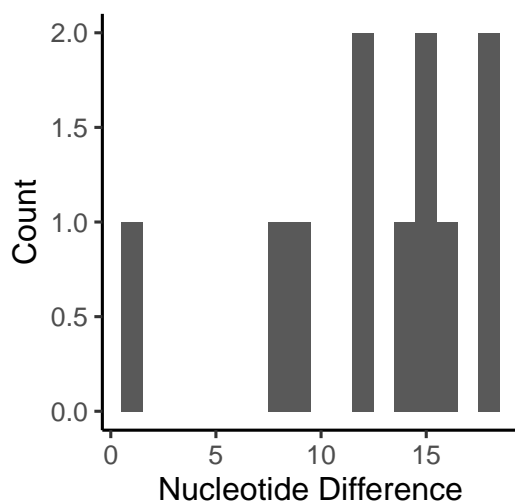
1279 sequences assigned  
345 (27%) exact matches, in which:  
279 unique CDR3  
7 unique J





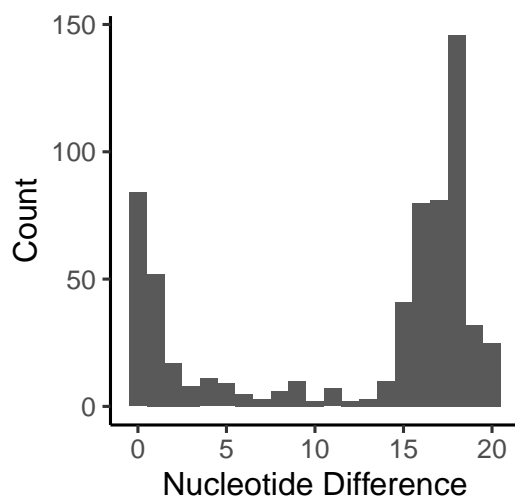
### IGHV3-52\*01\_03

11 sequences assigned  
No exact matches.



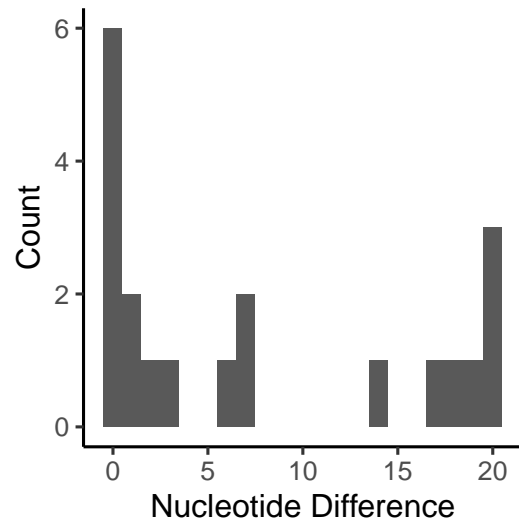
### IGHV3-64\*01

693 sequences assigned  
84 (12.1%) exact matches, in which:  
64 unique CDR3  
7 unique J



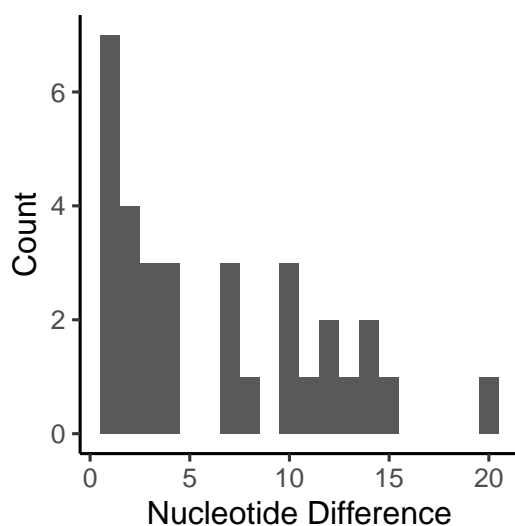
### IGHV3-66\*03

24 sequences assigned  
6 (25%) exact matches, in which:  
5 unique CDR3  
2 unique J



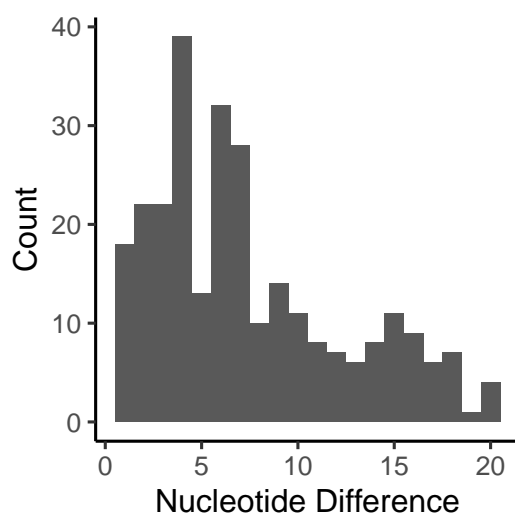
### IGHV3-53\*05

41 sequences assigned  
No exact matches.



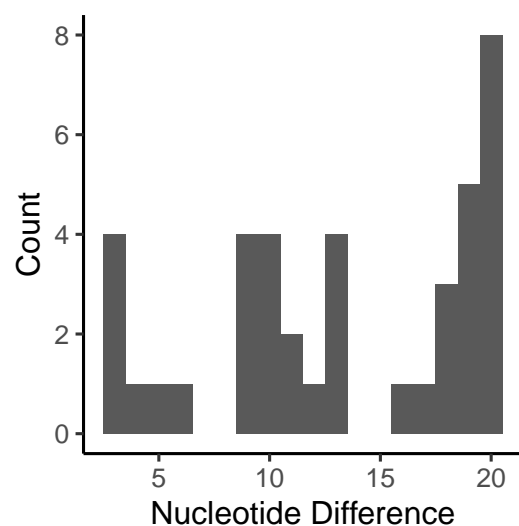
### IGHV3-64\*04

306 sequences assigned  
No exact matches.



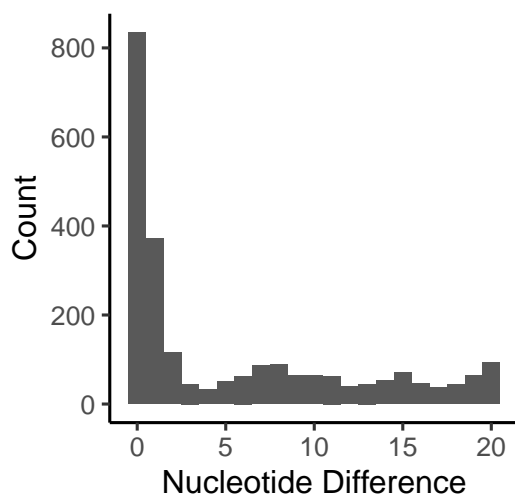
### IGHV3-69-1\*01

111 sequences assigned  
No exact matches.



