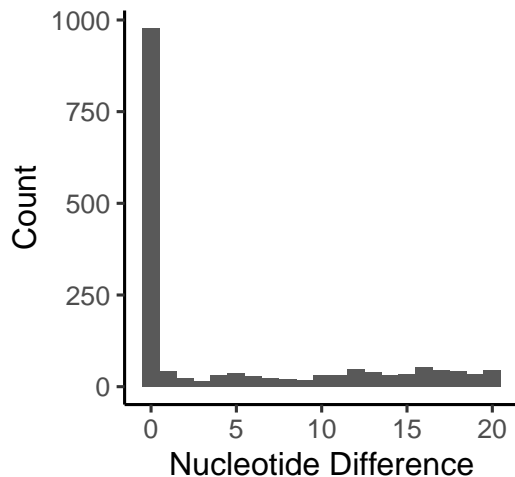


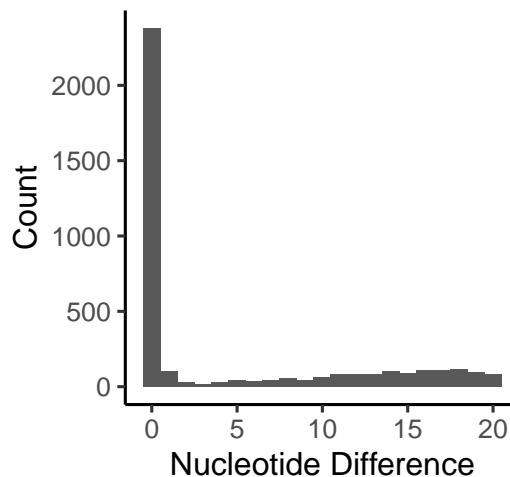
### IGHV1-2\*04

1888 sequences assigned  
977 (51.7%) exact matches, in which:  
809 unique CDR3  
6 unique J



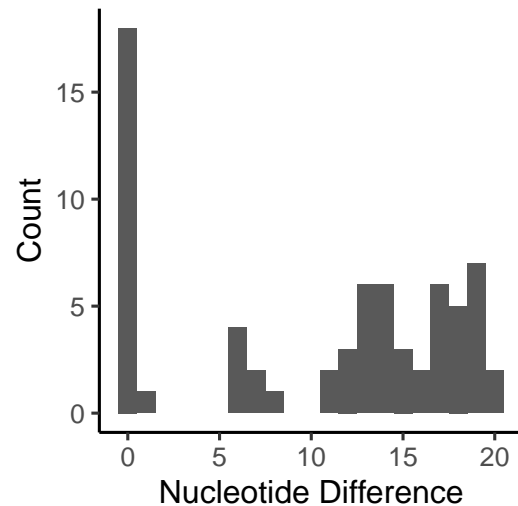
### IGHV1-18\*01

4582 sequences assigned  
2378 (51.9%) exact matches, in which:  
1934 unique CDR3  
6 unique J



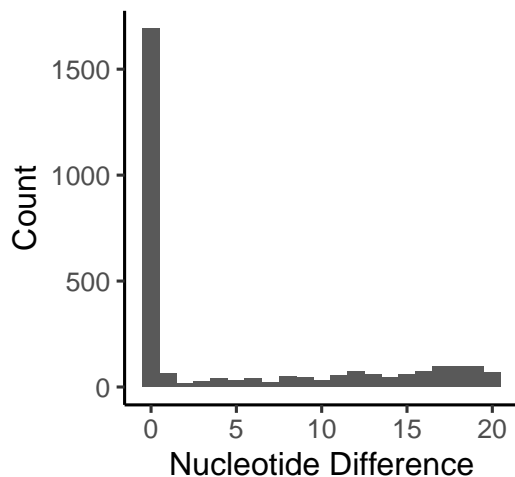
### IGHV1-45\*02

164 sequences assigned  
18 (11%) exact matches, in which:  
14 unique CDR3  
5 unique J



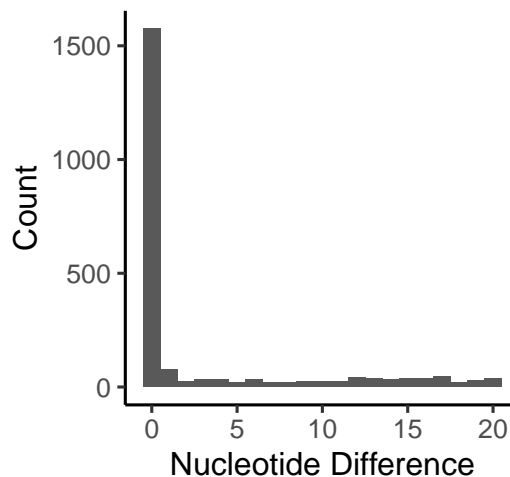
### IGHV1-3\*01

3571 sequences assigned  
1691 (47.4%) exact matches, in which:  
1431 unique CDR3  
6 unique J



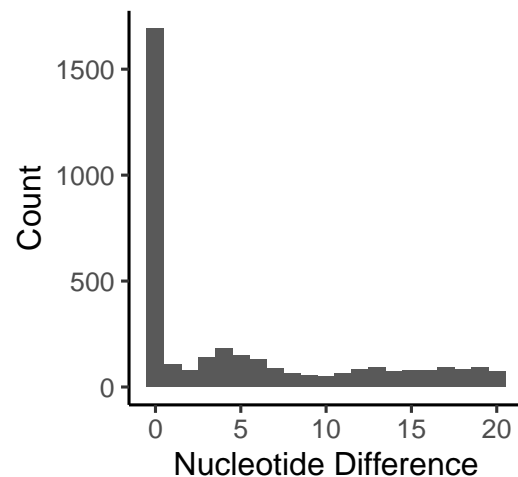
### IGHV1-18\*04

2537 sequences assigned  
1575 (62.1%) exact matches, in which:  
1283 unique CDR3  
6 unique J



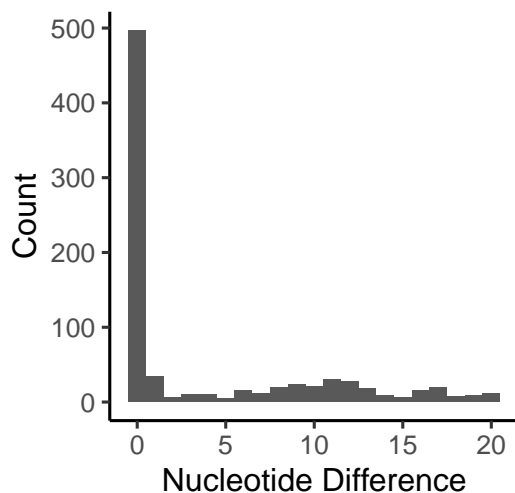
### IGHV1-46\*01

4458 sequences assigned  
1691 (37.9%) exact matches, in which:  
1311 unique CDR3  
6 unique J



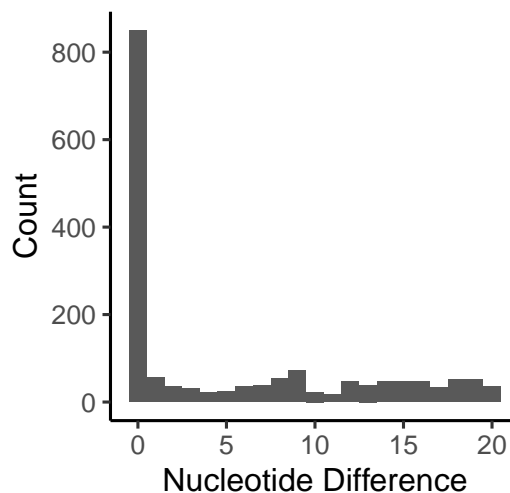
### IGHV1-8\*01

950 sequences assigned  
497 (52.3%) exact matches, in which:  
410 unique CDR3  
6 unique J



