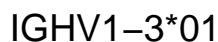
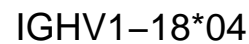


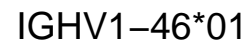
427 sequences assigned  
79 (18.5%) exact matches, in which:  
79 unique CDR3  
6 unique J



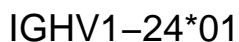
441 sequences assigned  
80 (18.1%) exact matches, in which:  
78 unique CDR3  
7 unique J



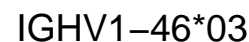
784 sequences assigned  
204 (26%) exact matches, in which:  
197 unique CDR3  
7 unique J



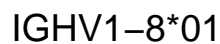
358 sequences assigned  
90 (25.1%) exact matches, in which:  
90 unique CDR3  
5 unique J



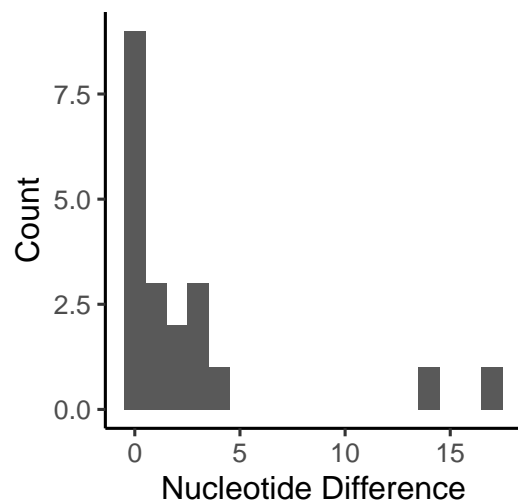
115 sequences assigned  
54 (47%) exact matches, in which:  
54 unique CDR3  
6 unique J



211 sequences assigned  
61 (28.9%) exact matches, in which:  
59 unique CDR3  
6 unique J

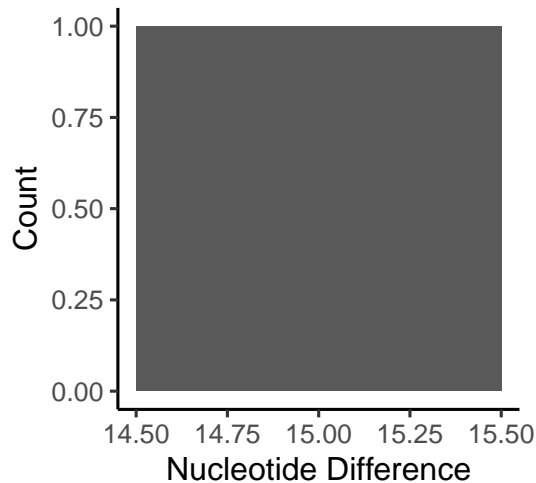


23 sequences assigned  
9 (39.1%) exact matches, in which:  
9 unique CDR3  
4 unique J



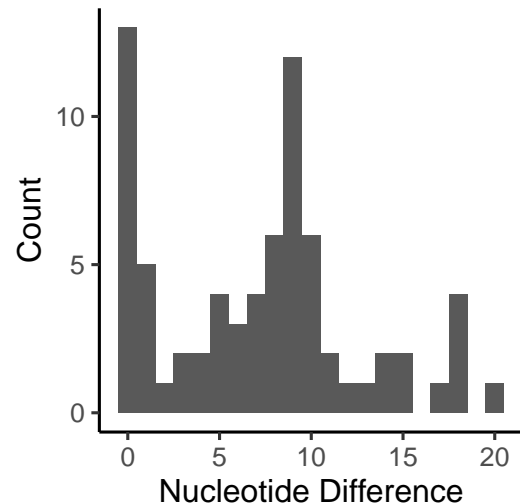
IGHV1-45\*02

2 sequences assigned  
No exact matches.



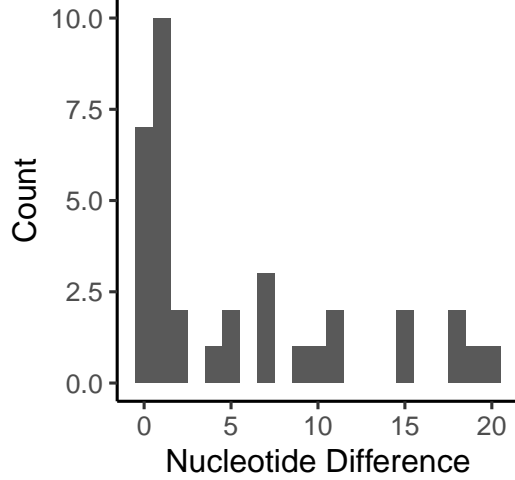
IGHV1-58\*01

86 sequences assigned  
13 (15.1%) exact matches, in which:  
13 unique CDR3  
3 unique J



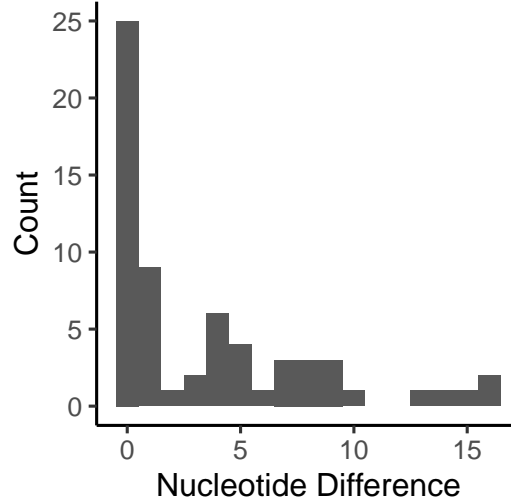
### IGHV1-58\*02

36 sequences assigned  
7 (19.4%) exact matches, in which:  
5 unique CDR3  
3 unique J



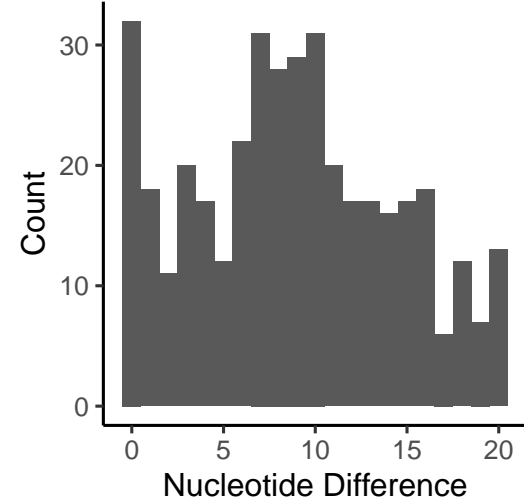
### IGHV2-70\*01

69 sequences assigned  
25 (36.2%) exact matches, in which:  
25 unique CDR3  
5 unique J



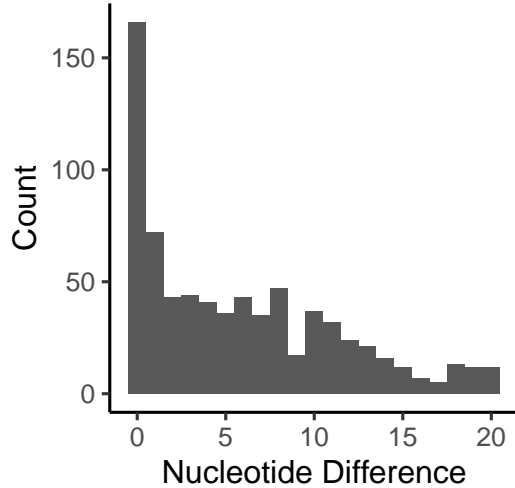
### IGHV3-7\*05

461 sequences assigned  
32 (6.9%) exact matches, in which:  
32 unique CDR3  
5 unique J



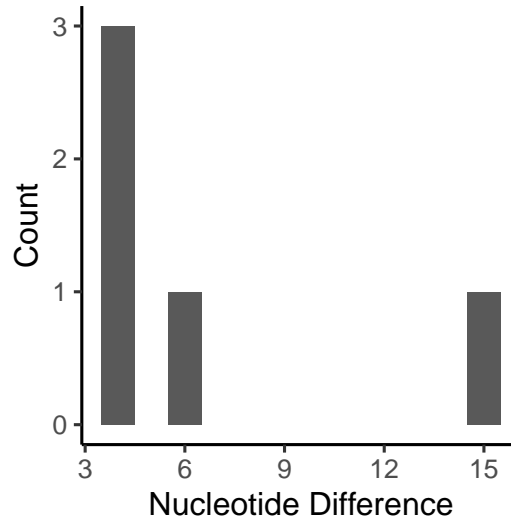
### IGHV2-5\*02

820 sequences assigned  
166 (20.2%) exact matches, in which:  
166 unique CDR3  
7 unique J



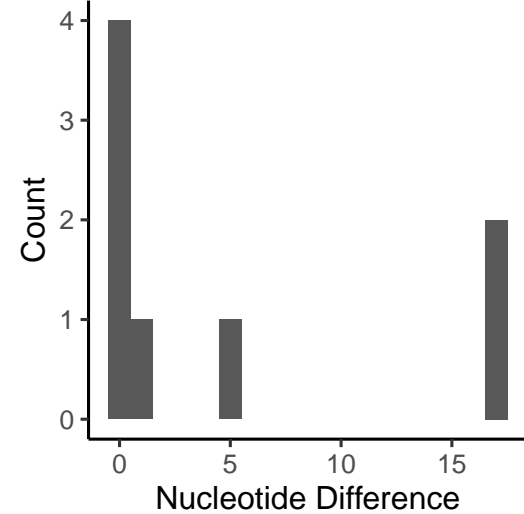
### IGHV2-70D\*04

5 sequences assigned  
No exact matches.



