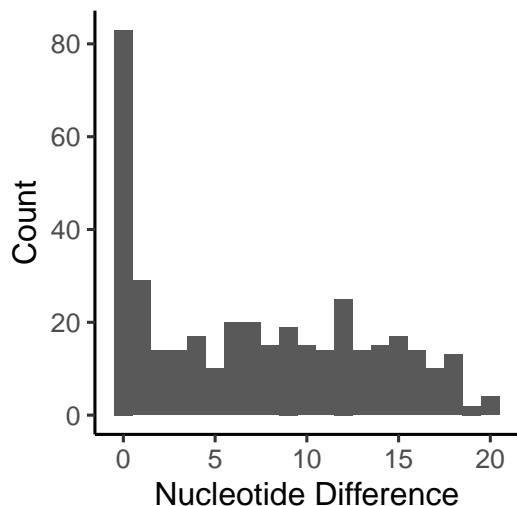


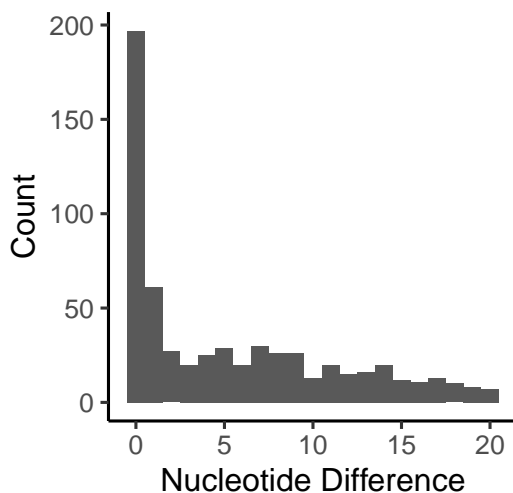
### IGHV1-2\*04

423 sequences assigned  
83 (19.6%) exact matches, in which:  
79 unique CDR3  
6 unique J



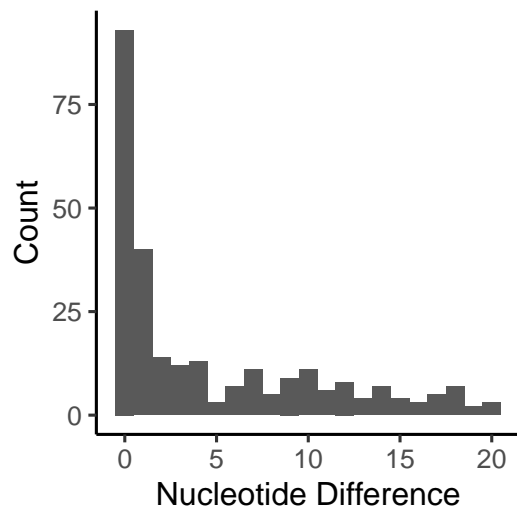
### IGHV1-18\*04

731 sequences assigned  
197 (26.9%) exact matches, in which:  
189 unique CDR3  
7 unique J



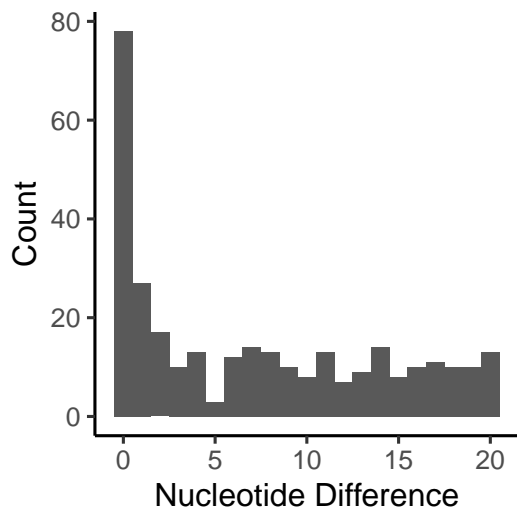
### IGHV1-46\*01

340 sequences assigned  
93 (27.4%) exact matches, in which:  
90 unique CDR3  
5 unique J