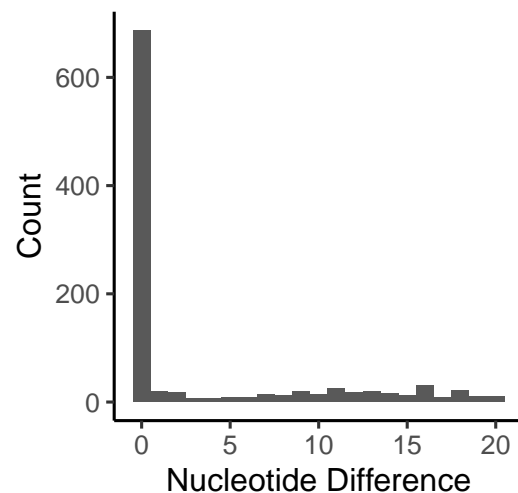
### IGHV1-24\*01

2081 sequences assigned  
850 (40.8%) exact matches, in which:  
712 unique CDR3  
6 unique J



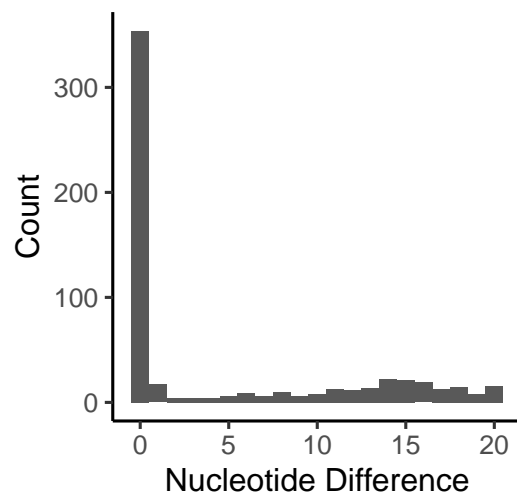
### IGHV1-46\*03

1104 sequences assigned  
687 (62.2%) exact matches, in which:  
556 unique CDR3  
6 unique J



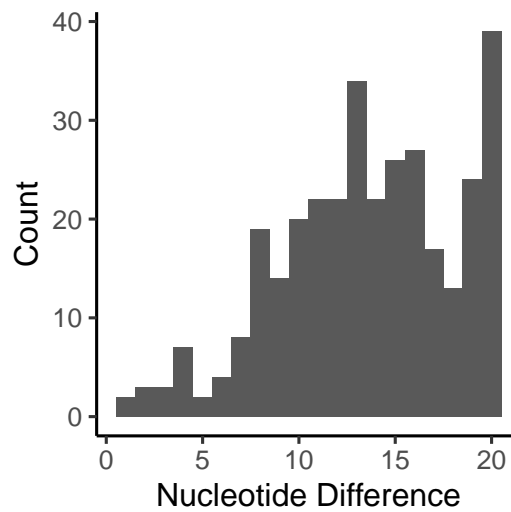
### IGHV1–58\*01

667 sequences assigned  
354 (53.1%) exact matches, in which:  
260 unique CDR3  
6 unique J



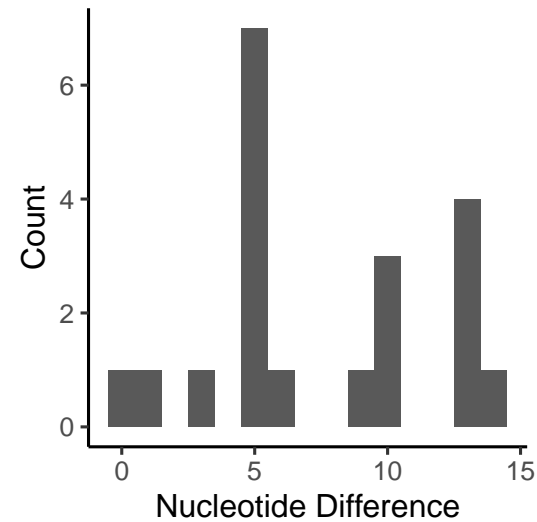
### IGHV2–5\*02

529 sequences assigned  
No exact matches.



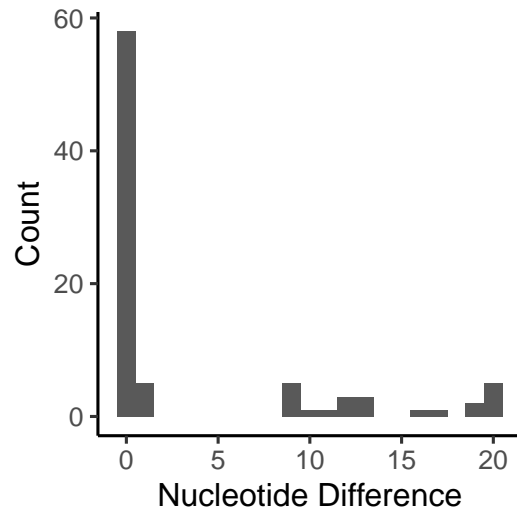
### IGHV2–70D\*04

21 sequences assigned  
1 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



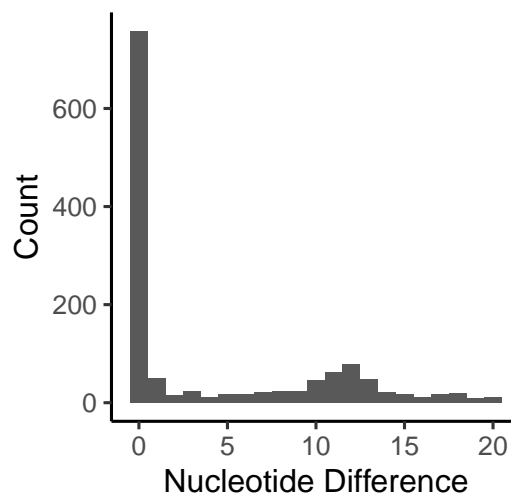
### IGHV1–58\*02

139 sequences assigned  
58 (41.7%) exact matches, in which:  
50 unique CDR3  
5 unique J



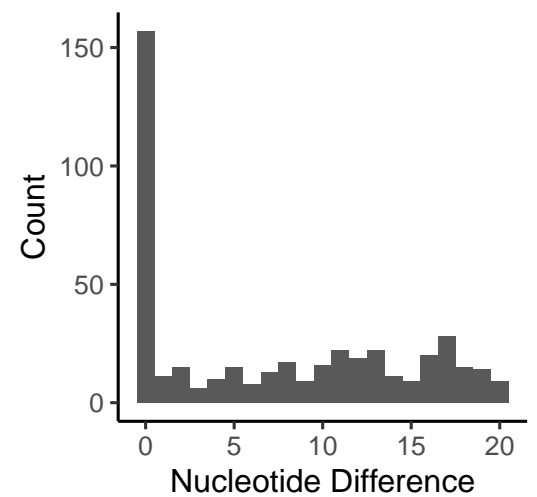
### IGHV2–26\*01

1386 sequences assigned  
758 (54.7%) exact matches, in which:  
640 unique CDR3  
6 unique J



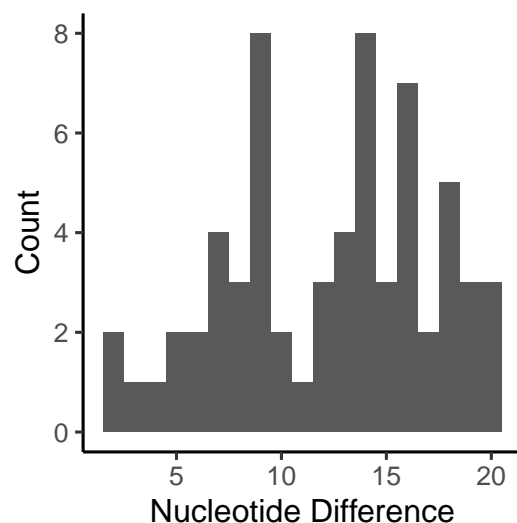
### IGHV3–7\*01

525 sequences assigned  
157 (29.9%) exact matches, in which:  
146 unique CDR3  
4 unique J



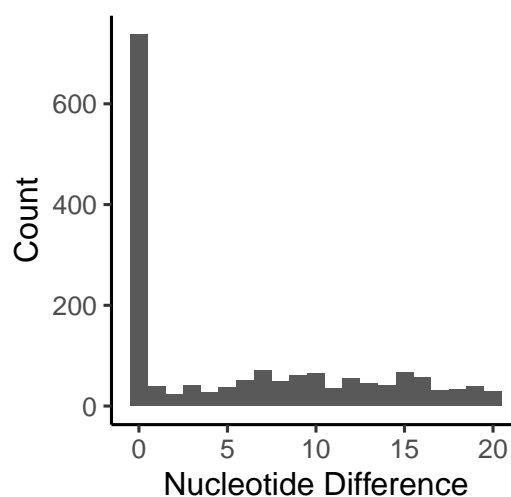
### IGHV2–5\*01

135 sequences assigned  
No exact matches.