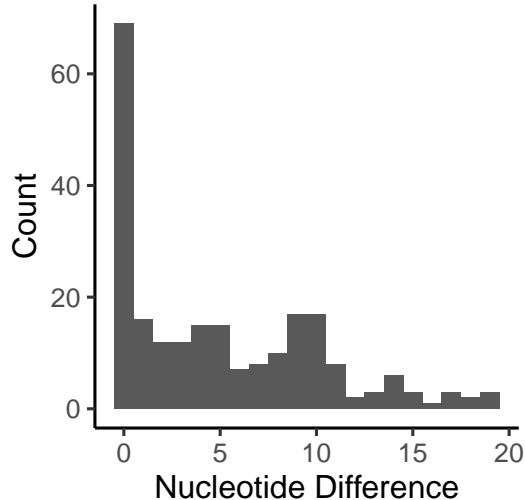
### IGHV3-9\*01

10 sequences assigned  
4 (40%) exact matches, in which:  
4 unique CDR3  
4 unique J



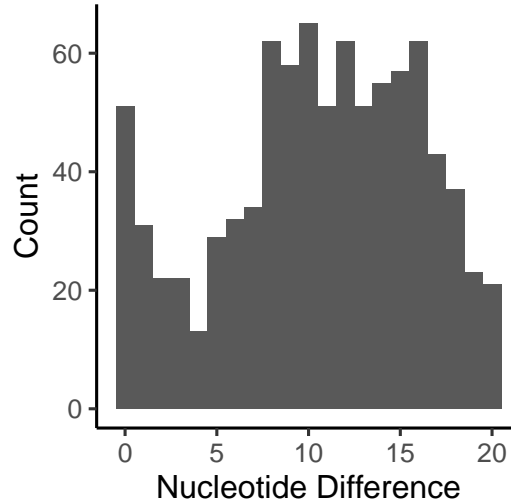
### IGHV2-26\*01

234 sequences assigned  
69 (29.5%) exact matches, in which:  
68 unique CDR3  
6 unique J



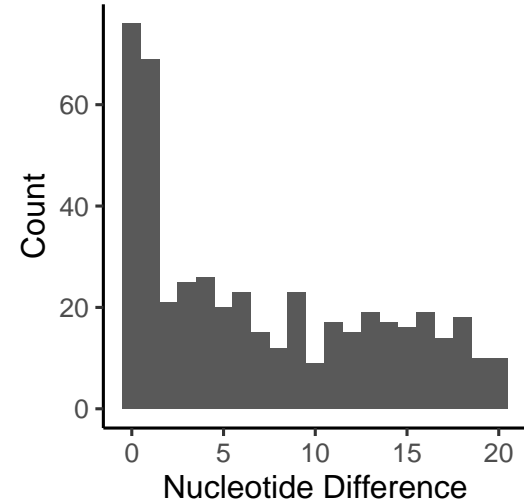
### IGHV3-7\*03

1046 sequences assigned  
51 (4.9%) exact matches, in which:  
51 unique CDR3  
4 unique J



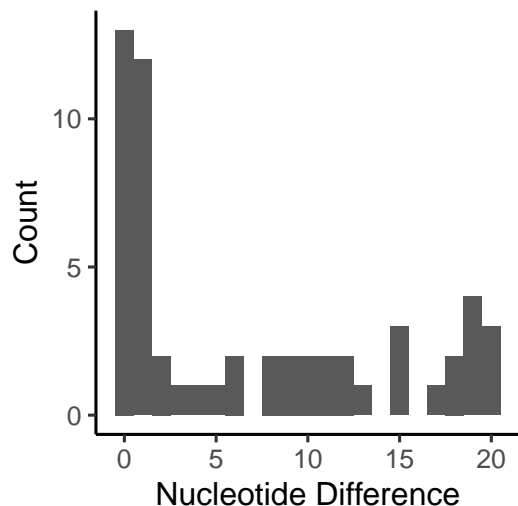
### IGHV3-11\*06

583 sequences assigned  
76 (13%) exact matches, in which:  
75 unique CDR3  
6 unique J



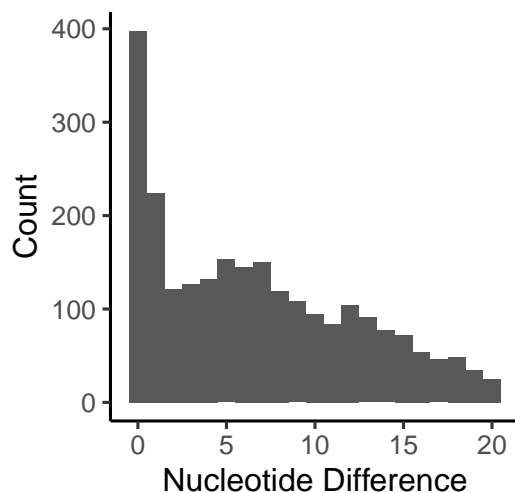
### IGHV3-13\*05

74 sequences assigned  
13 (17.6%) exact matches, in which:  
13 unique CDR3  
7 unique J



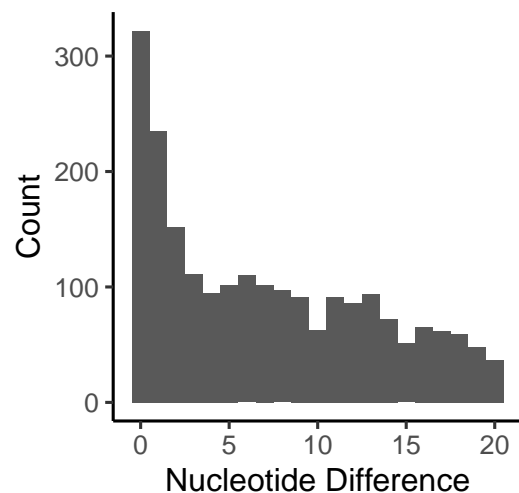
### IGHV3-21\*01

2779 sequences assigned  
398 (14.3%) exact matches, in which:  
392 unique CDR3  
7 unique J



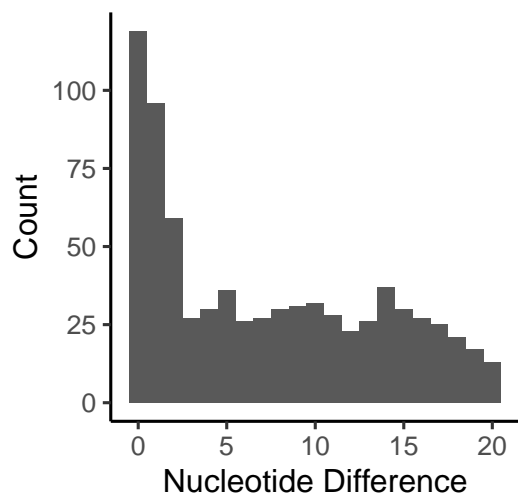
### IGHV3-33\*01

2506 sequences assigned  
322 (12.8%) exact matches, in which:  
318 unique CDR3  
7 unique J



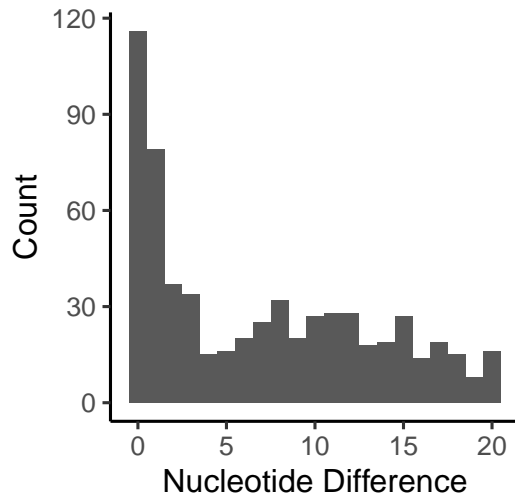
### IGHV3-15\*01

1048 sequences assigned  
119 (11.4%) exact matches, in which:  
119 unique CDR3  
7 unique J