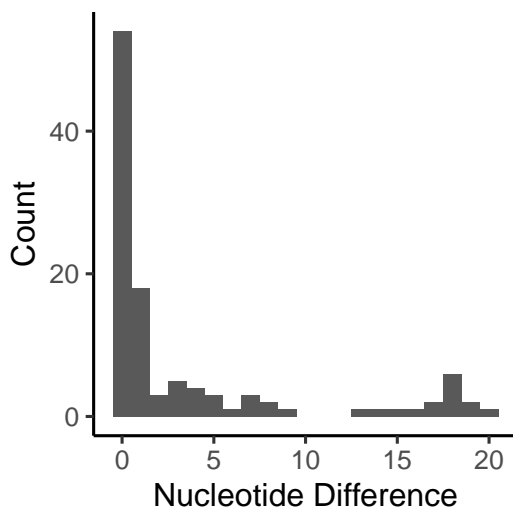
### IGHV1-3\*01

413 sequences assigned  
78 (18.9%) exact matches, in which:  
75 unique CDR3  
7 unique J



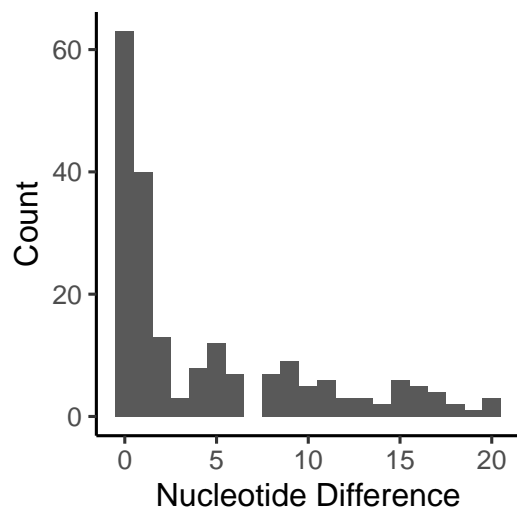
### IGHV1-24\*01

112 sequences assigned  
54 (48.2%) exact matches, in which:  
54 unique CDR3  
6 unique J



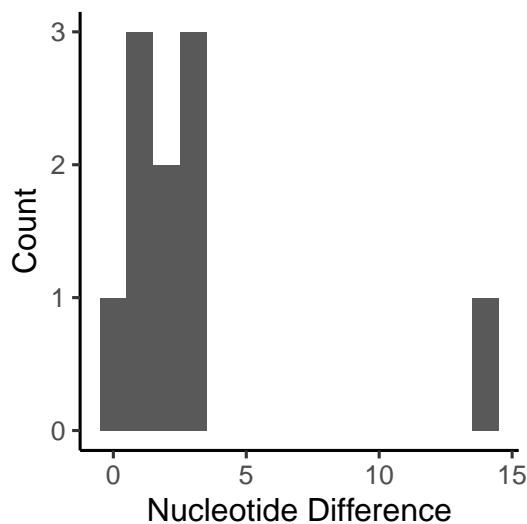
### IGHV1-46\*03

211 sequences assigned  
63 (29.9%) exact matches, in which:  
57 unique CDR3  
6 unique J