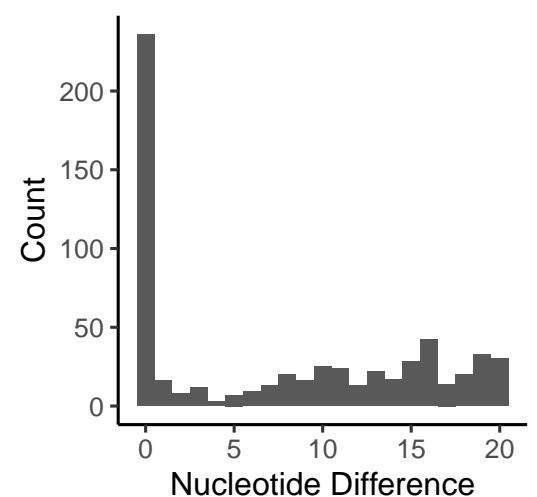
### IGHV2–70\*01

1851 sequences assigned  
738 (39.9%) exact matches, in which:  
555 unique CDR3  
5 unique J



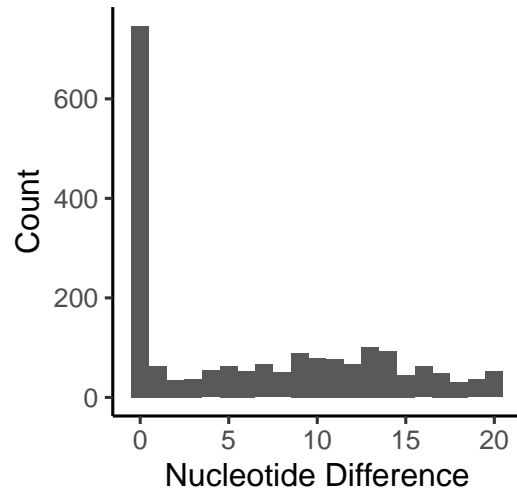
### IGHV3–7\*03

736 sequences assigned  
236 (32.1%) exact matches, in which:  
219 unique CDR3  
6 unique J



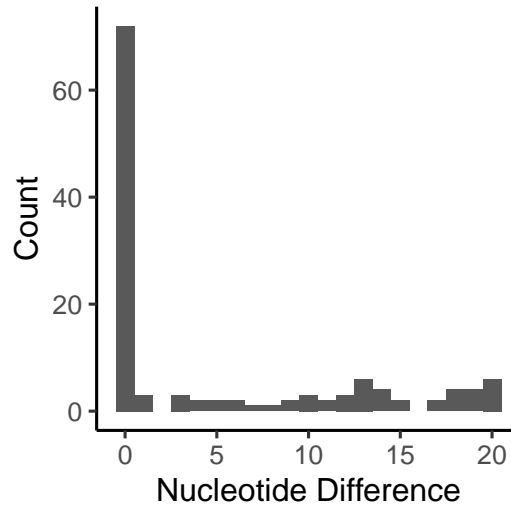
### IGHV3-9\*01

2162 sequences assigned  
747 (34.6%) exact matches, in which:  
675 unique CDR3  
6 unique J



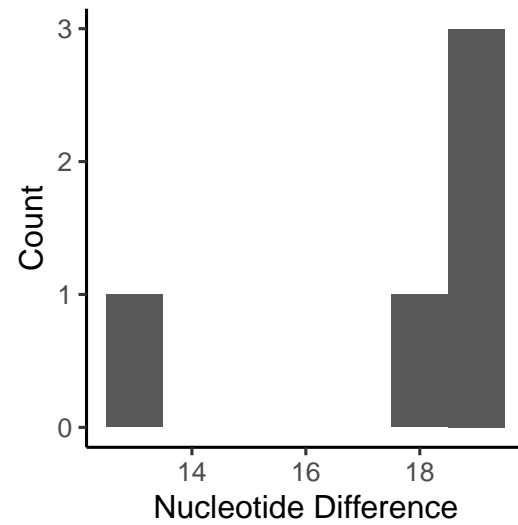
### IGHV3-13\*01

140 sequences assigned  
72 (51.4%) exact matches, in which:  
65 unique CDR3  
5 unique J



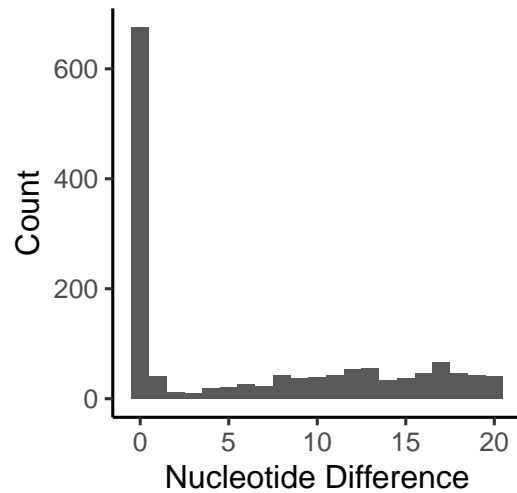
### IGHV3-20\*01

5 sequences assigned  
No exact matches.



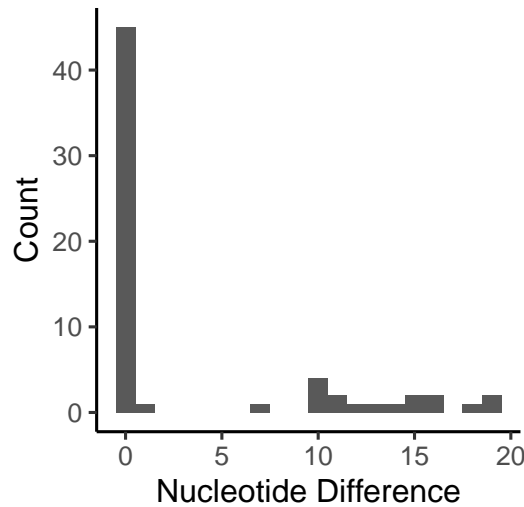
### IGHV3-11\*01

1596 sequences assigned  
676 (42.4%) exact matches, in which:  
604 unique CDR3  
6 unique J



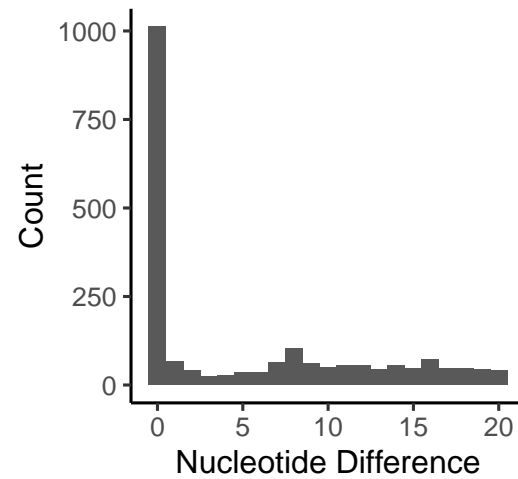
### IGHV3-13\*05

70 sequences assigned  
45 (64.3%) exact matches, in which:  
41 unique CDR3  
4 unique J