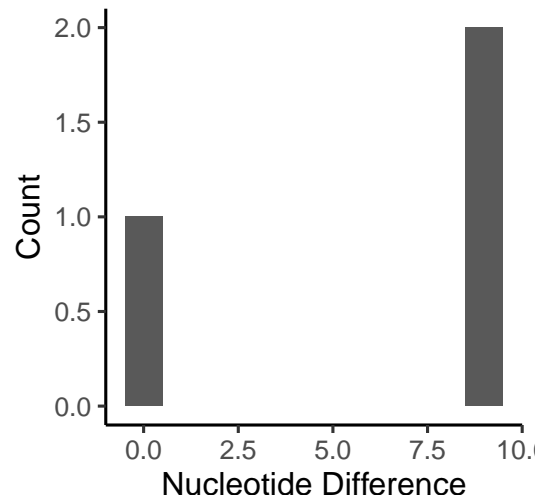
### IGHV3-30-3\*01

727 sequences assigned  
116 (16%) exact matches, in which:  
112 unique CDR3  
6 unique J



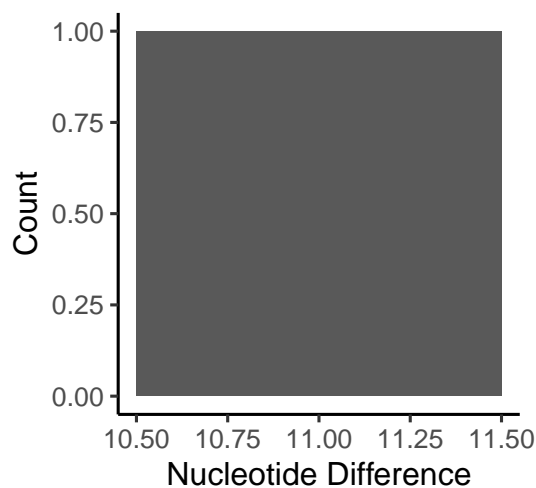
### IGHV3-38\*01

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



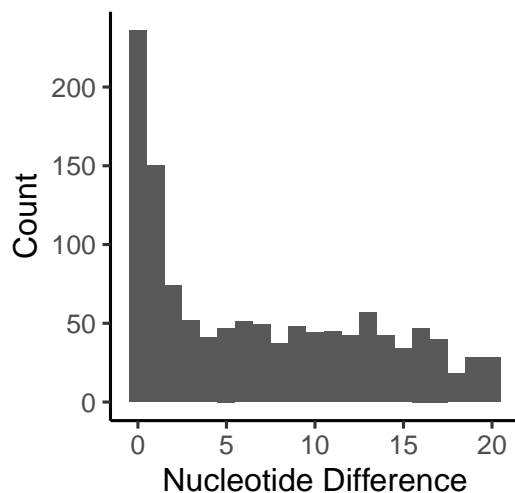
### IGHV3-19\*01

2 sequences assigned  
No exact matches.



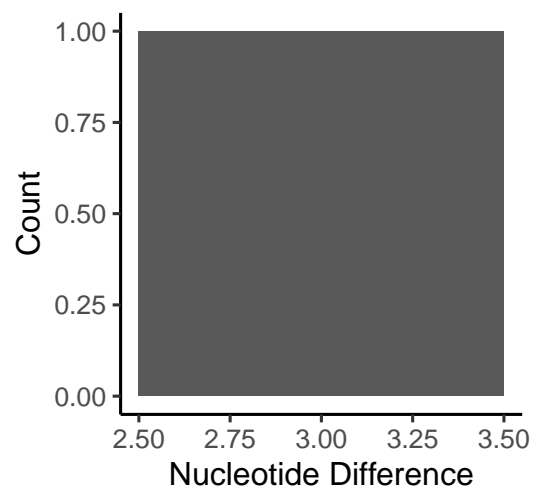
### IGHV3-30\*03

1506 sequences assigned  
236 (15.7%) exact matches, in which:  
233 unique CDR3  
6 unique J



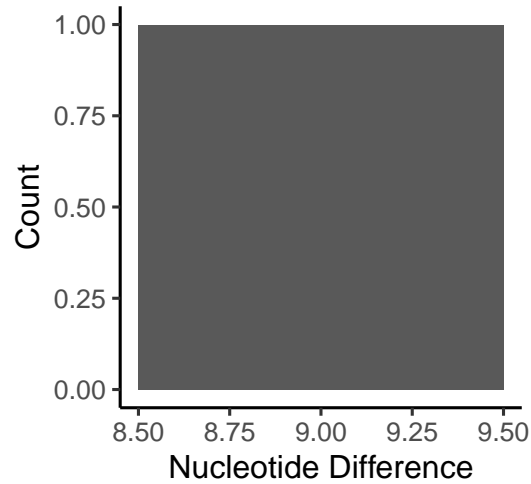
### IGHV3-38-3\*01

1 sequences assigned  
No exact matches.



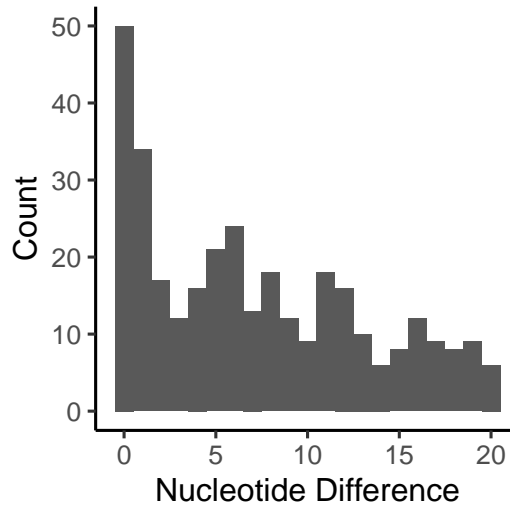
### IGHV3-41\*02

1 sequences assigned  
No exact matches.



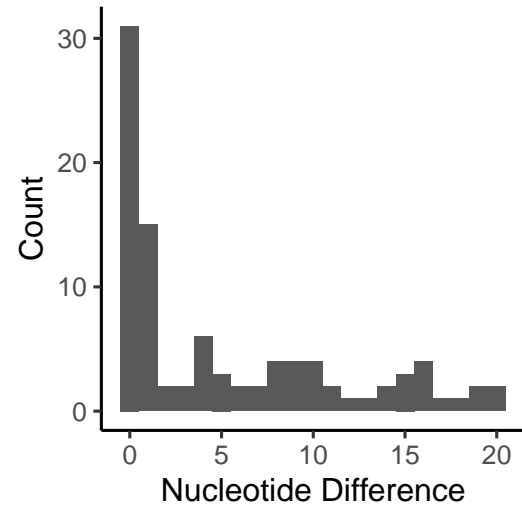
### IGHV3-48\*01

373 sequences assigned  
50 (13.4%) exact matches, in which:  
50 unique CDR3  
5 unique J



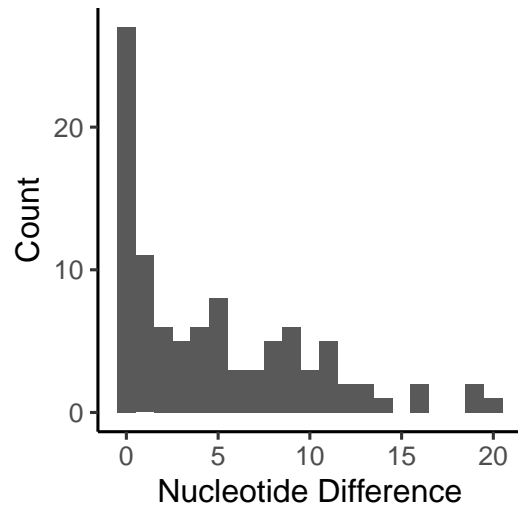
### IGHV3-49\*05

101 sequences assigned  
31 (30.7%) exact matches, in which:  
31 unique CDR3  
5 unique J



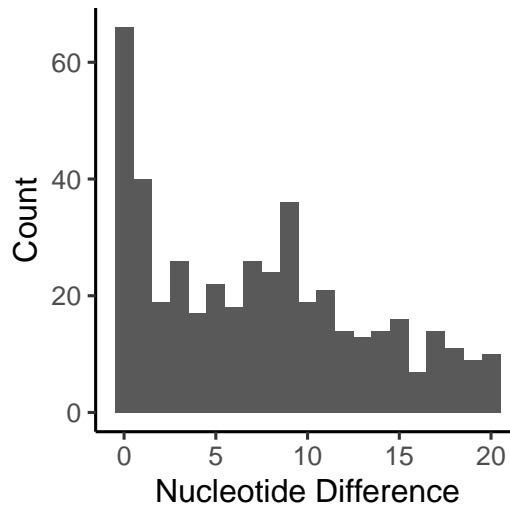
### IGHV3-43\*01

126 sequences assigned  
27 (21.4%) exact matches, in which:  
27 unique CDR3  
6 unique J