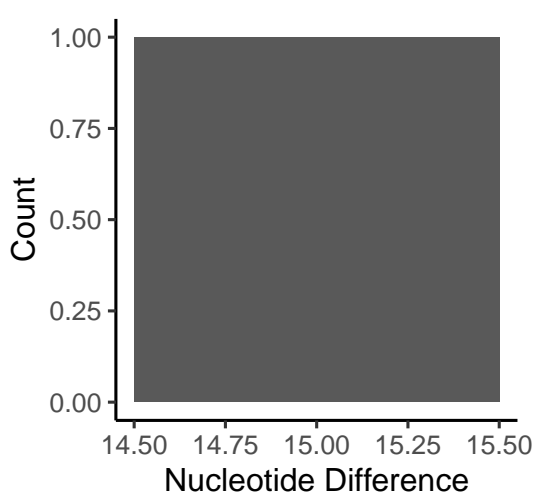
### IGHV1-8\*01

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



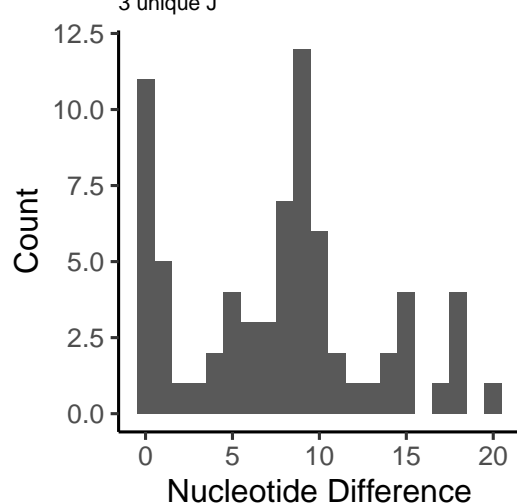
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



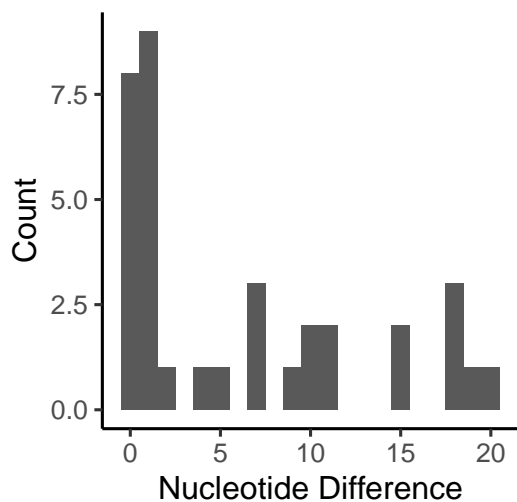
### IGHV1-58\*01

85 sequences assigned  
11 (12.9%) exact matches, in which:  
11 unique CDR3  
3 unique J



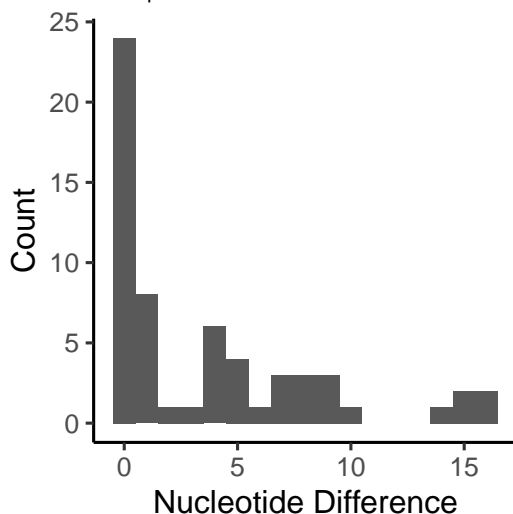
### IGHV1-58\*02

36 sequences assigned  
8 (22.2%) exact matches, in which:  
5 unique CDR3  
3 unique J



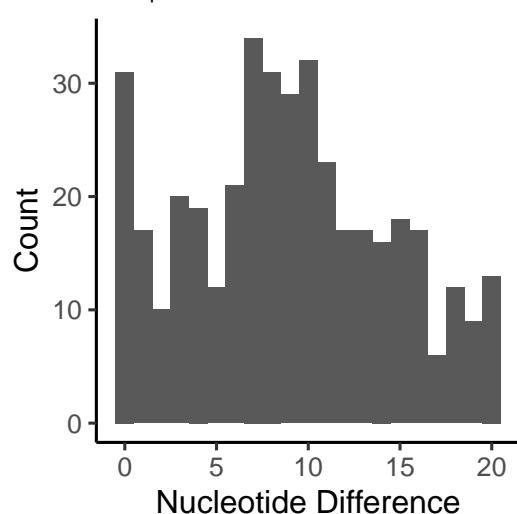
### IGHV2-70\*01

64 sequences assigned  
24 (37.5%) exact matches, in which:  
24 unique CDR3  
5 unique J