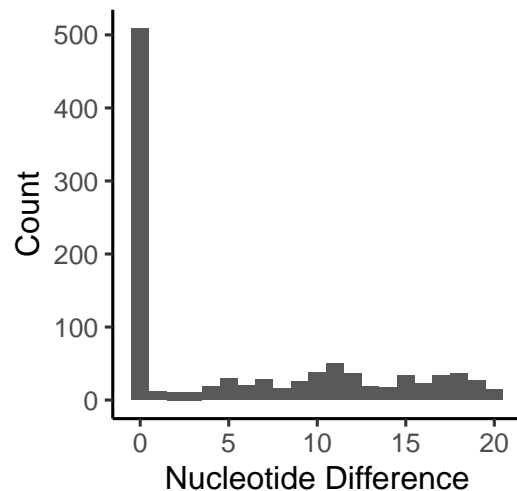
### IGHV3-30\*01

2315 sequences assigned  
1012 (43.7%) exact matches, in which:  
917 unique CDR3  
6 unique J



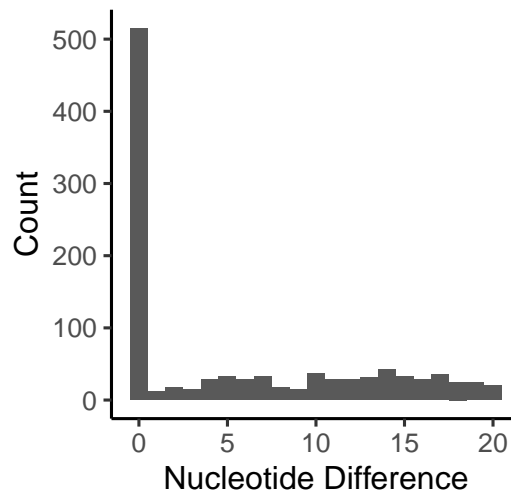
### IGHV3-11\*06

1256 sequences assigned  
509 (40.5%) exact matches, in which:  
446 unique CDR3  
6 unique J



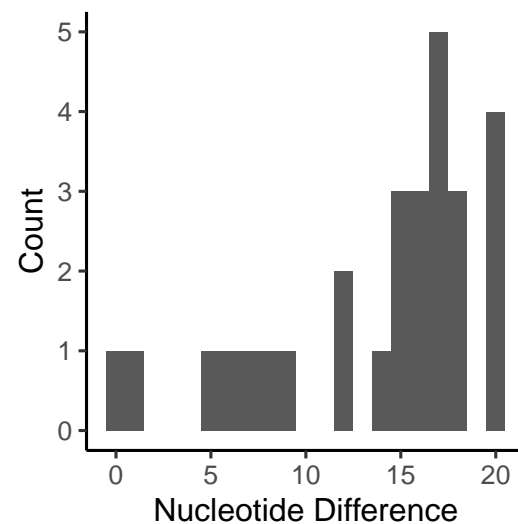
### IGHV3-15\*01

1344 sequences assigned  
515 (38.3%) exact matches, in which:  
488 unique CDR3  
5 unique J



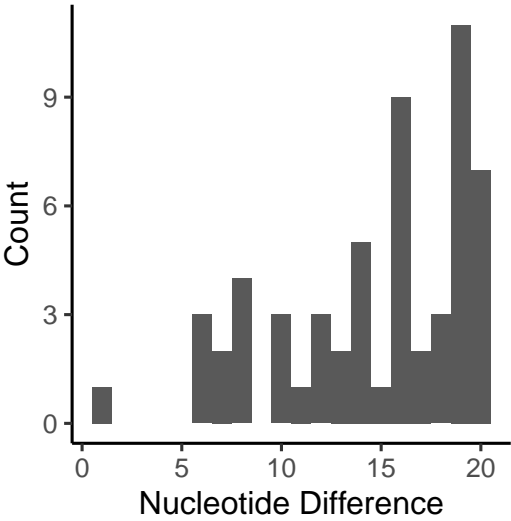
### IGHV3-30-3\*01

63 sequences assigned  
1 (1.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



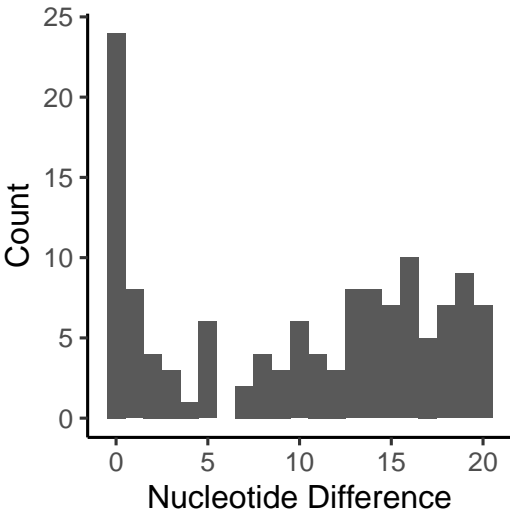
IGHV3-30-3\*03

112 sequences assigned  
No exact matches.



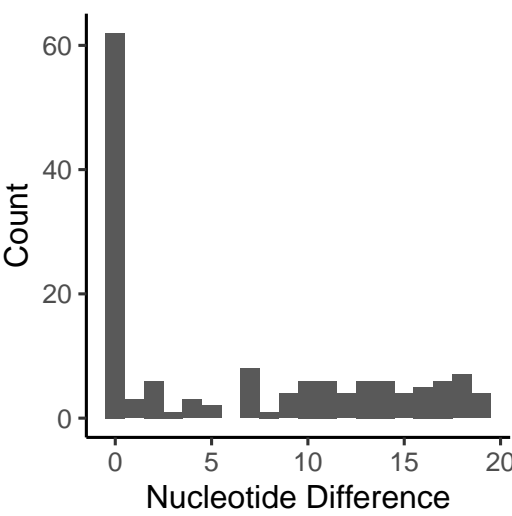
IGHV3-43\*01

207 sequences assigned  
24 (11.6%) exact matches, in which:  
20 unique CDR3  
4 unique J



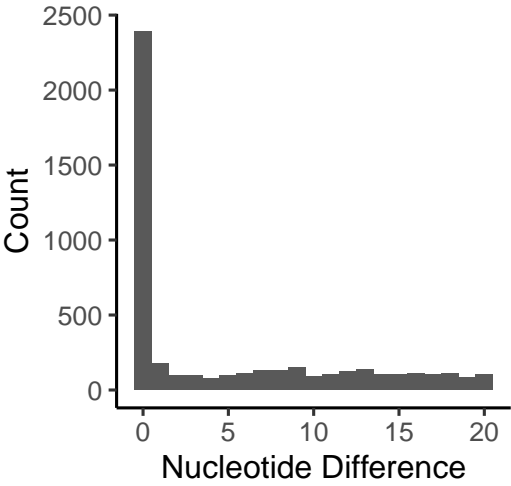
IGHV3-49\*04

236 sequences assigned  
62 (26.3%) exact matches, in which:  
55 unique CDR3  
4 unique J



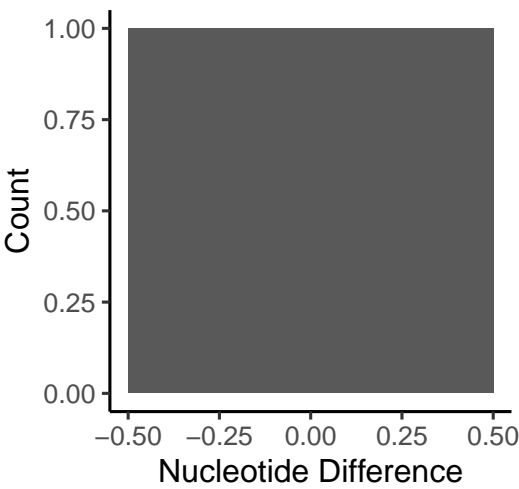
IGHV3-33\*01

5450 sequences assigned  
2389 (43.8%) exact matches, in which:  
2121 unique CDR3  
6 unique J