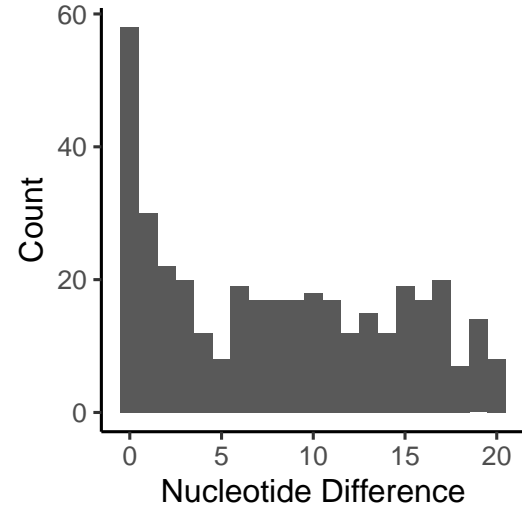
### IGHV3-48\*02

536 sequences assigned  
66 (12.3%) exact matches, in which:  
64 unique CDR3  
4 unique J



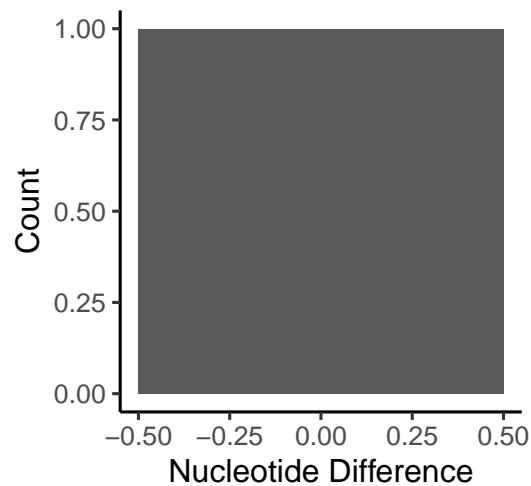
### IGHV3-53\*01

435 sequences assigned  
58 (13.3%) exact matches, in which:  
58 unique CDR3  
5 unique J



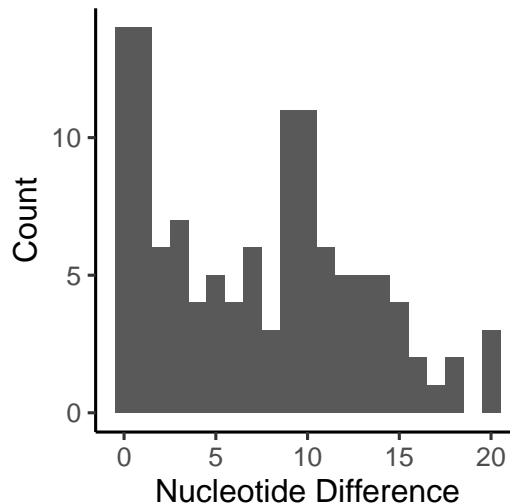
### IGHV3-47\*02

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



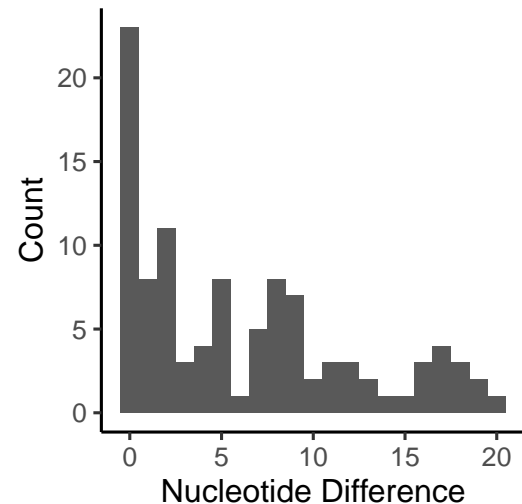
### IGHV3-49\*03

151 sequences assigned  
14 (9.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



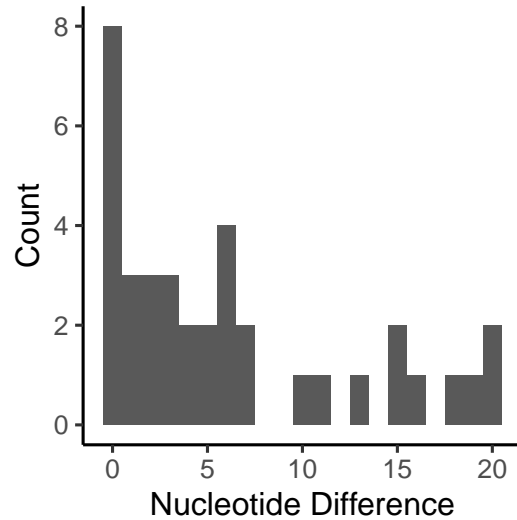
### IGHV3-53\*02

126 sequences assigned  
23 (18.3%) exact matches, in which:  
23 unique CDR3  
5 unique J



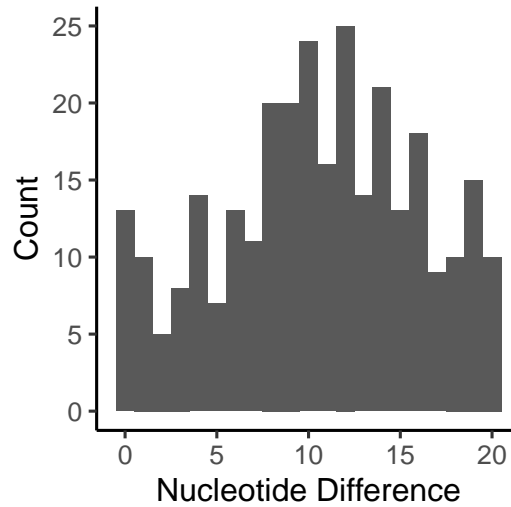
### IGHV3-64\*01

40 sequences assigned  
8 (20%) exact matches, in which:  
8 unique CDR3  
4 unique J



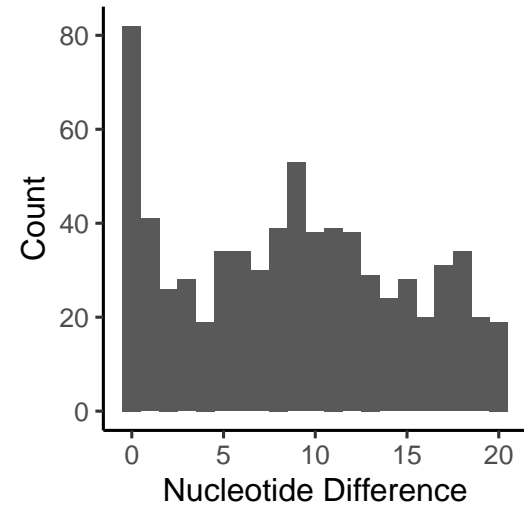
### IGHV3-72\*01

357 sequences assigned  
13 (3.6%) exact matches, in which:  
13 unique CDR3  
5 unique J



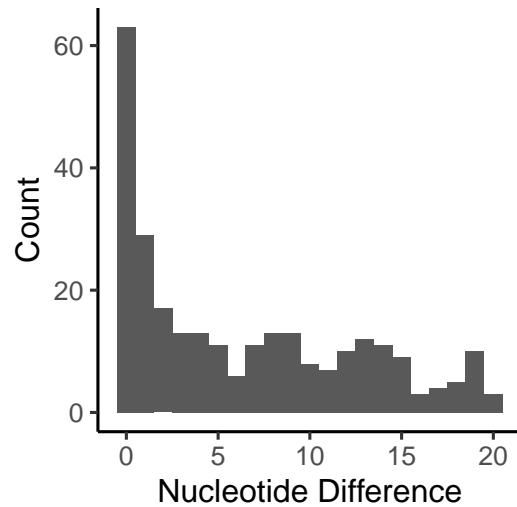
### IGHV3-74\*01

887 sequences assigned  
82 (9.2%) exact matches, in which:  
82 unique CDR3  
6 unique J



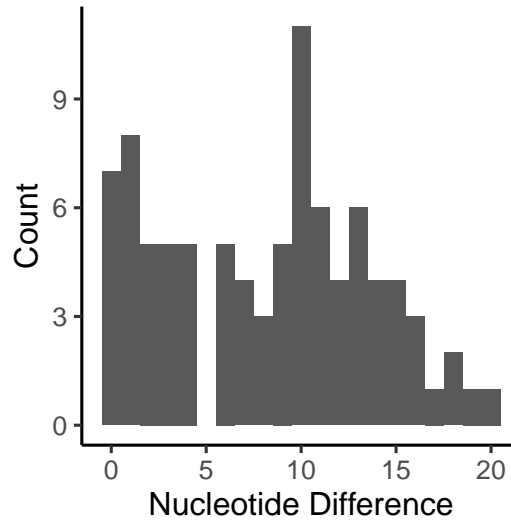
### IGHV3-66\*02

321 sequences assigned  
63 (19.6%) exact matches, in which:  
61 unique CDR3  
5 unique J