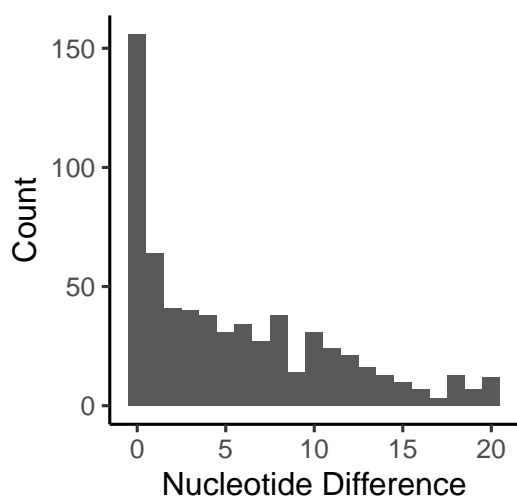
### IGHV3-7\*05

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



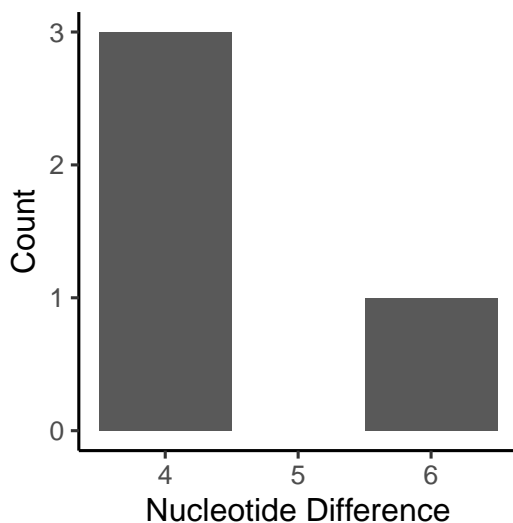
### IGHV2-5\*02

712 sequences assigned  
156 (21.9%) exact matches, in which:  
156 unique CDR3  
7 unique J



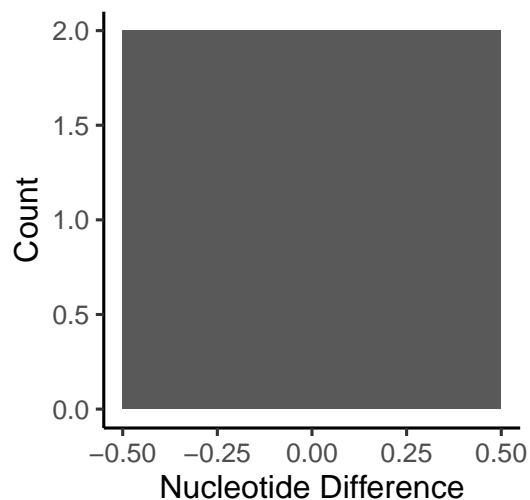
### IGHV2-70D\*04

4 sequences assigned  
No exact matches.