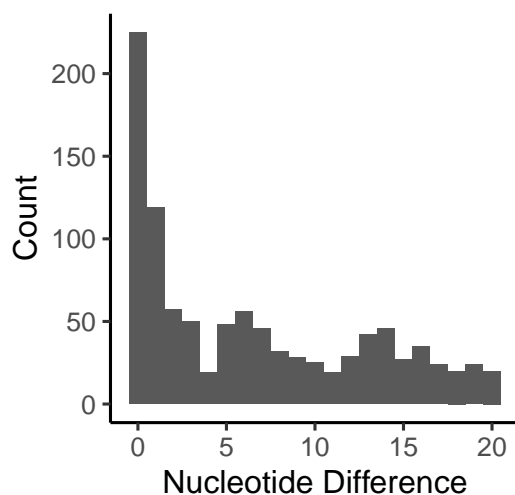
### IGHV3-53\*01\_02

3138 sequences assigned  
835 (26.6%) exact matches, in which:  
677 unique CDR3  
7 unique J



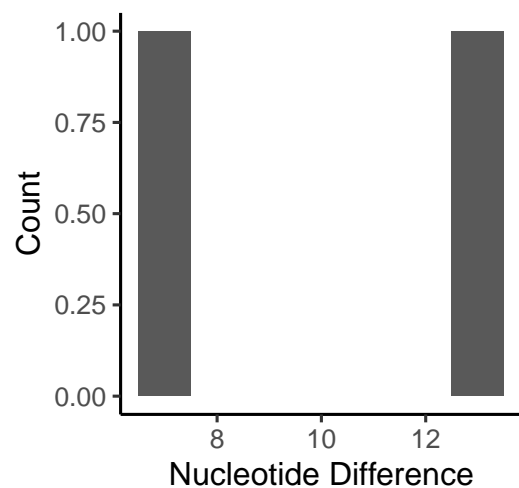
### IGHV3-66\*01

1157 sequences assigned  
225 (19.4%) exact matches, in which:  
184 unique CDR3  
7 unique J



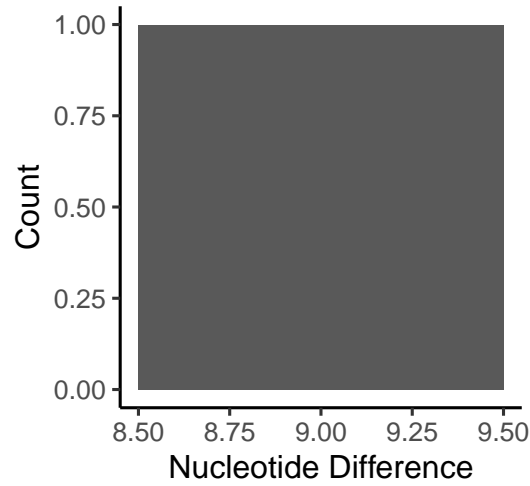
### IGHV3-69-1\*02

36 sequences assigned  
No exact matches.



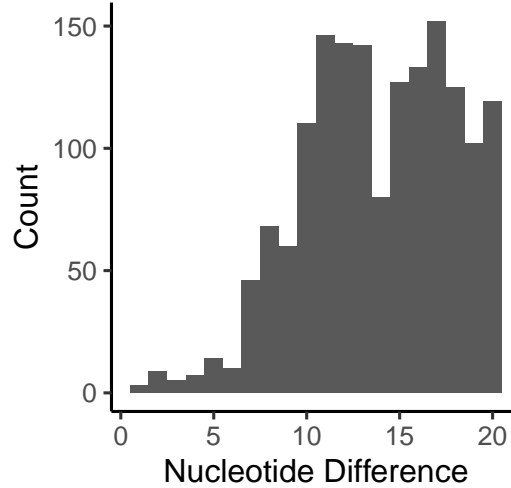
### IGHV3-71\*01\_04

3 sequences assigned  
No exact matches.



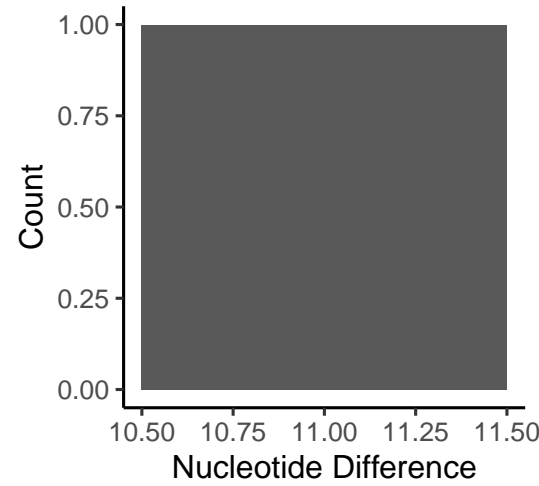
### IGHV3-74\*03

2441 sequences assigned  
No exact matches.



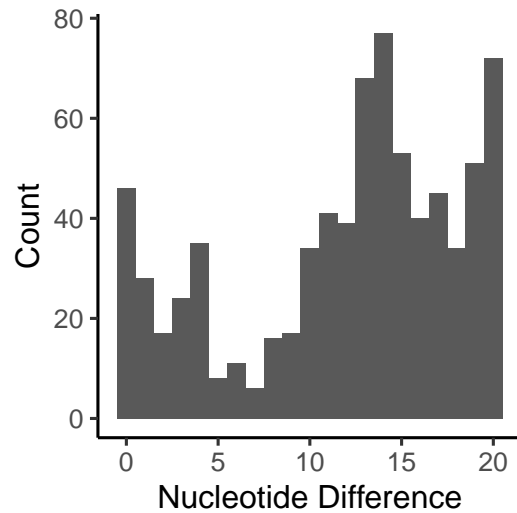
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



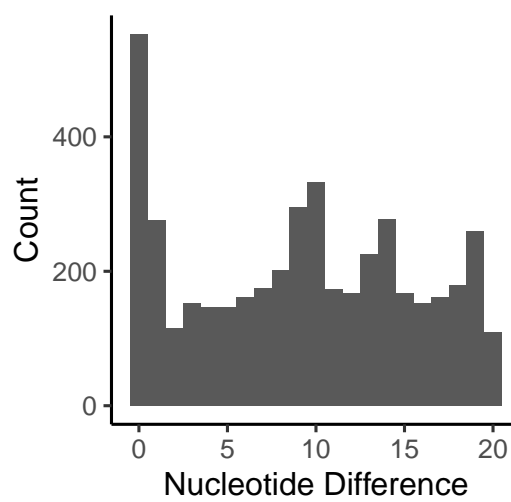
### IGHV3-72\*01

1072 sequences assigned  
46 (4.3%) exact matches, in which:  
32 unique CDR3  
6 unique J



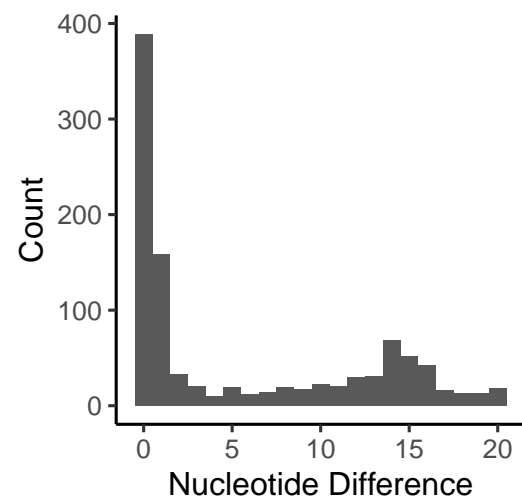
### IGHV3-74\*01\_02

4900 sequences assigned  
553 (11.3%) exact matches, in which:  
424 unique CDR3  
7 unique J