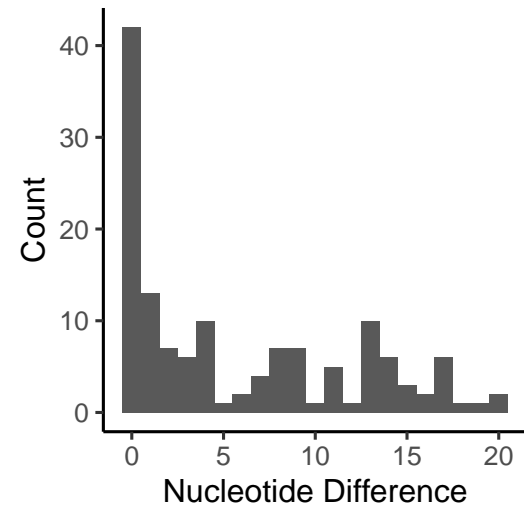
### IGHV3-73\*01

114 sequences assigned  
7 (6.1%) exact matches, in which:  
7 unique CDR3  
4 unique J



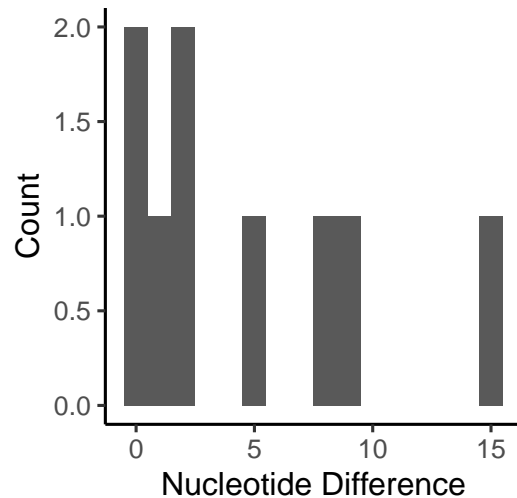
### IGHV3-64D\*06

166 sequences assigned  
42 (25.3%) exact matches, in which:  
42 unique CDR3  
4 unique J



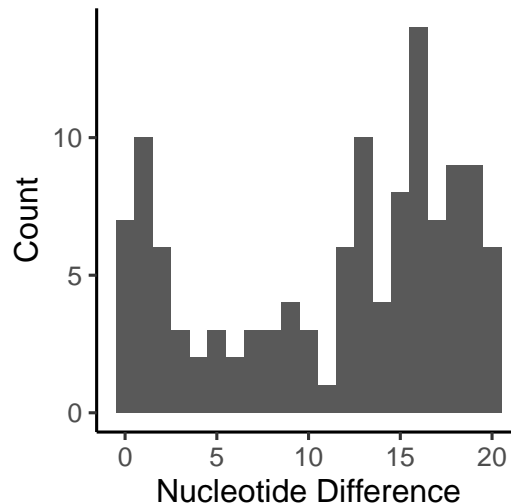
### IGHV3-69-1\*02

15 sequences assigned  
2 (13.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



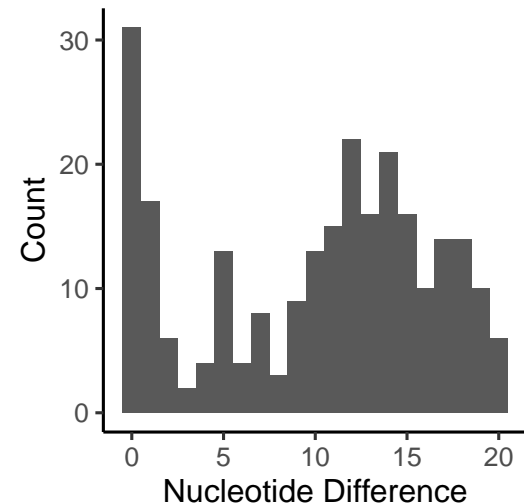
### IGHV3-73\*02

170 sequences assigned  
7 (4.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



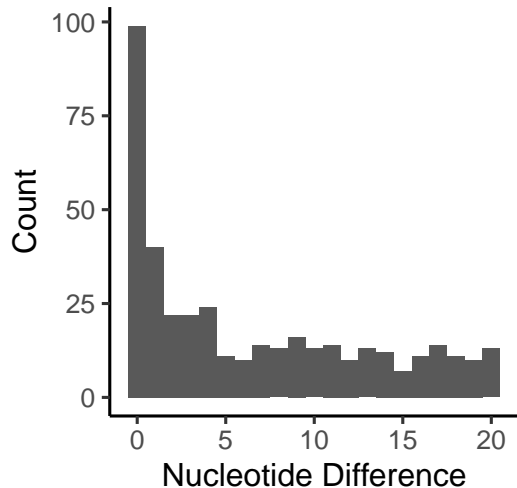
### IGHV3-64D\*08

318 sequences assigned  
31 (9.7%) exact matches, in which:  
31 unique CDR3  
4 unique J



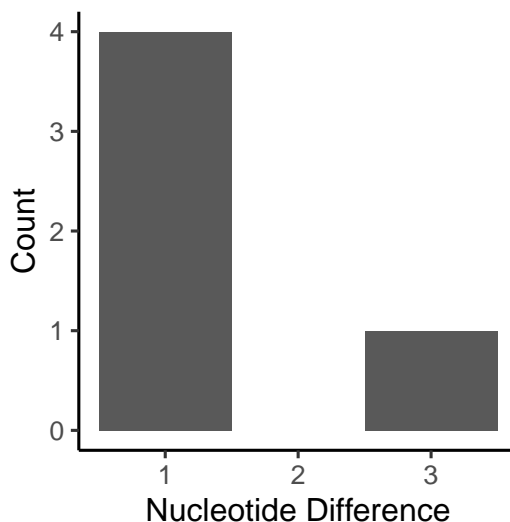
### IGHV4-4\*02

466 sequences assigned  
99 (21.2%) exact matches, in which:  
98 unique CDR3  
5 unique J



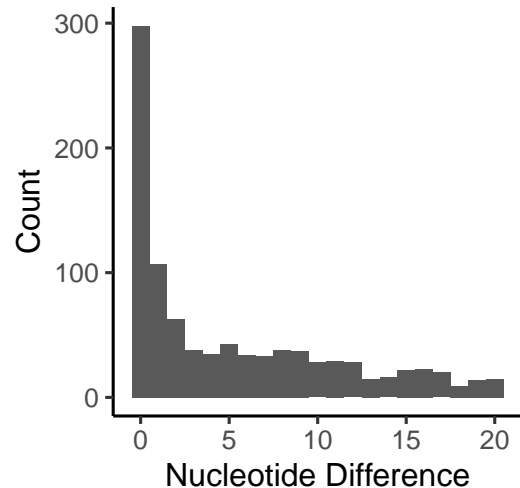
### IGHV4-28\*04

5 sequences assigned  
No exact matches.



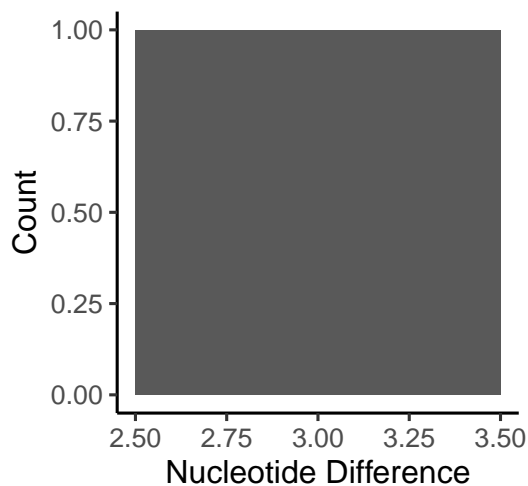
### IGHV4-31\*03

1075 sequences assigned  
298 (27.7%) exact matches, in which:  
295 unique CDR3  
7 unique J



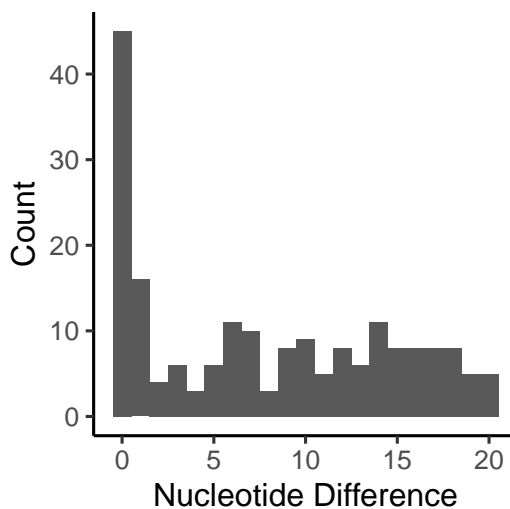
### IGHV4-28\*01

1 sequences assigned  
No exact matches.