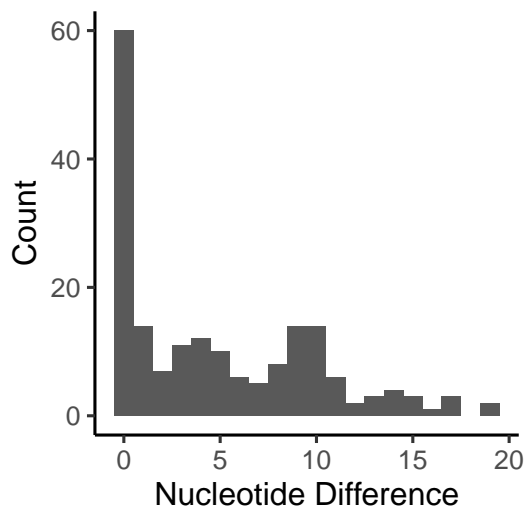
### IGHV3-9\*01

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



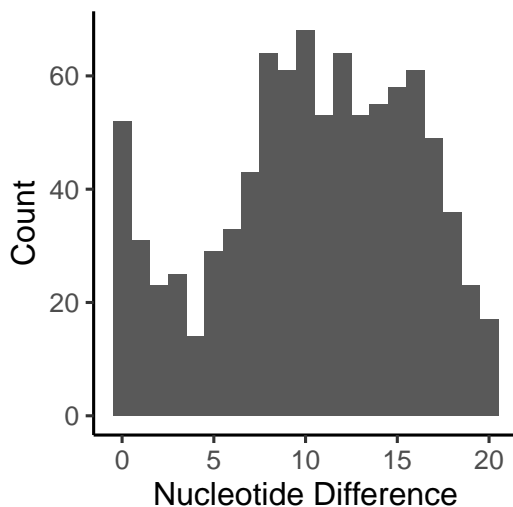
### IGHV2-26\*01

190 sequences assigned  
60 (31.6%) exact matches, in which:  
59 unique CDR3  
6 unique J



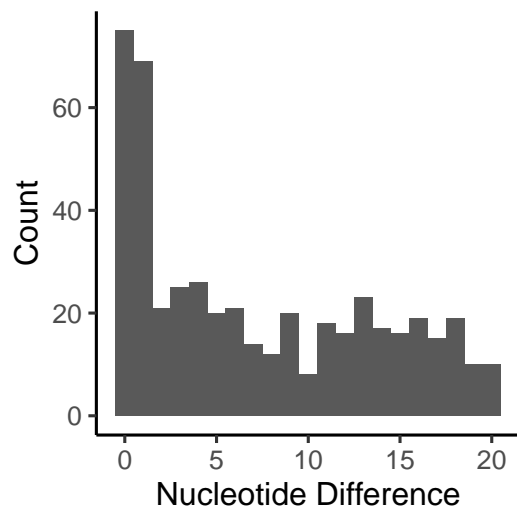
### IGHV3-7\*03

1083 sequences assigned  
52 (4.8%) exact matches, in which:  
51 unique CDR3  
4 unique J



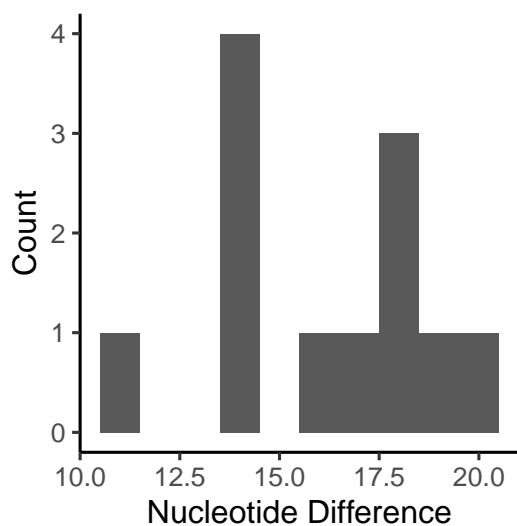
### IGHV3-11\*06

590 sequences assigned  
75 (12.7%) exact matches, in which:  
72 unique CDR3  
6 unique J



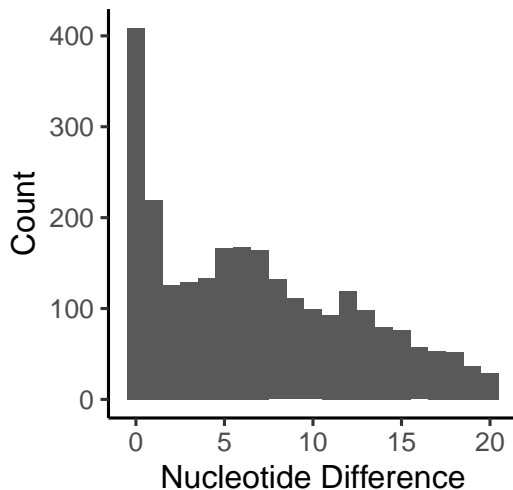
### IGHV3-13\*01

19 sequences assigned  
No exact matches.