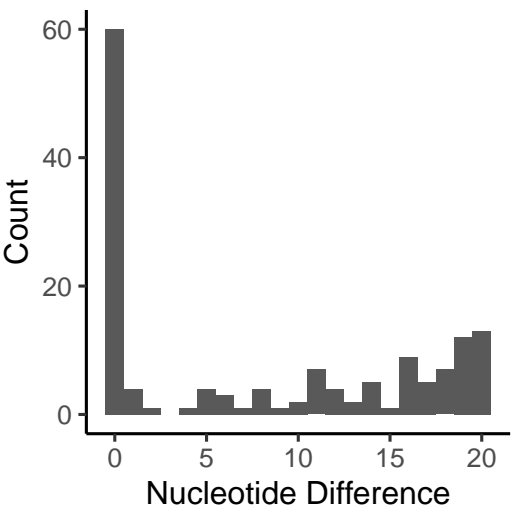
IGHV3-47\*02

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



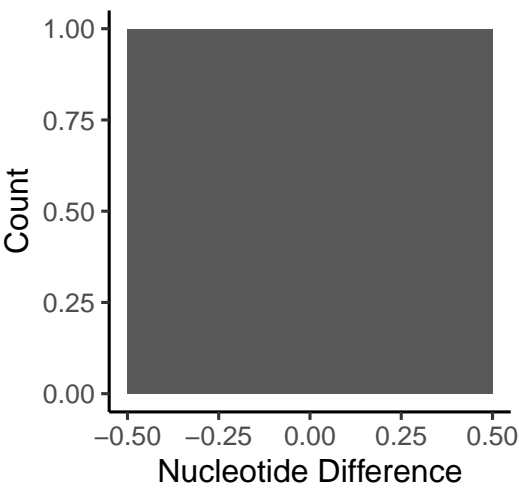
IGHV3-49\*05

214 sequences assigned  
60 (28%) exact matches, in which:  
55 unique CDR3  
5 unique J



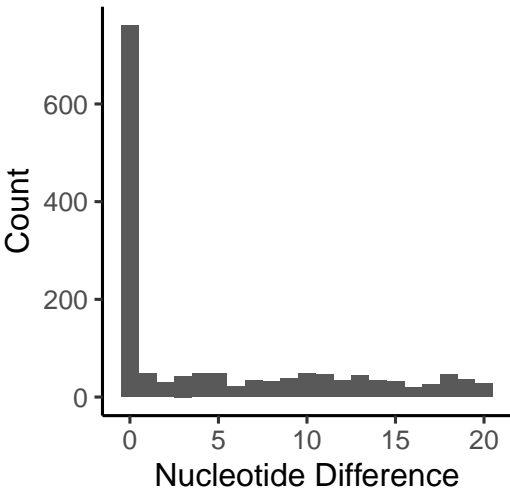
IGHV3-35\*01

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



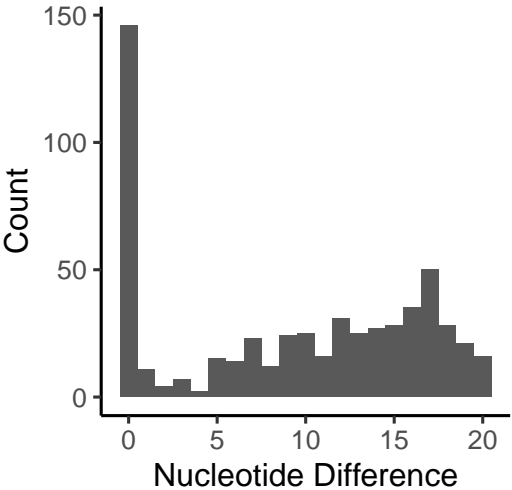
IGHV3-48\*02

1795 sequences assigned  
761 (42.4%) exact matches, in which:  
691 unique CDR3  
6 unique J



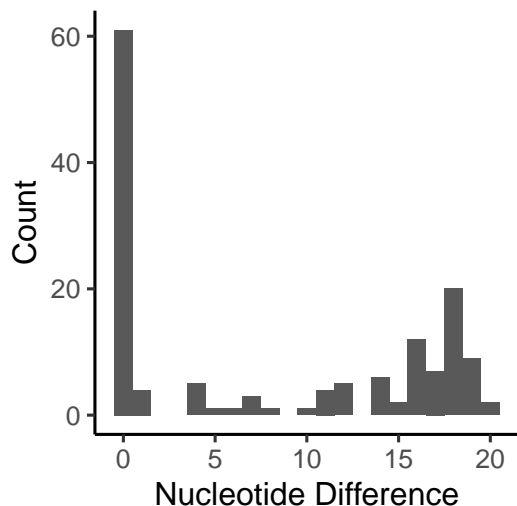
IGHV3-53\*01

759 sequences assigned  
146 (19.2%) exact matches, in which:  
136 unique CDR3  
6 unique J



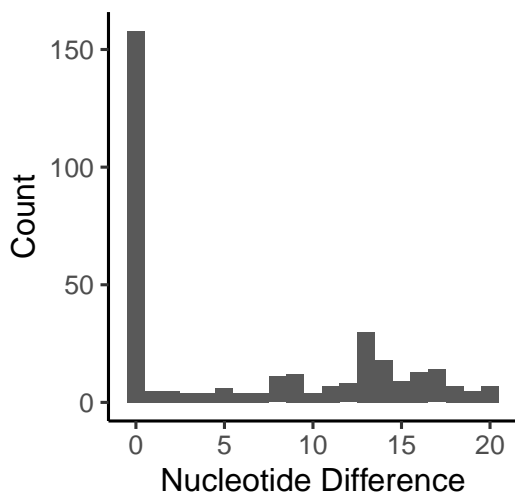
### IGHV3-53\*04

164 sequences assigned  
61 (37.2%) exact matches, in which:  
54 unique CDR3  
5 unique J



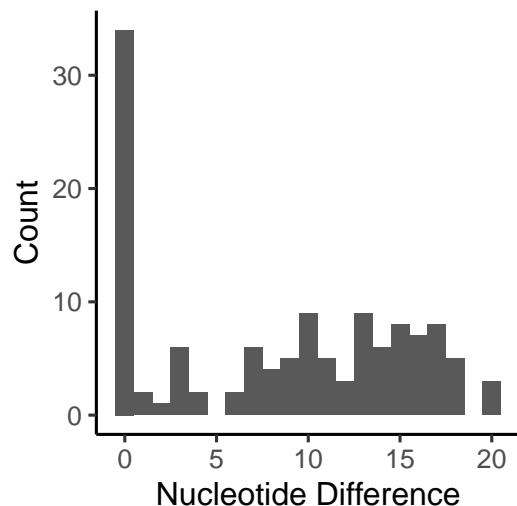
### IGHV3-66\*02

458 sequences assigned  
158 (34.5%) exact matches, in which:  
144 unique CDR3  
6 unique J



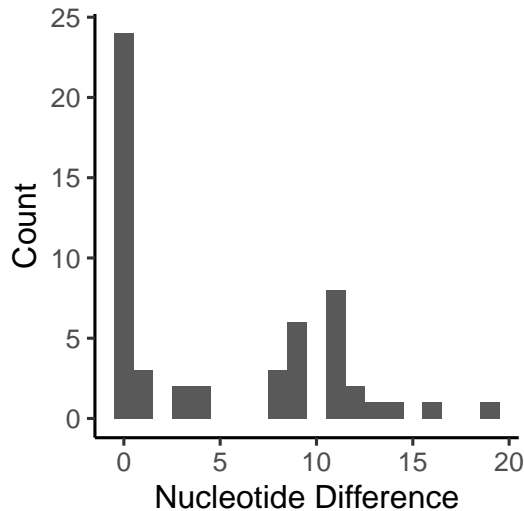
### IGHV3-73\*01

189 sequences assigned  
34 (18%) exact matches, in which:  
32 unique CDR3  
4 unique J