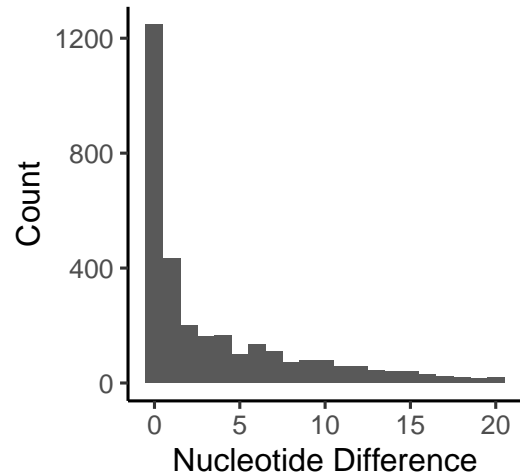
### IGHV4-30-2\*01

223 sequences assigned  
45 (20.2%) exact matches, in which:  
44 unique CDR3  
5 unique J



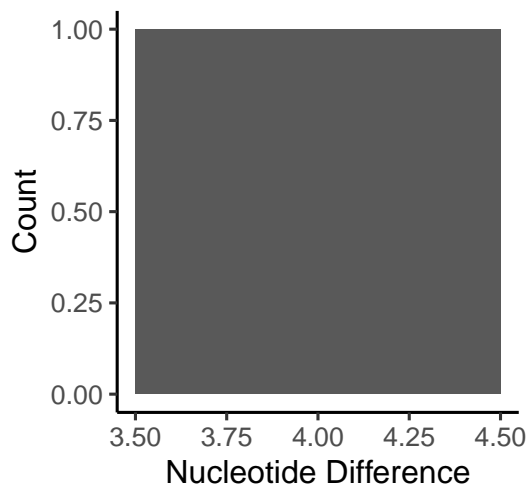
### IGHV4-34\*01

3331 sequences assigned  
1247 (37.4%) exact matches, in which:  
1236 unique CDR3  
7 unique J



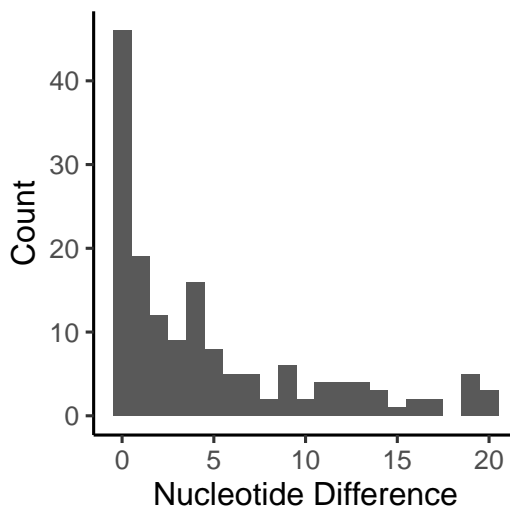
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



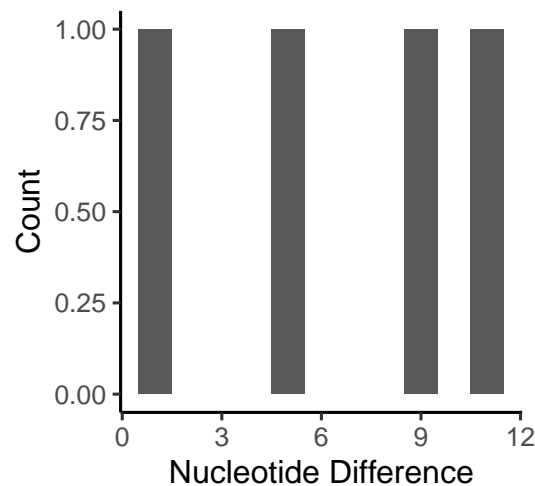
### IGHV4-30-4\*01

180 sequences assigned  
46 (25.6%) exact matches, in which:  
46 unique CDR3  
5 unique J



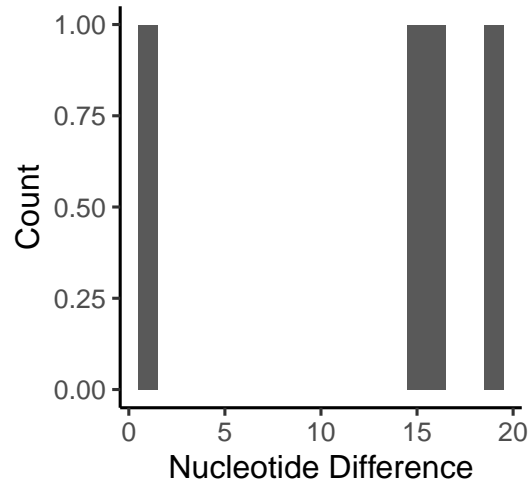
### IGHV4-38-2\*01

4 sequences assigned  
No exact matches.



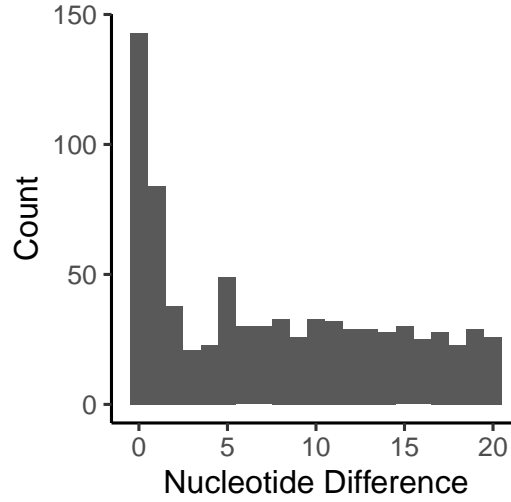
### IGHV4-38-2\*02

4 sequences assigned  
No exact matches.



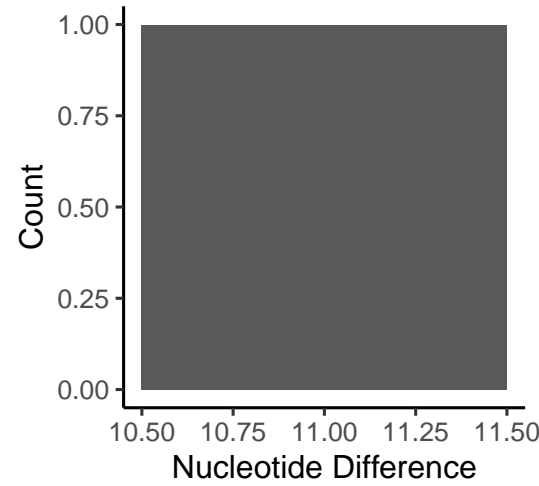
### IGHV4-59\*01

919 sequences assigned  
143 (15.6%) exact matches, in which:  
142 unique CDR3  
7 unique J



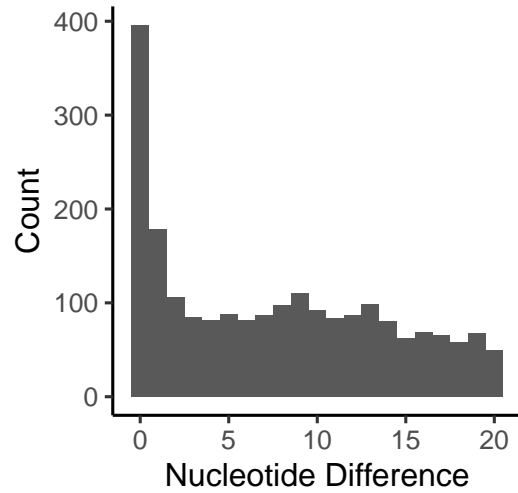
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



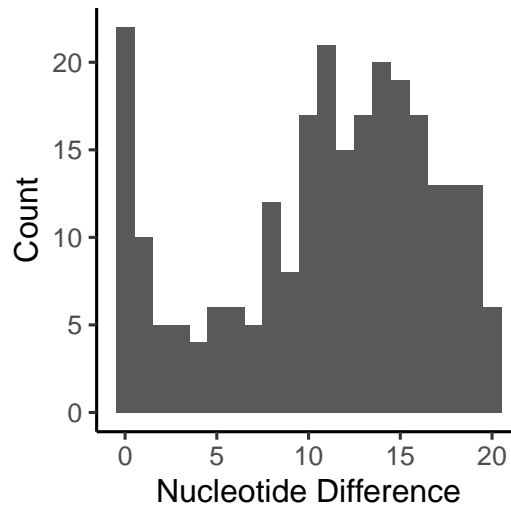
### IGHV4-39\*01

2681 sequences assigned  
396 (14.8%) exact matches, in which:  
393 unique CDR3  
7 unique J