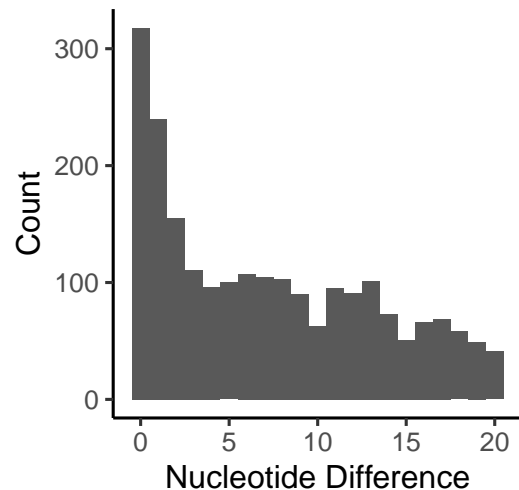
### IGHV3-21\*01

2969 sequences assigned  
409 (13.8%) exact matches, in which:  
384 unique CDR3  
7 unique J



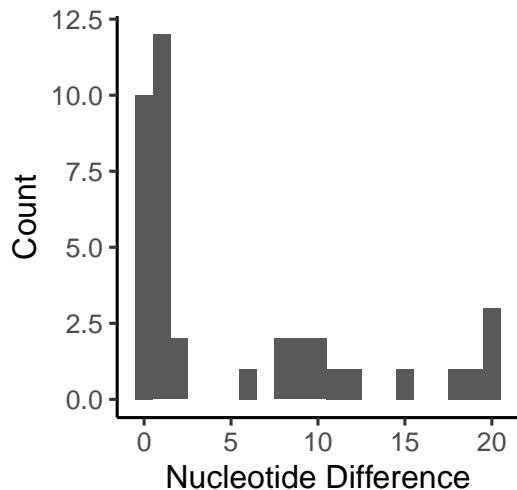
### IGHV3-33\*01

2561 sequences assigned  
318 (12.4%) exact matches, in which:  
309 unique CDR3  
7 unique J



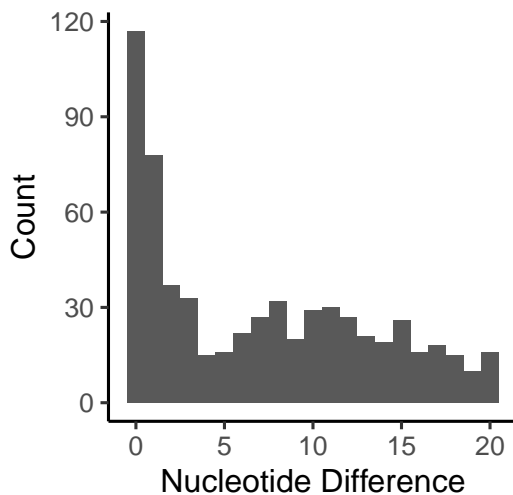
### IGHV3-13\*05

46 sequences assigned  
10 (21.7%) exact matches, in which:  
10 unique CDR3  
5 unique J



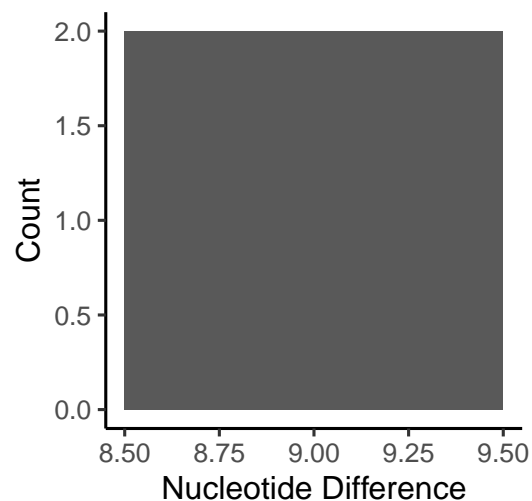
### IGHV3-30-3\*01

751 sequences assigned  
117 (15.6%) exact matches, in which:  
110 unique CDR3  
6 unique J