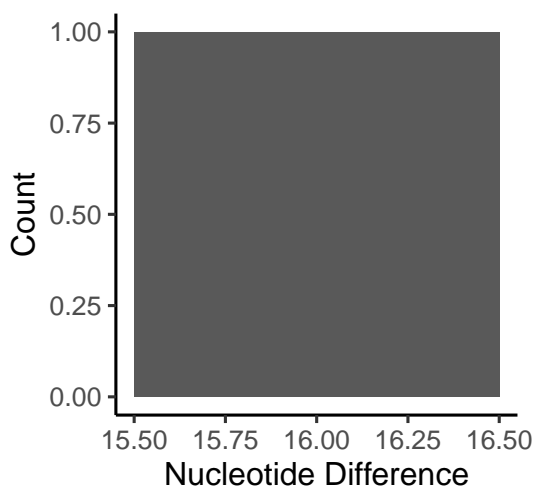
### IGHV3-64\*01

56 sequences assigned  
24 (42.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



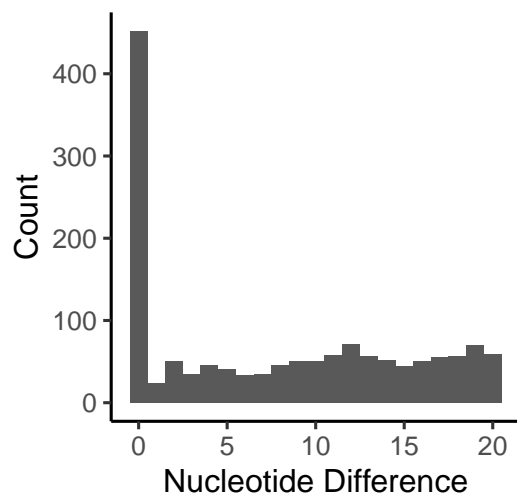
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



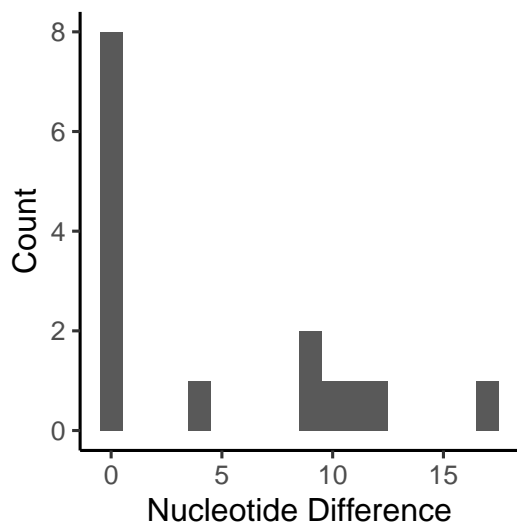
### IGHV3-74\*01

1973 sequences assigned  
452 (22.9%) exact matches, in which:  
419 unique CDR3  
6 unique J



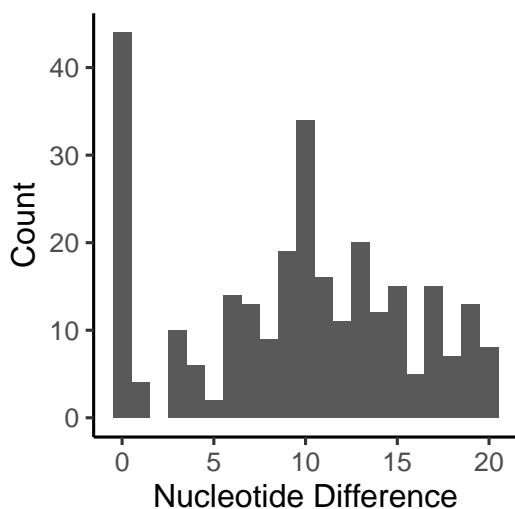
### IGHV3-64\*02

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



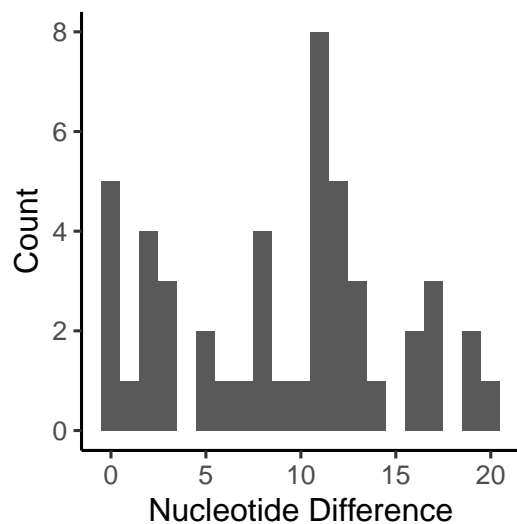
### IGHV3-72\*01

319 sequences assigned  
44 (13.8%) exact matches, in which:  
32 unique CDR3  
4 unique J



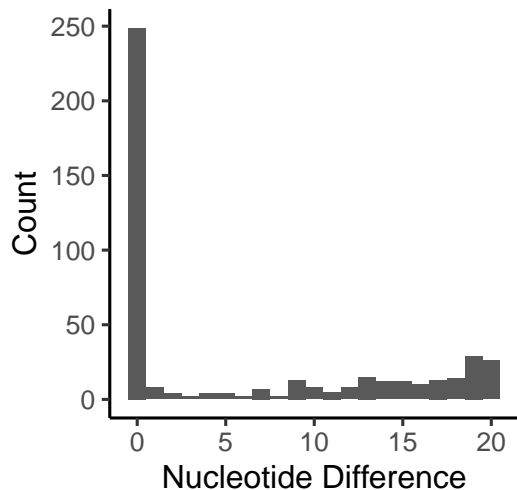
### IGHV3-43D\*03

59 sequences assigned  
5 (8.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



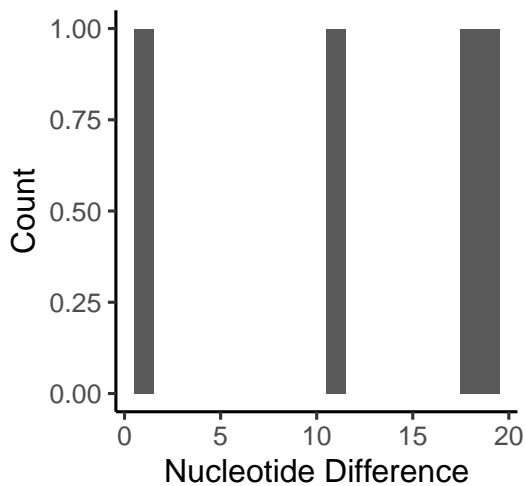
### IGHV3-64D\*06

573 sequences assigned  
249 (43.5%) exact matches, in which:  
224 unique CDR3  
6 unique J



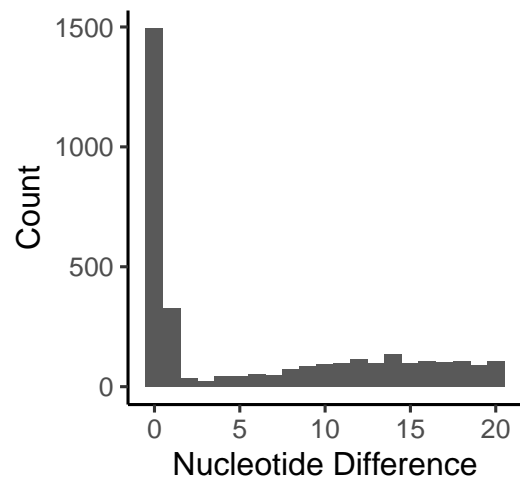
### IGHV4-30-2\*01

5 sequences assigned  
No exact matches.