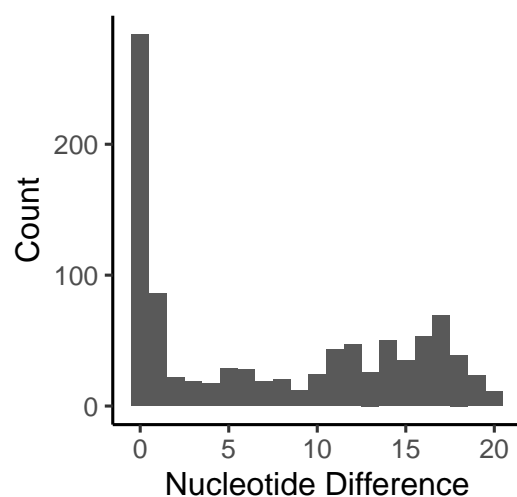
### IGHV3-64D\*06

1123 sequences assigned  
389 (34.6%) exact matches, in which:  
286 unique CDR3  
7 unique J



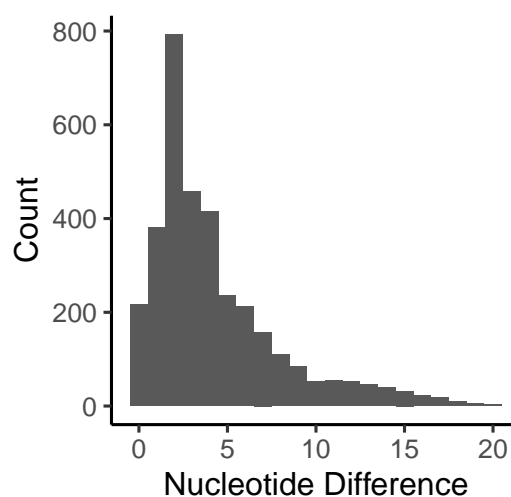
### IGHV3-73\*01\_02

1024 sequences assigned  
284 (27.7%) exact matches, in which:  
235 unique CDR3  
7 unique J



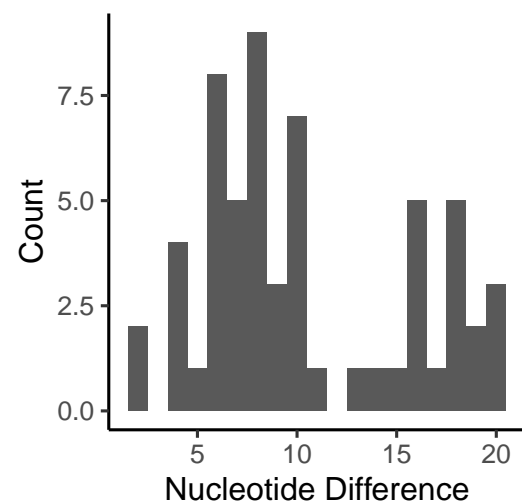
### IGHV3-74\*03\_T82C\_G1C

3403 sequences assigned  
216 (6.3%) exact matches, in which:  
214 unique CDR3  
7 unique J



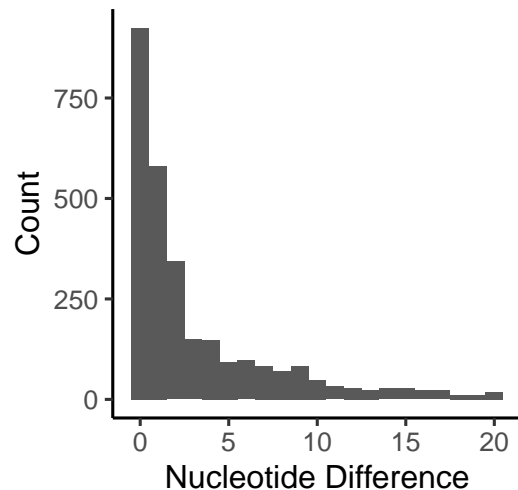
### IGHV3-NL1\*01

82 sequences assigned  
No exact matches.



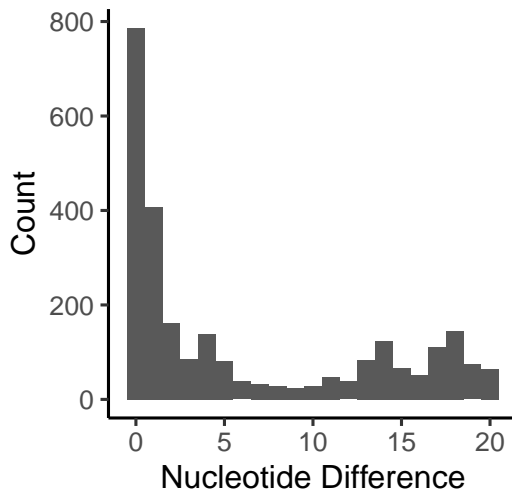
### IGHV4-4\*07

3385 sequences assigned  
925 (27.3%) exact matches, in which:  
838 unique CDR3  
6 unique J



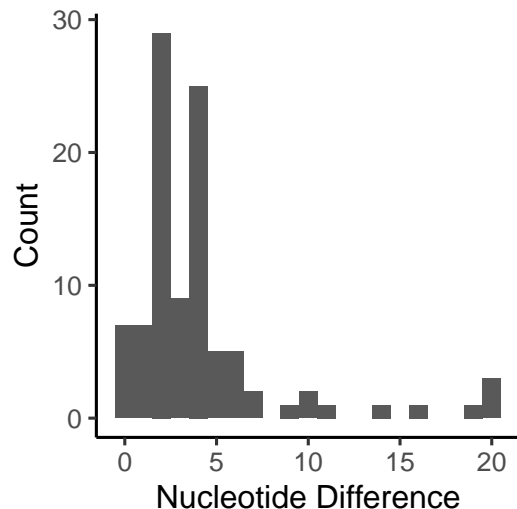
### IGHV4-30-4\*01

2842 sequences assigned  
787 (27.7%) exact matches, in which:  
744 unique CDR3  
7 unique J



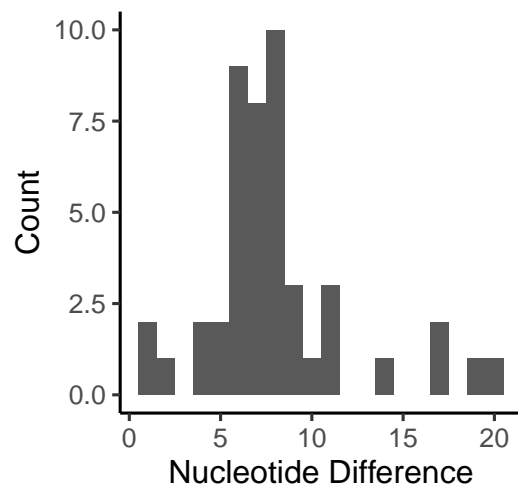
### IGHV4-30-2\*05

110 sequences assigned  
7 (6.4%) exact matches, in which:  
7 unique CDR3  
5 unique J



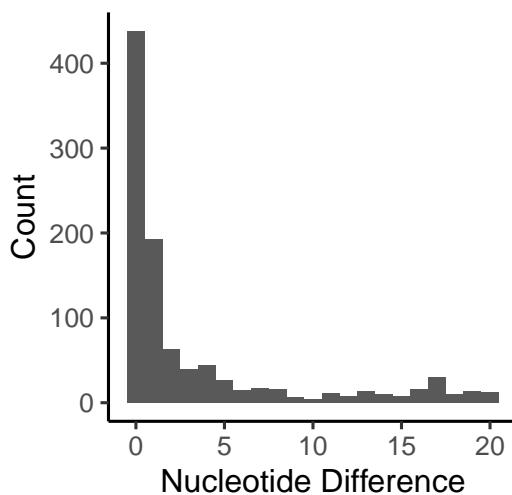
### IGHV4-28\*03

49 sequences assigned  
No exact matches.