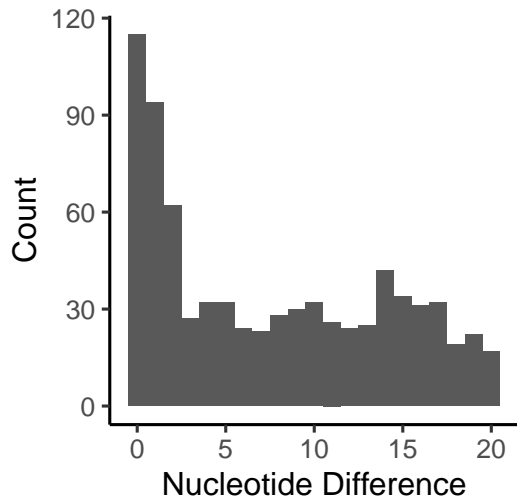
### IGHV3-38\*01

2 sequences assigned  
No exact matches.



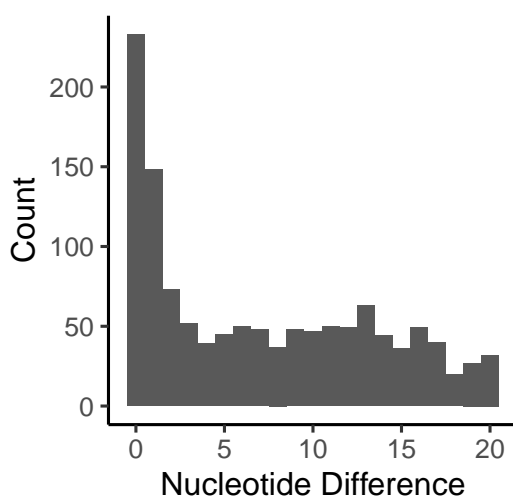
### IGHV3-15\*01

1095 sequences assigned  
115 (10.5%) exact matches, in which:  
115 unique CDR3  
7 unique J



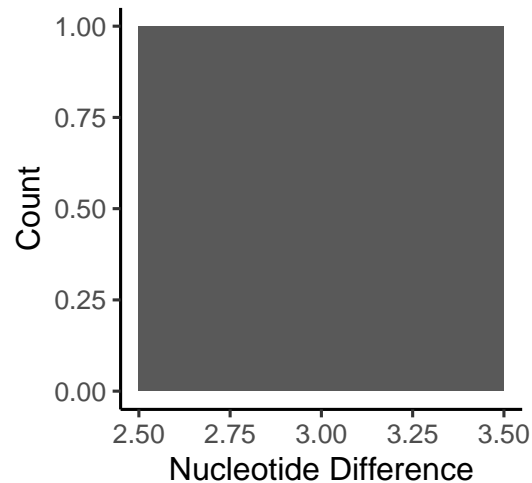
### IGHV3-30\*03

1568 sequences assigned  
233 (14.9%) exact matches, in which:  
228 unique CDR3  
6 unique J



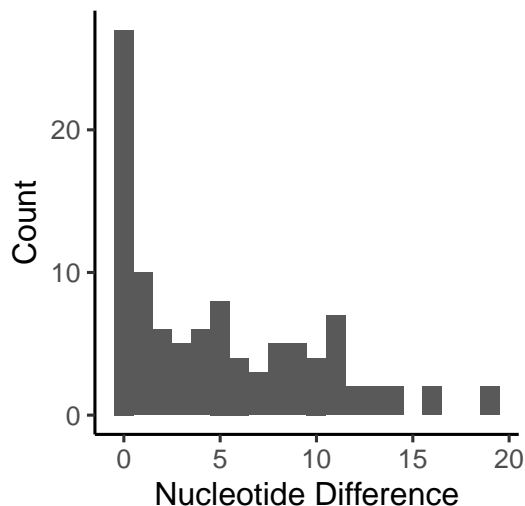
### IGHV3-38-3\*01

1 sequences assigned  
No exact matches.