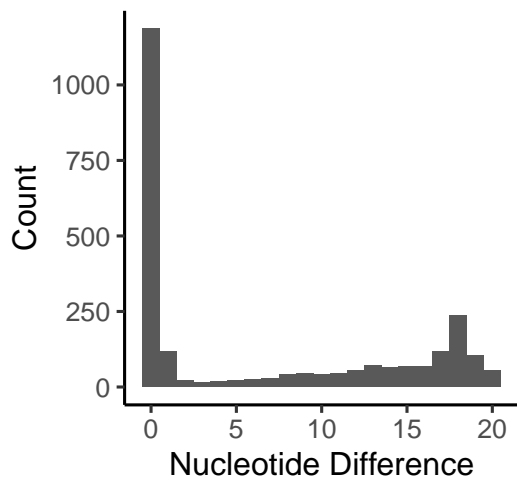
### IGHV4-31\*03

4108 sequences assigned  
1494 (36.4%) exact matches, in which:  
1445 unique CDR3  
6 unique J



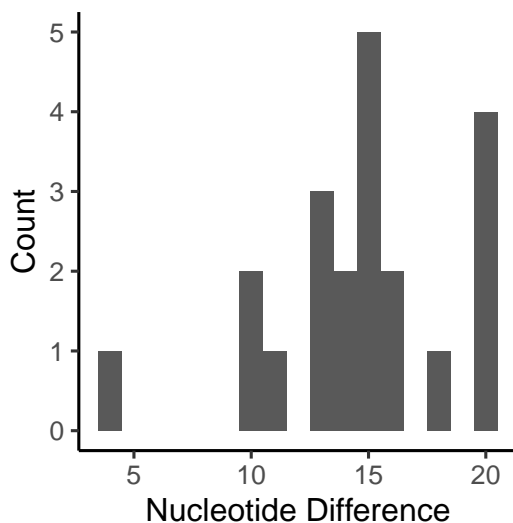
### IGHV4-4\*02

2851 sequences assigned  
1186 (41.6%) exact matches, in which:  
1145 unique CDR3  
6 unique J



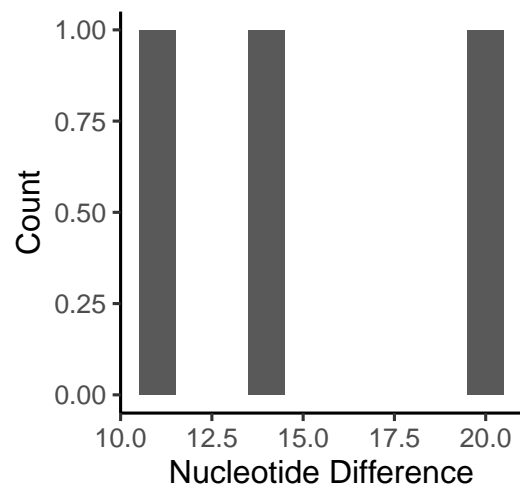
### IGHV4-30-4\*01

33 sequences assigned  
No exact matches.



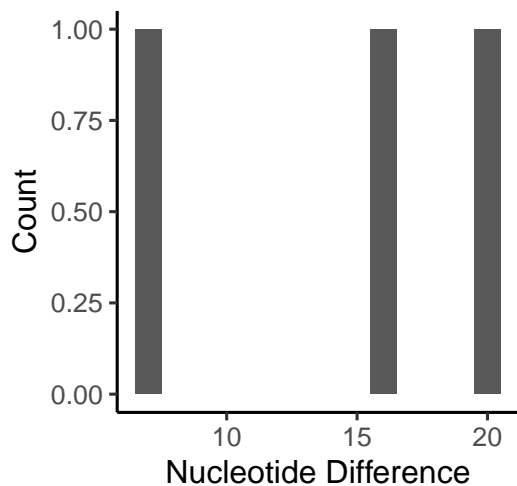
### IGHV4-38-2\*02

6 sequences assigned  
No exact matches.



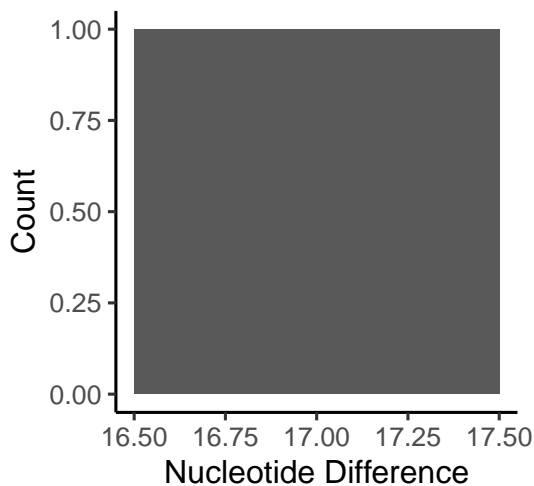
### IGHV4-28\*03

3 sequences assigned  
No exact matches.



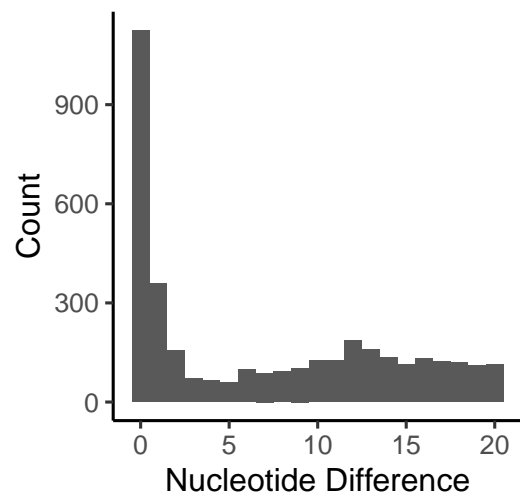
### IGHV4-30-4\*08

4 sequences assigned  
No exact matches.



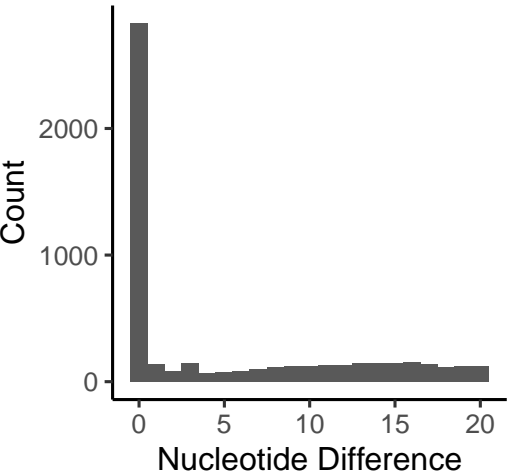
### IGHV4-39\*01

4849 sequences assigned  
1125 (23.2%) exact matches, in which:  
1103 unique CDR3  
6 unique J



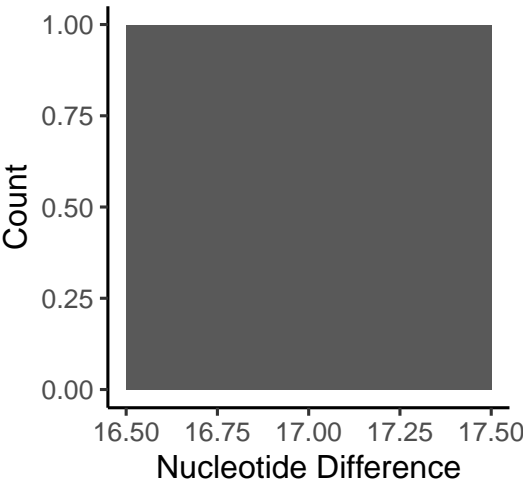
IGHV4–59\*01

6262 sequences assigned  
2830 (45.2%) exact matches, in which:  
2727 unique CDR3  
6 unique J



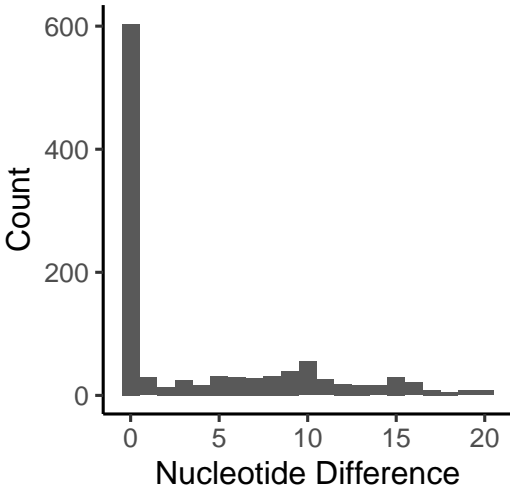
IGHV4/OR15–8\*02

2 sequences assigned  
No exact matches.