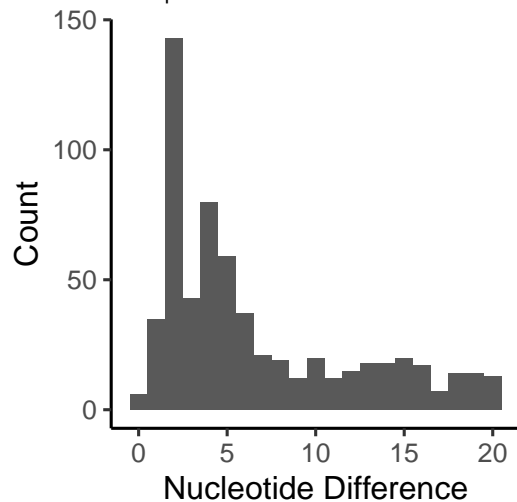
### IGHV4-30-2\*01

1462 sequences assigned  
438 (30%) exact matches, in which:  
353 unique CDR3  
7 unique J



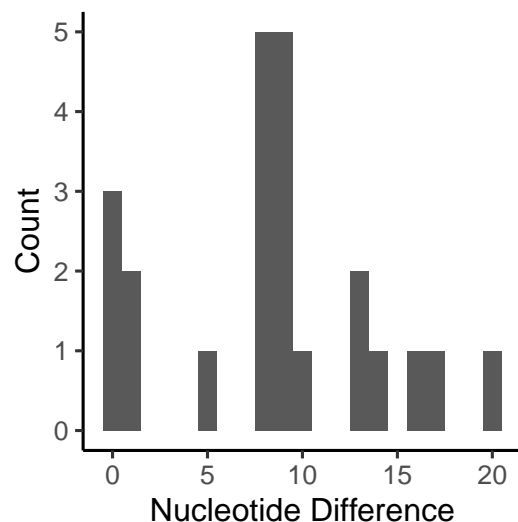
### IGHV4-30-4\*08

857 sequences assigned  
6 (0.7%) exact matches, in which:  
6 unique CDR3  
4 unique J



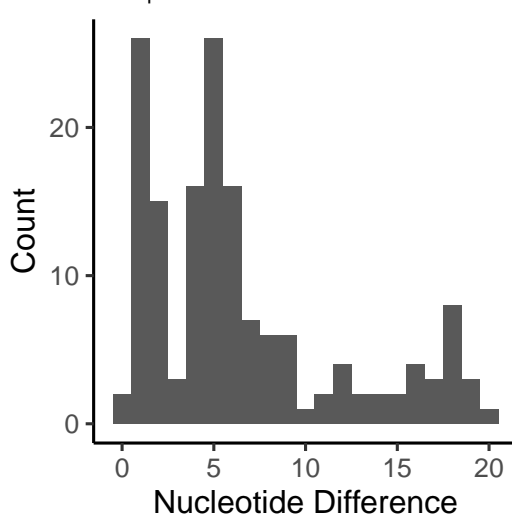
### IGHV4-28\*01\_07

24 sequences assigned  
3 (12.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



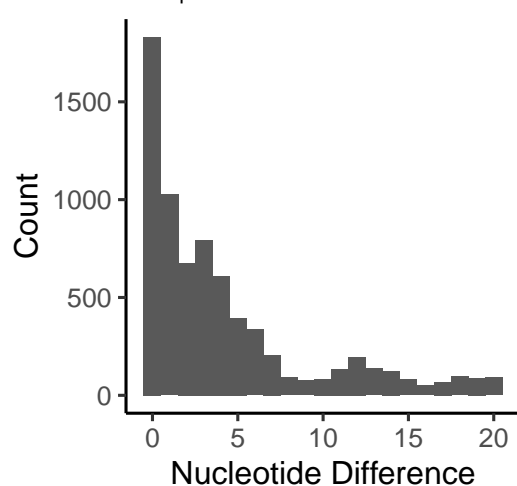
### IGHV4-30-2\*03

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



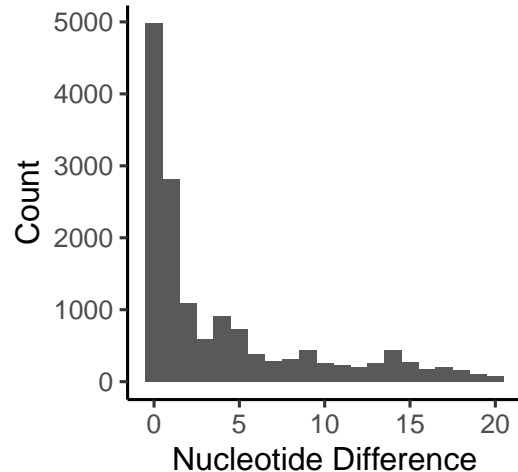
### IGHV4-31\*02

8262 sequences assigned  
1831 (22.2%) exact matches, in which:  
1704 unique CDR3  
7 unique J



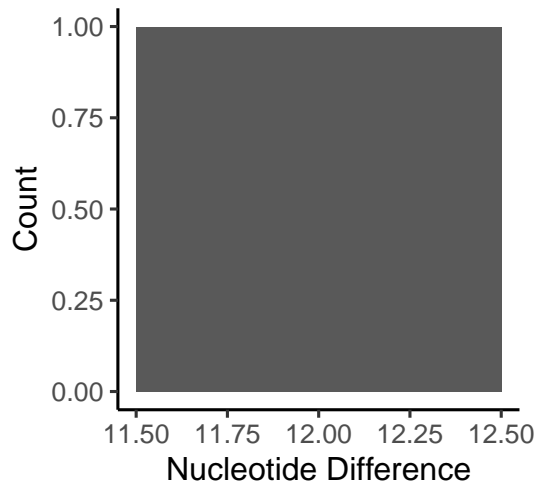
### IGHV4-34\*01\_02

15524 sequences assigned  
4979 (32.1%) exact matches, in which:  
4498 unique CDR3  
7 unique J



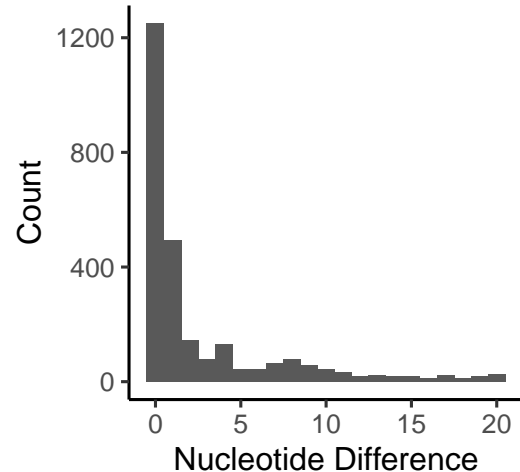
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