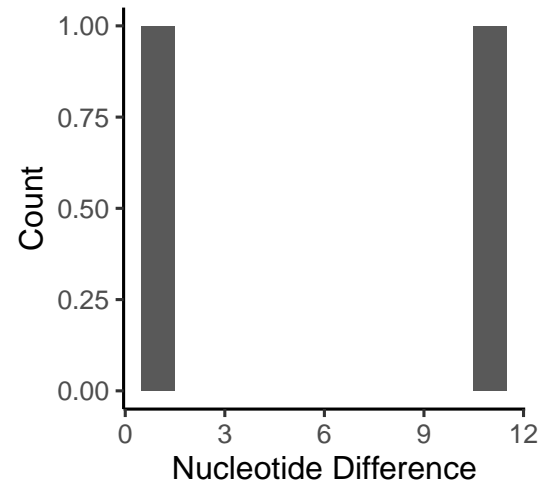
### IGHV4-61\*01

292 sequences assigned  
22 (7.5%) exact matches, in which:  
22 unique CDR3  
4 unique J



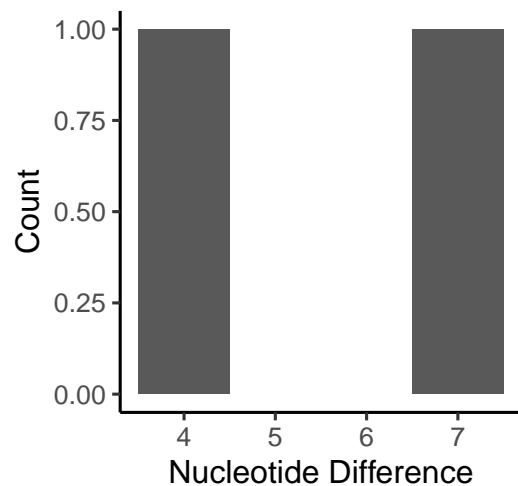
### IGHV1/OR15-9\*01

2 sequences assigned  
No exact matches.



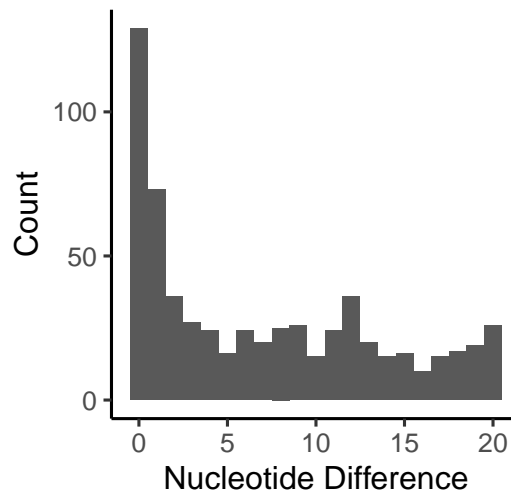
### IGHV4-55\*08

2 sequences assigned  
No exact matches.



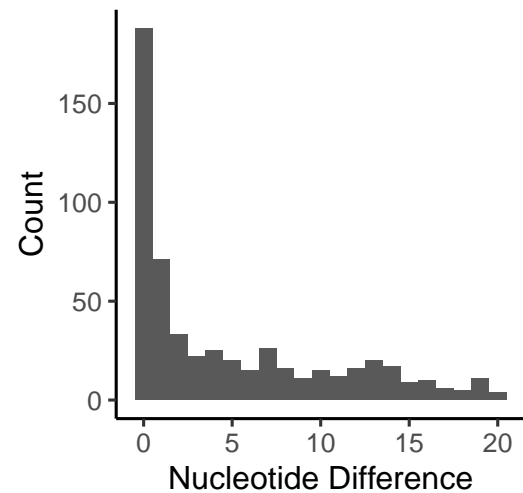
### IGHV4-61\*02

766 sequences assigned  
129 (16.8%) exact matches, in which:  
125 unique CDR3  
6 unique J



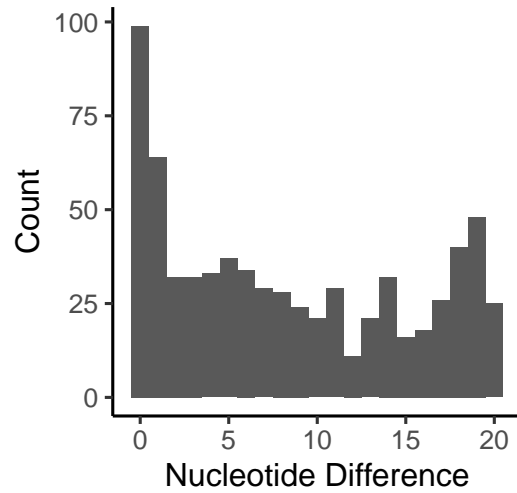
### IGHV5-10-1\*03

613 sequences assigned  
188 (30.7%) exact matches, in which:  
186 unique CDR3  
7 unique J



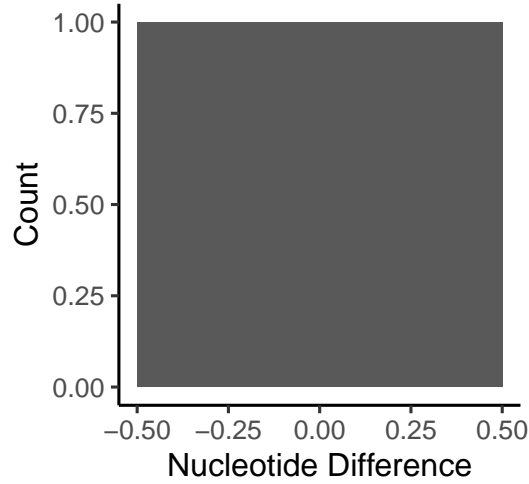
### IGHV5–51\*01

876 sequences assigned  
99 (11.3%) exact matches, in which:  
98 unique CDR3  
6 unique J



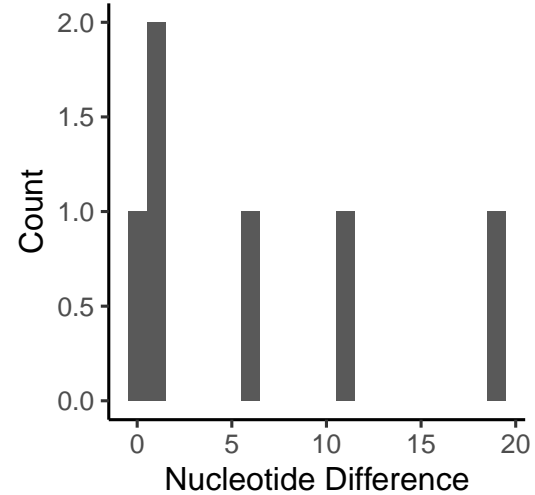
### IGHV3/OR16–6\*02

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



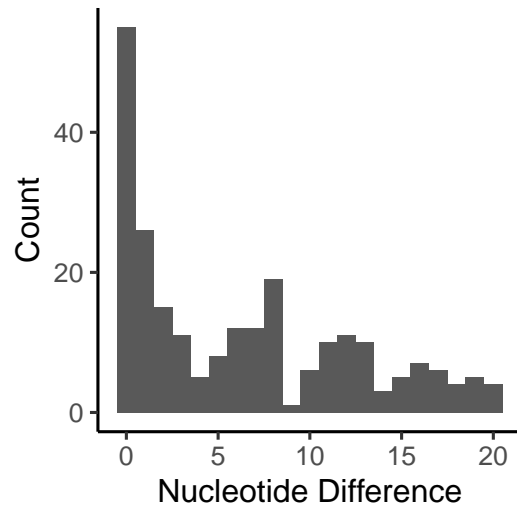
### IGHV7–4–1\*02

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



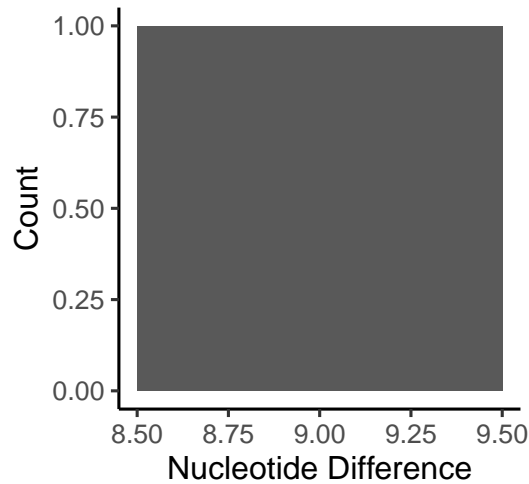
### IGHV5–51\*03

262 sequences assigned  
55 (21%) exact matches, in which:  
55 unique CDR3  
6 unique J



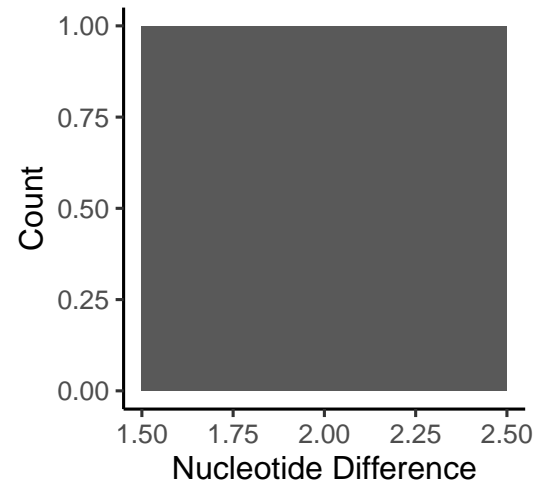
### IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.