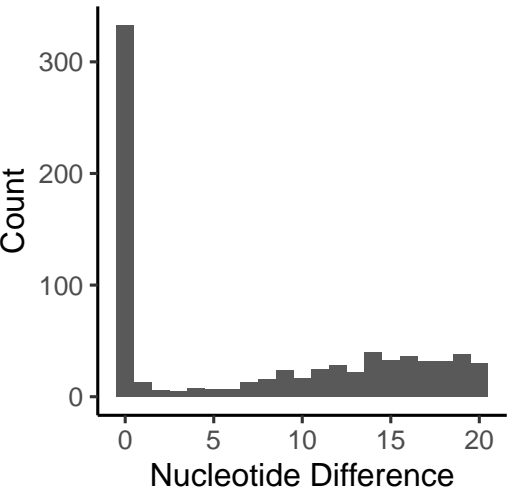
IGHV6–1\*01

1102 sequences assigned  
604 (54.8%) exact matches, in which:  
504 unique CDR3  
6 unique J



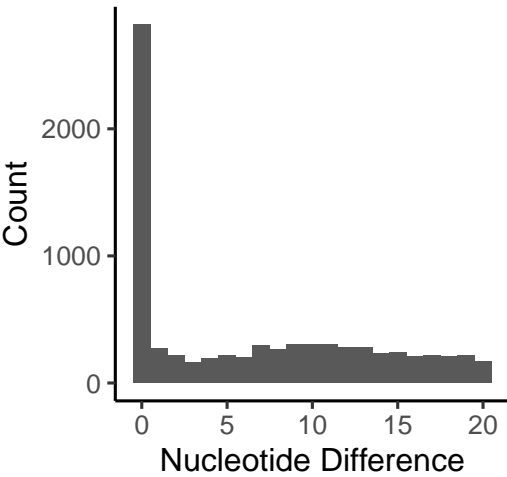
IGHV4–61\*01

1061 sequences assigned  
333 (31.4%) exact matches, in which:  
325 unique CDR3  
6 unique J



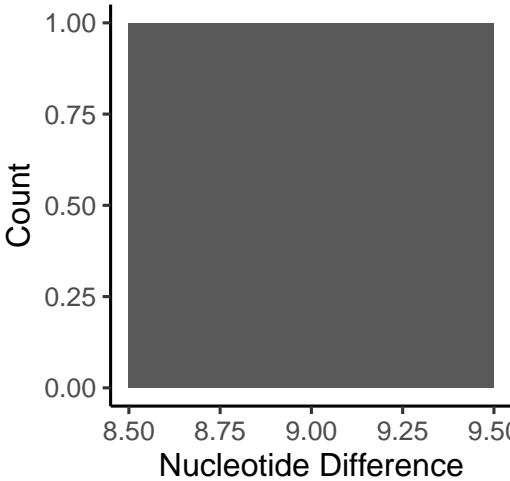
IGHV5–51\*01

8672 sequences assigned  
2819 (32.5%) exact matches, in which:  
2377 unique CDR3  
6 unique J



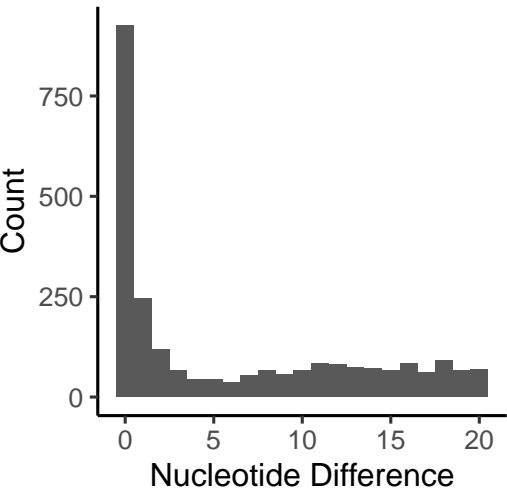
IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.



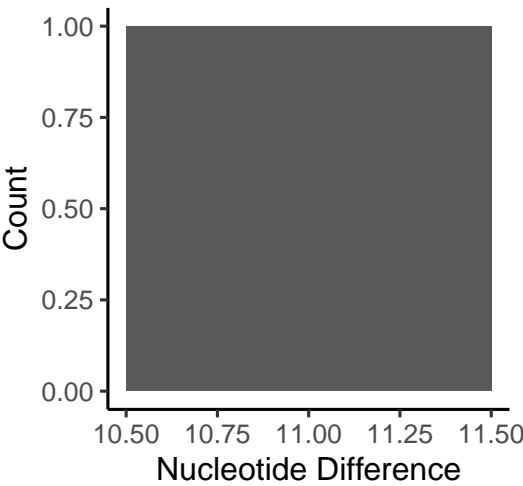
IGHV4–61\*02

2918 sequences assigned  
926 (31.7%) exact matches, in which:  
906 unique CDR3  
6 unique J



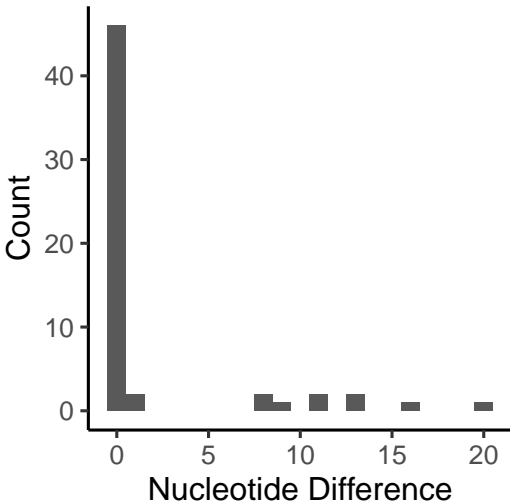
IGHV5–78\*01

1 sequences assigned  
No exact matches.



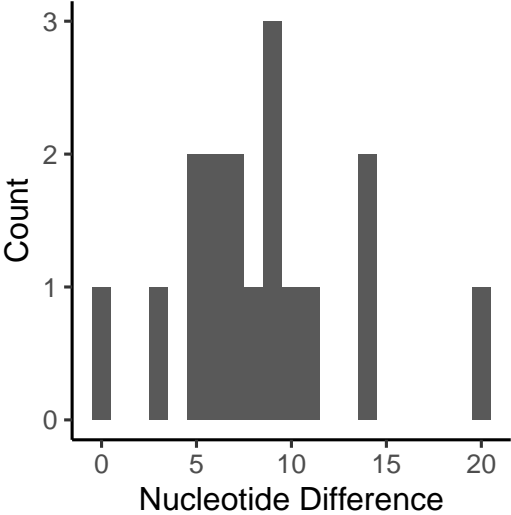
IGHV7–4–1\*01

59 sequences assigned  
46 (78%) exact matches, in which:  
38 unique CDR3  
5 unique J



# IGHV7-4-1\*02

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







Warning – no inferred sequences found.