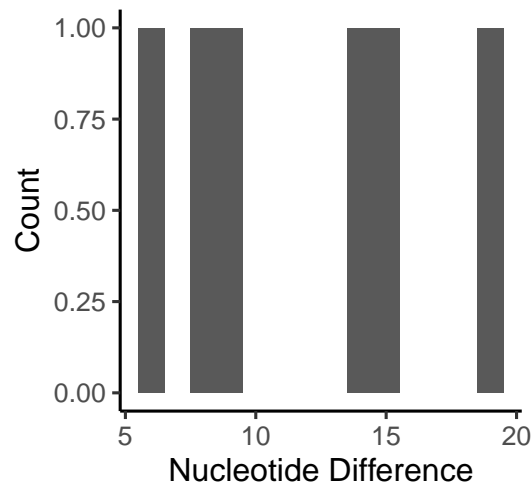
### IGHV4-59\*13

3478 sequences assigned  
1250 (35.9%) exact matches, in which:  
1210 unique CDR3  
7 unique J



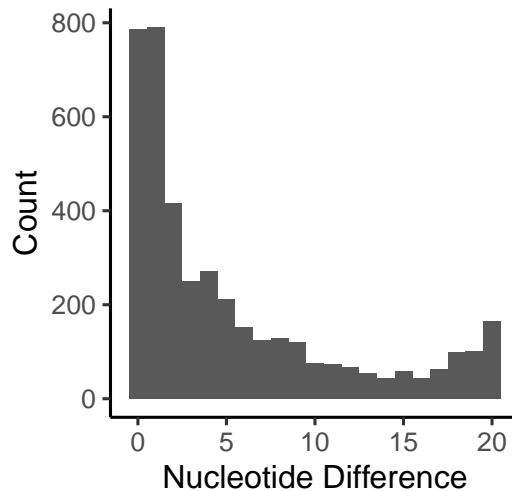
### IGHV4-38-2\*02

25 sequences assigned  
No exact matches.



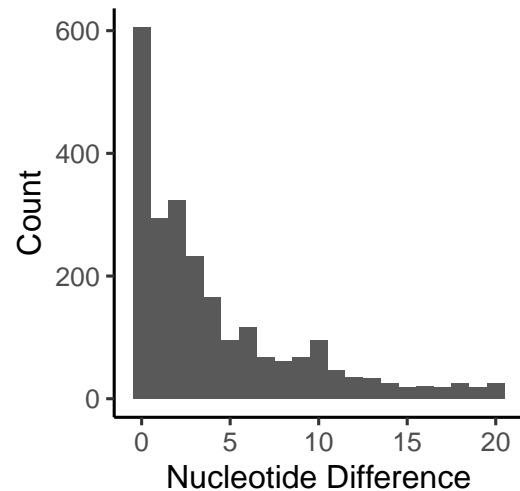
### IGHV4-59\*08

4655 sequences assigned  
787 (16.9%) exact matches, in which:  
724 unique CDR3  
7 unique J



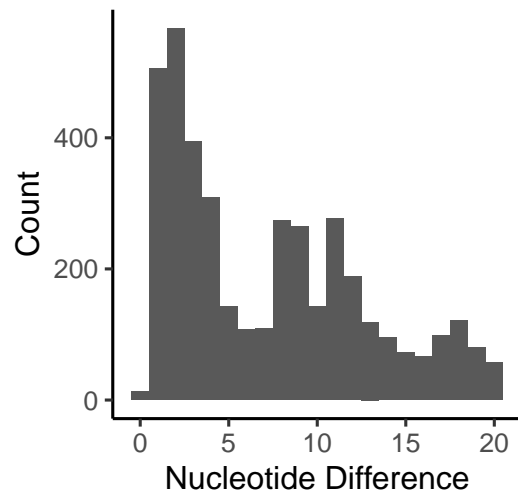
### IGHV4-61\*01

2734 sequences assigned  
606 (22.2%) exact matches, in which:  
587 unique CDR3  
7 unique J



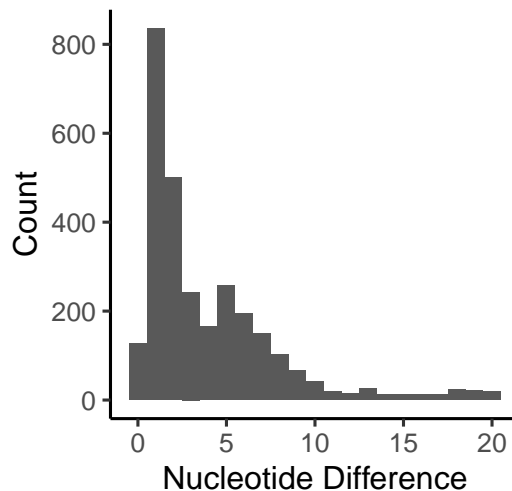
### IGHV4-39\*07

4396 sequences assigned  
13 (0.3%) exact matches, in which:  
13 unique CDR3  
5 unique J



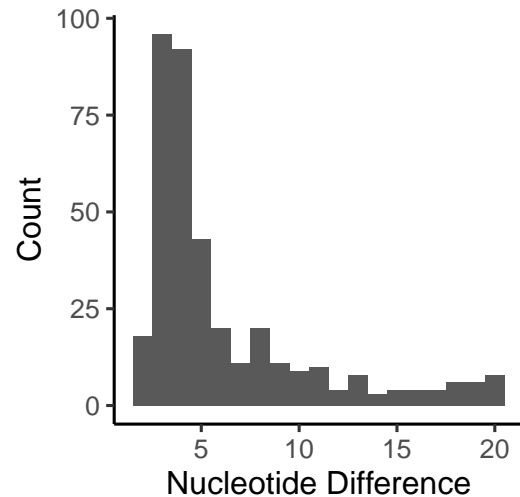
### IGHV4-59\*12

3006 sequences assigned  
127 (4.2%) exact matches, in which:  
127 unique CDR3  
6 unique J



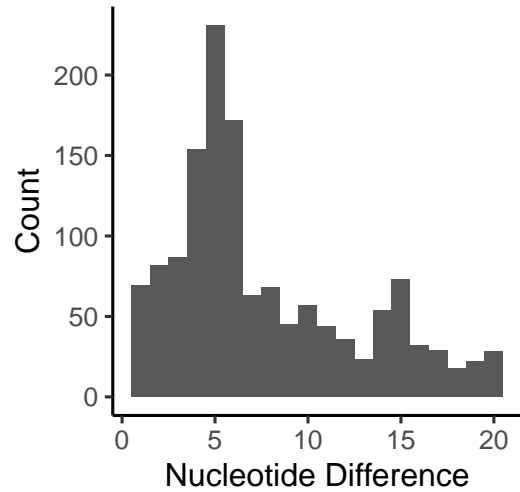
### IGHV4-61\*05

434 sequences assigned  
No exact matches.