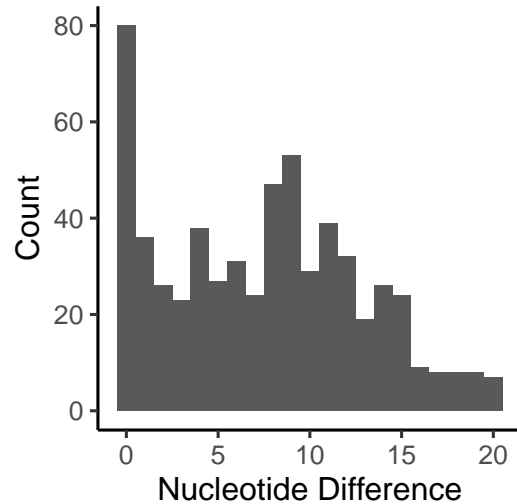
### IGHV7–81\*01

2 sequences assigned  
No exact matches.



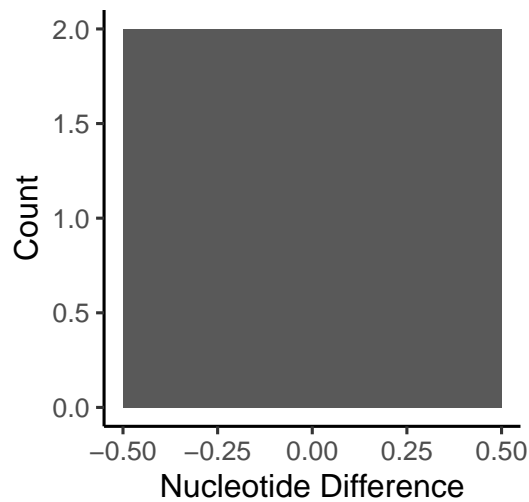
### IGHV6–1\*01

626 sequences assigned  
80 (12.8%) exact matches, in which:  
79 unique CDR3  
5 unique J

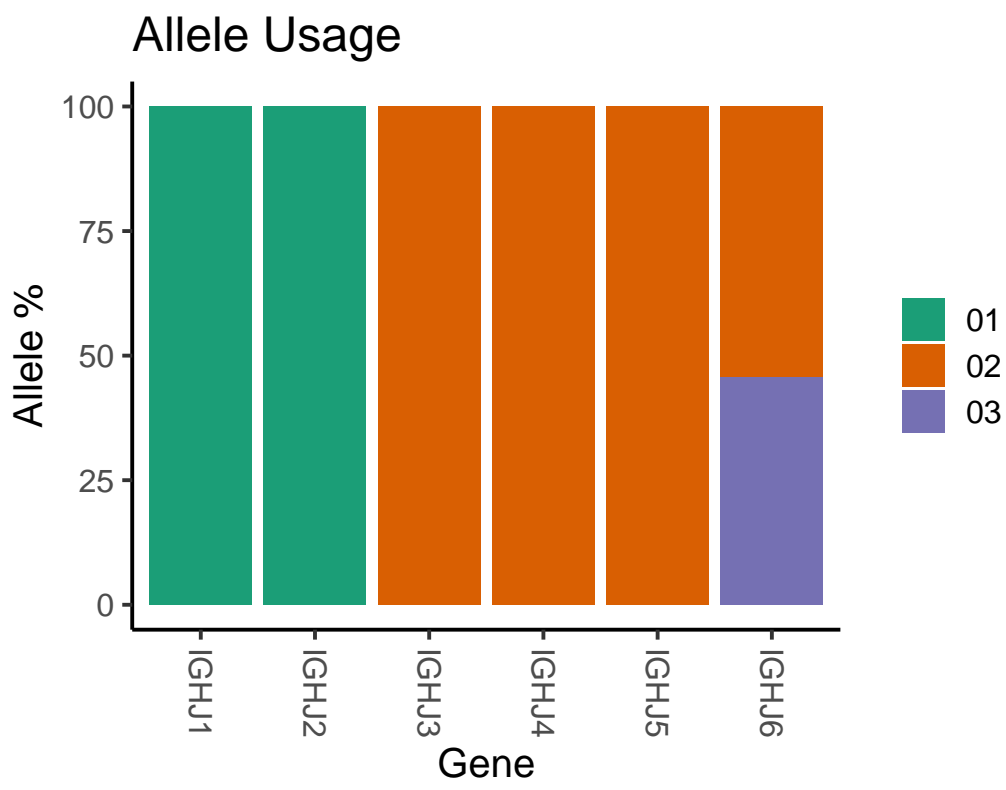


### IGHV7–4–1\*01

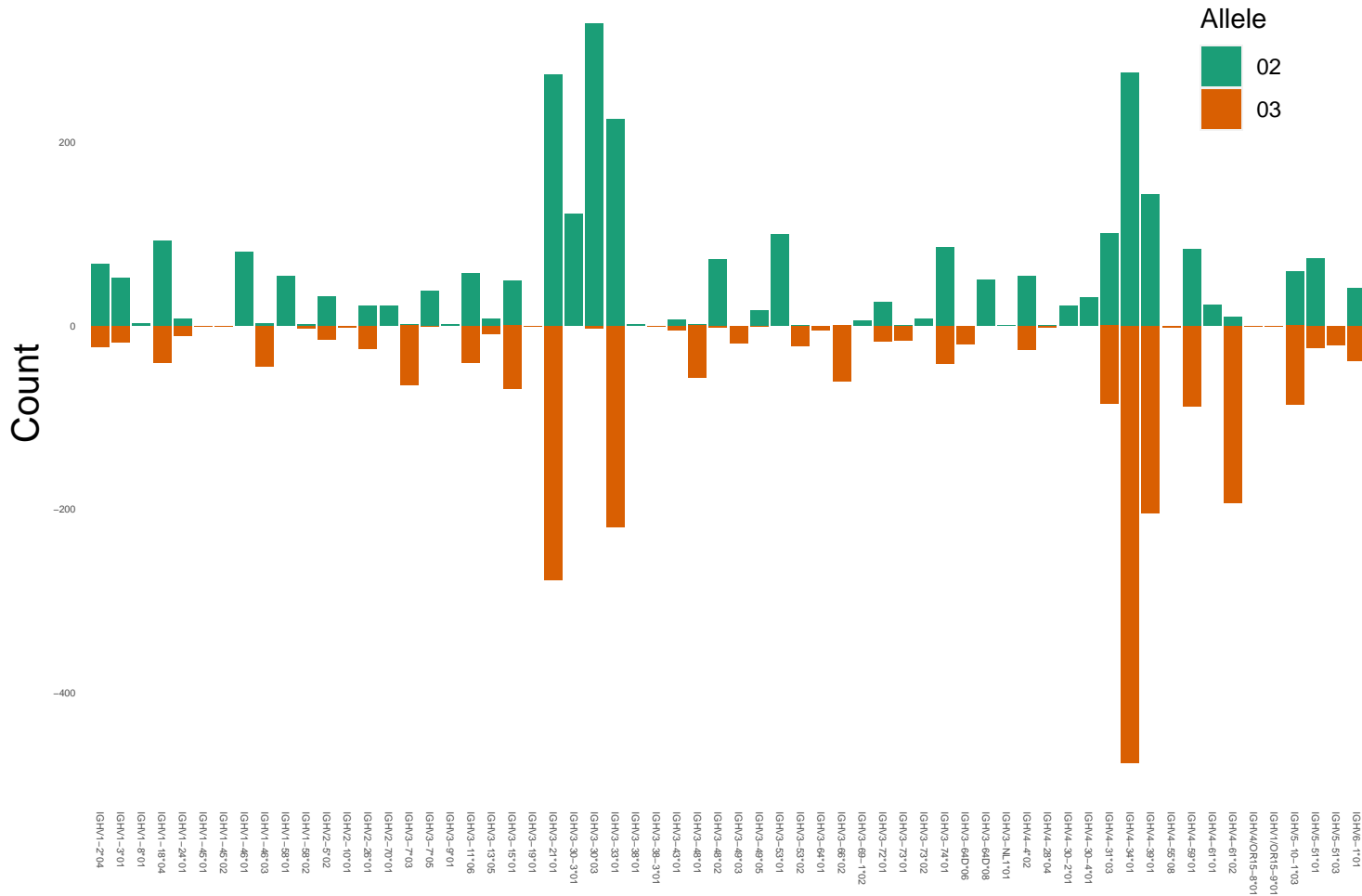
2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.