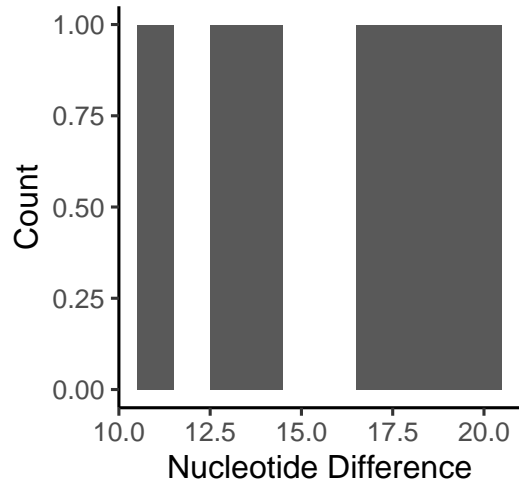
### IGHV4–61\*08

1758 sequences assigned  
No exact matches.



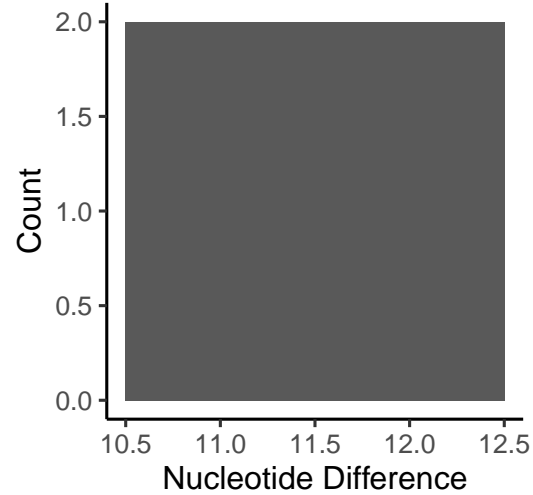
### IGHV1/OR15–2\*02\_03

12 sequences assigned  
No exact matches.



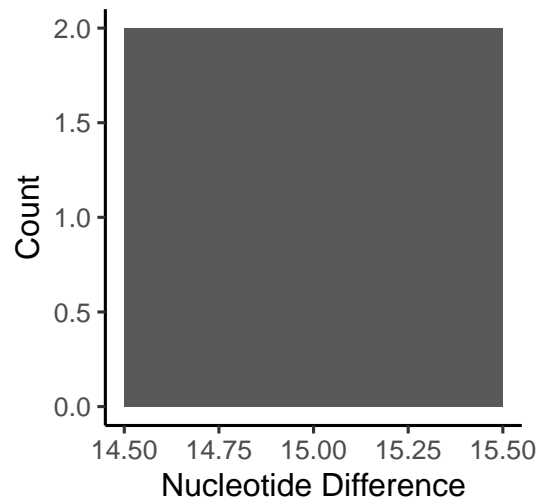
### IGHV1/OR15–9\*01

4 sequences assigned  
No exact matches.



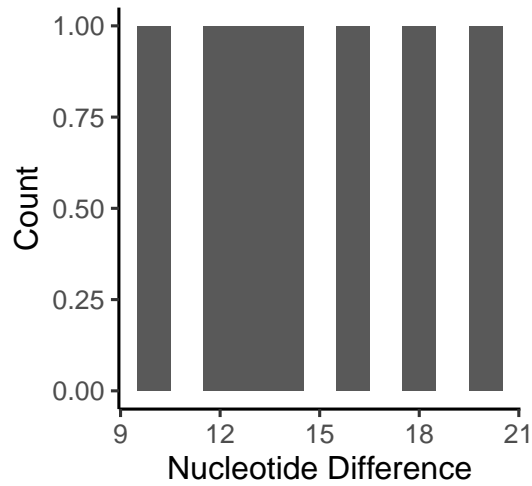
### IGHV1/OR15–1\*04

2 sequences assigned  
No exact matches.



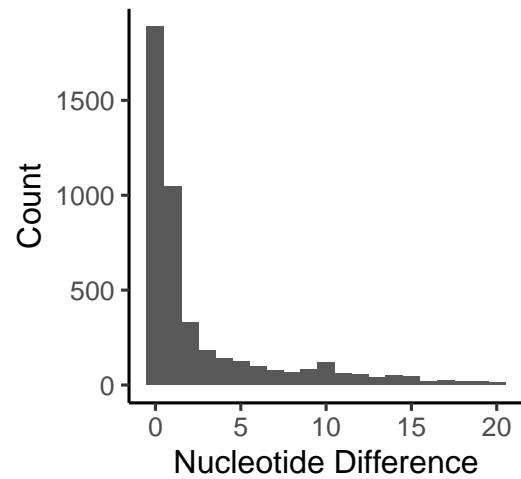
### IGHV1/OR15–3\*02

10 sequences assigned  
No exact matches.



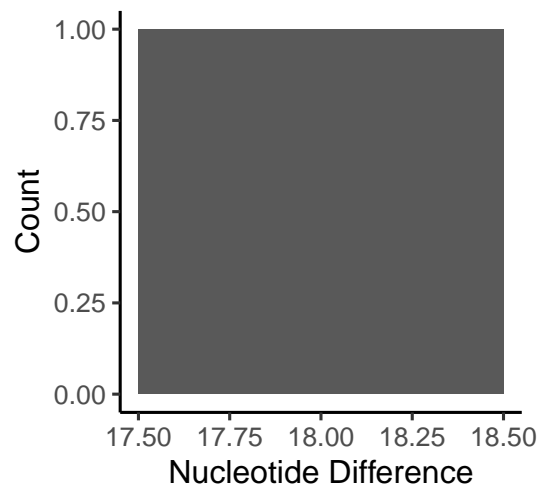
### IGHV5–10–1\*01\_03

4599 sequences assigned  
1888 (41.1%) exact matches, in which:  
1478 unique CDR3  
7 unique J



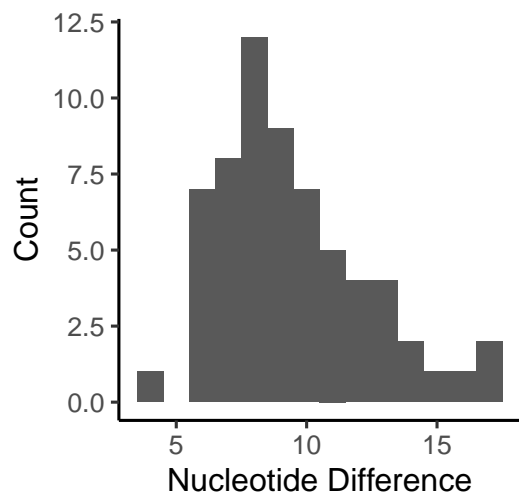
### IGHV1/OR15–2\*01

1 sequences assigned  
No exact matches.



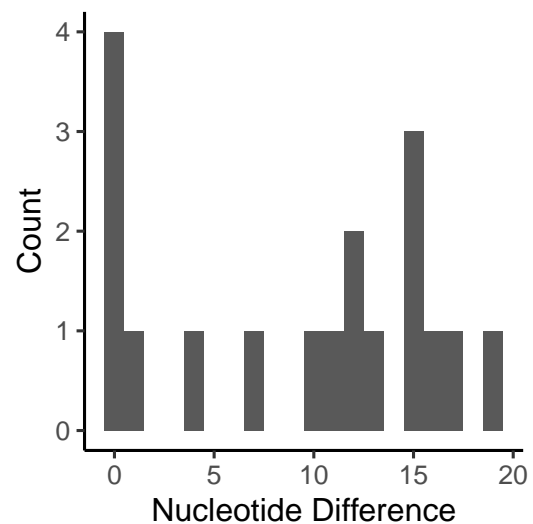
### IGHV4/OR15–8\*02

71 sequences assigned  
No exact matches.



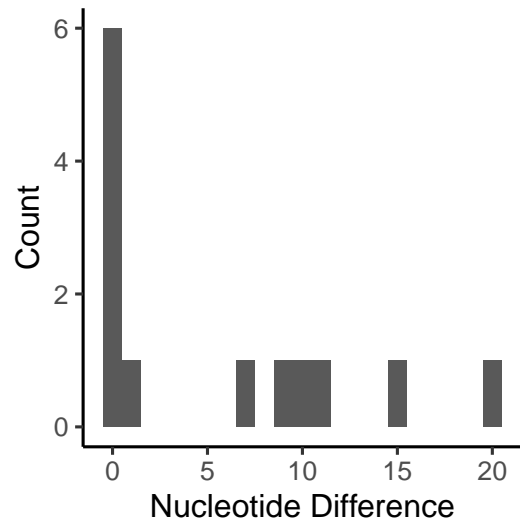
### IGHV5–51\*04

47 sequences assigned  
4 (8.5%) exact matches, in which:  
4 unique CDR3  
3 unique J



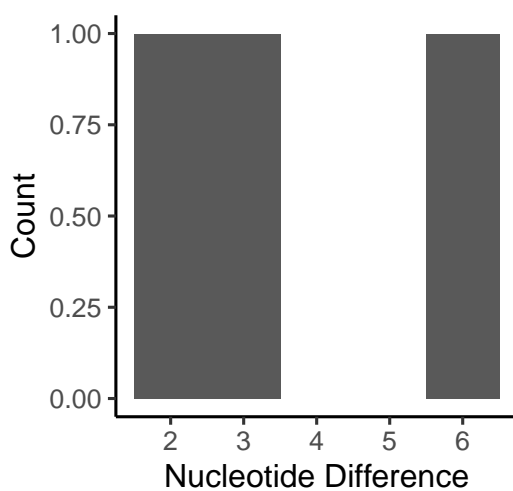
### IGHV5–51\*06

13 sequences assigned  
6 (46.2%) exact matches, in which:  
6 unique CDR3  
4 unique J



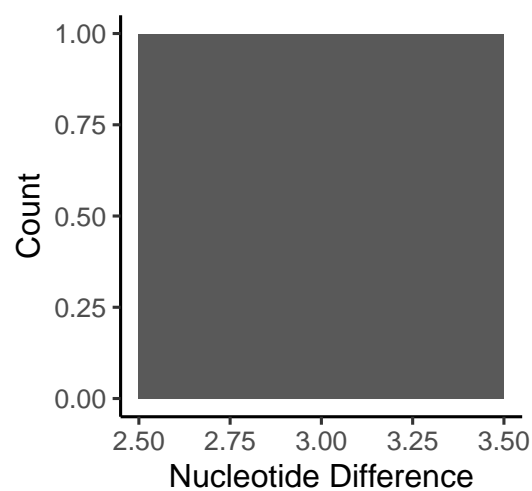
### IGHV3/OR16–9\*01

3 sequences assigned  
No exact matches.



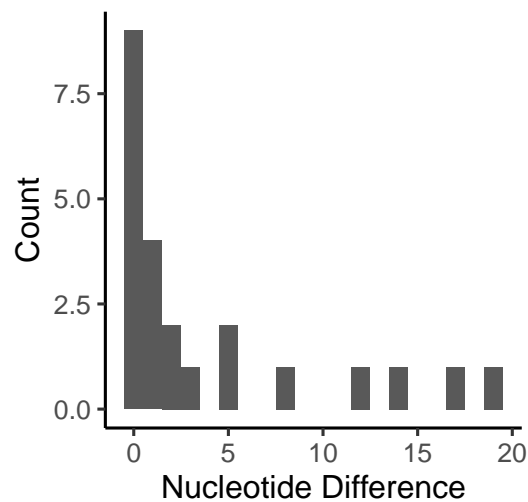
### IGHV7–81\*01

1 sequences assigned  
No exact matches.



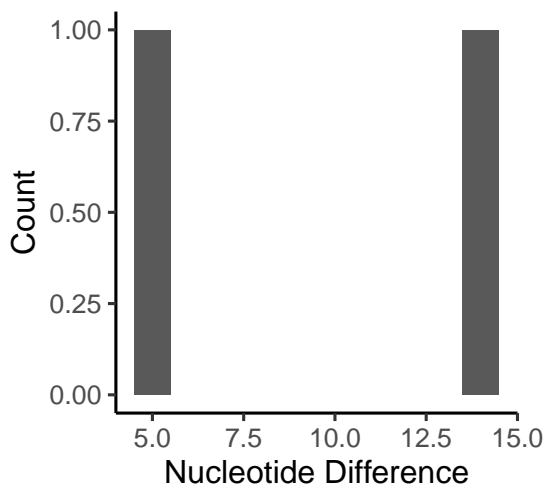
### IGHV5–51\*07

23 sequences assigned  
9 (39.1%) exact matches, in which:  
9 unique CDR3  
3 unique J



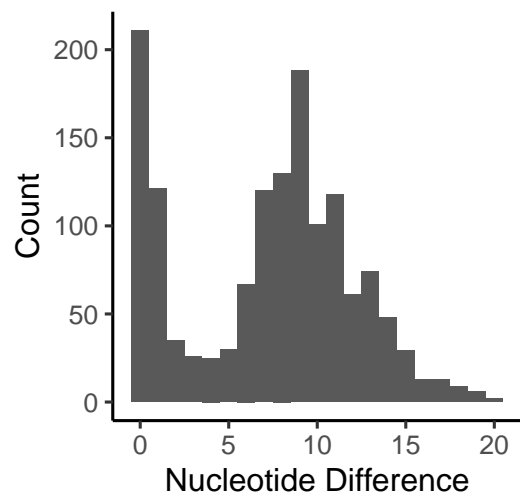
### IGHV3/OR16–10\*01\_03

3 sequences assigned  
No exact matches.



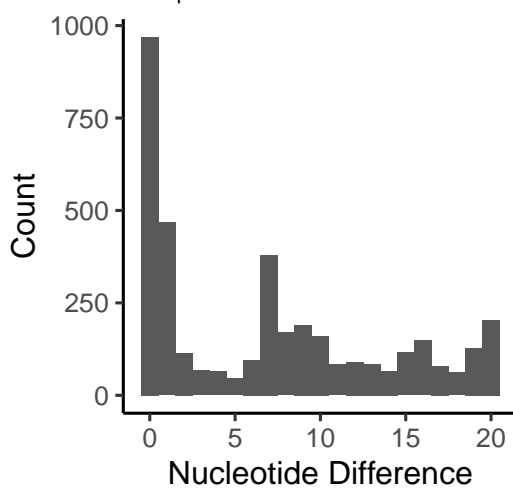
### IGHV6–1\*01\_02

1466 sequences assigned  
211 (14.4%) exact matches, in which:  
196 unique CDR3  
7 unique J

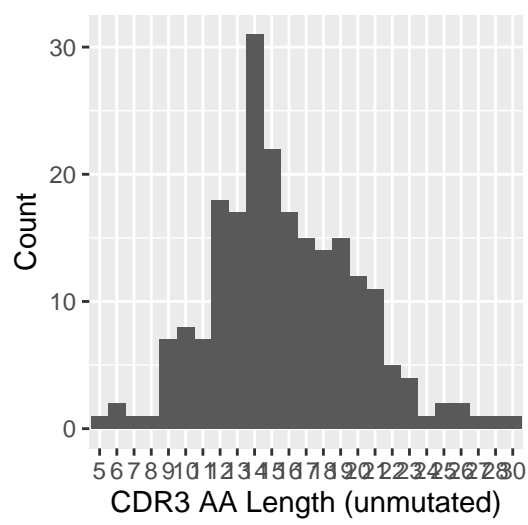


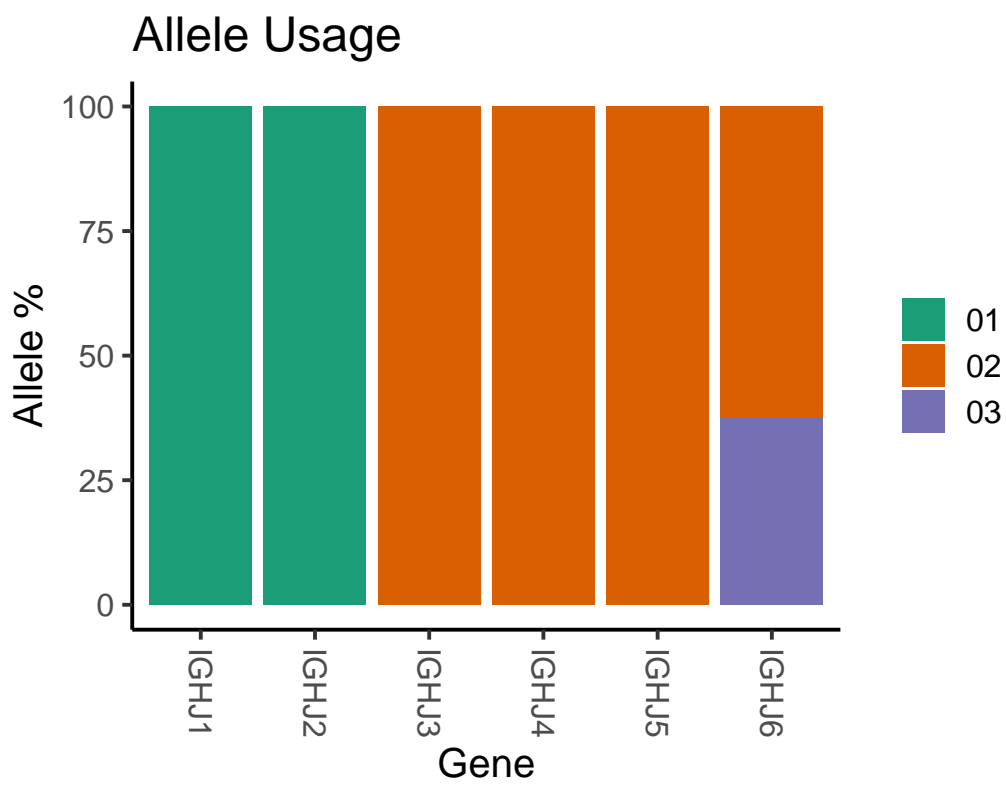
### IGHV7–4–1\*02

4159 sequences assigned  
969 (23.3%) exact matches, in which:  
911 unique CDR3  
7 unique J

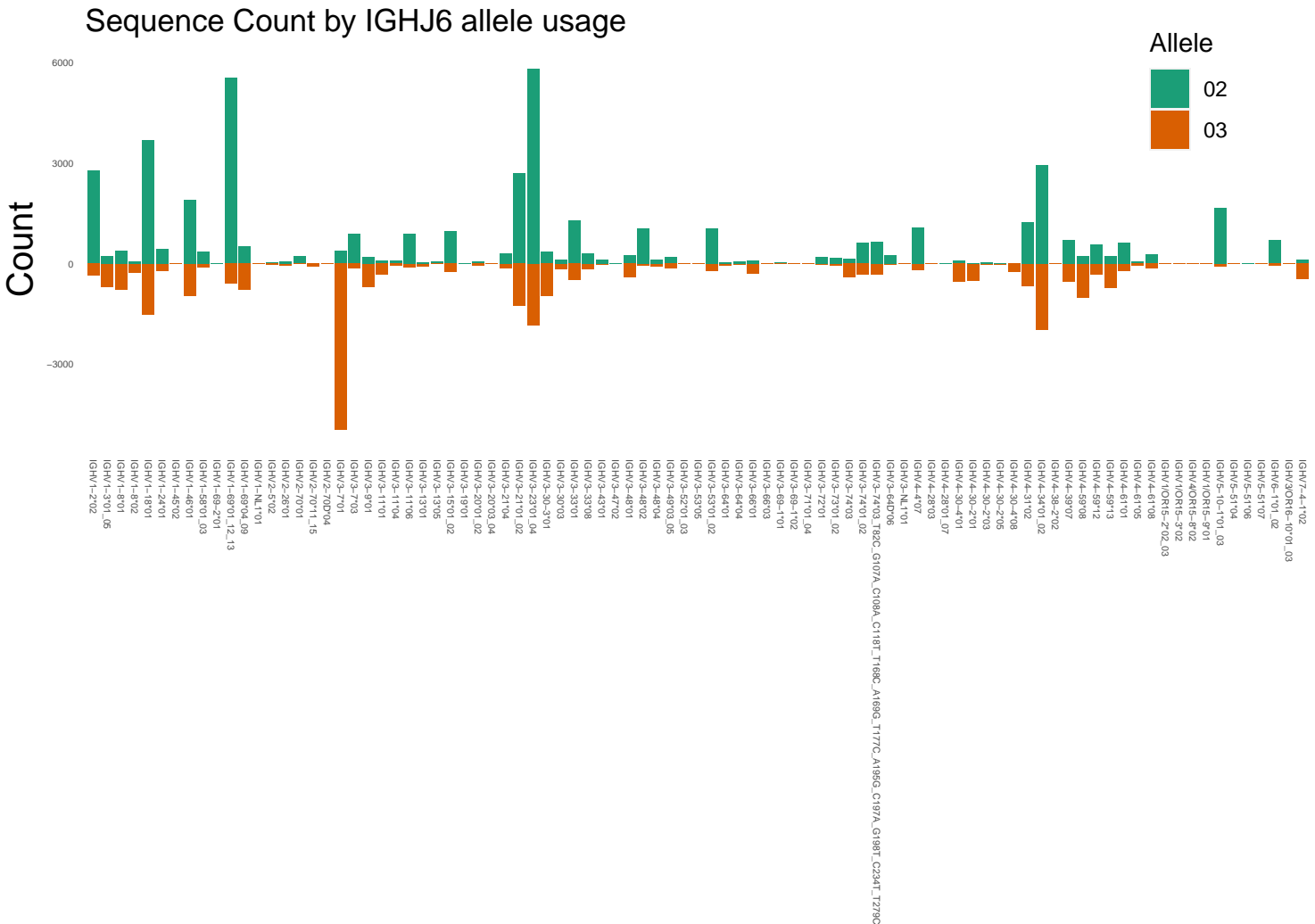


IGHV3-74\*03\_T82C\_G107A\_C108A\_C118T\_T168C\_A169G\_T177C\_A195G\_C197A\_G198T\_C23









[illegible]