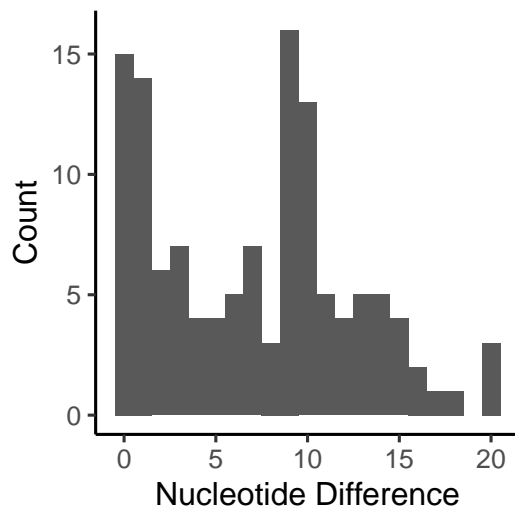
### IGHV3-43\*01

128 sequences assigned  
27 (21.1%) exact matches, in which:  
27 unique CDR3  
6 unique J



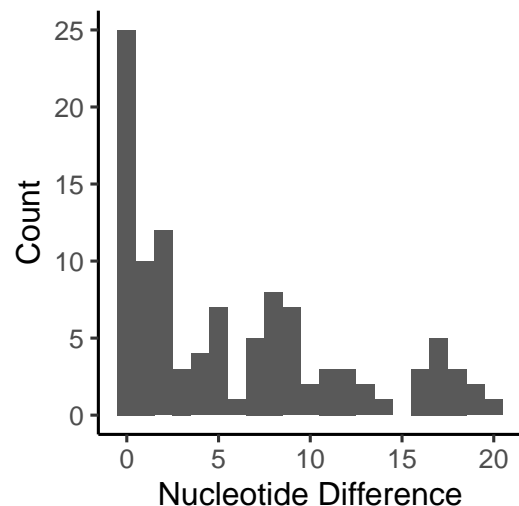
### IGHV3-49\*03

161 sequences assigned  
15 (9.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



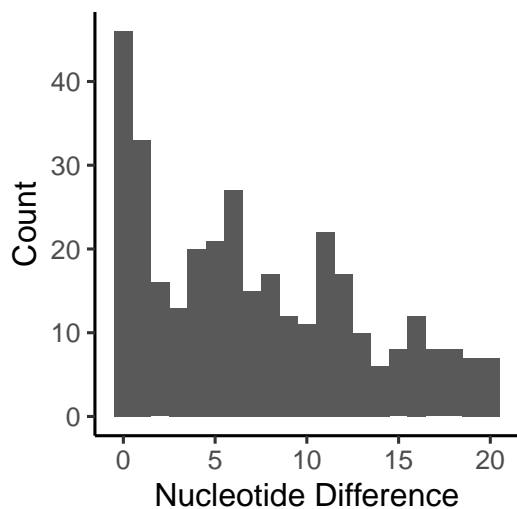
### IGHV3-53\*02

136 sequences assigned  
25 (18.4%) exact matches, in which:  
23 unique CDR3  
5 unique J



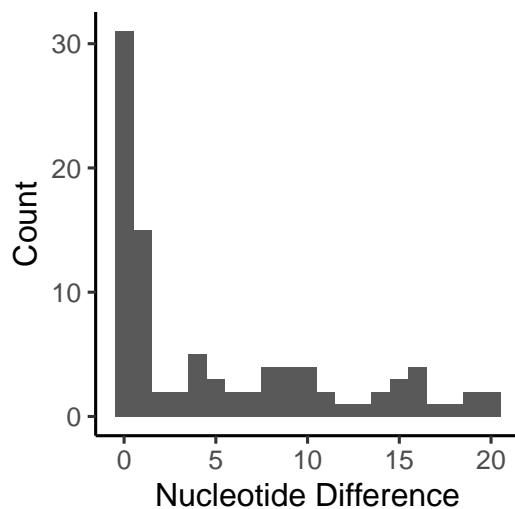
### IGHV3-48\*01

385 sequences assigned  
46 (11.9%) exact matches, in which:  
46 unique CDR3  
5 unique J



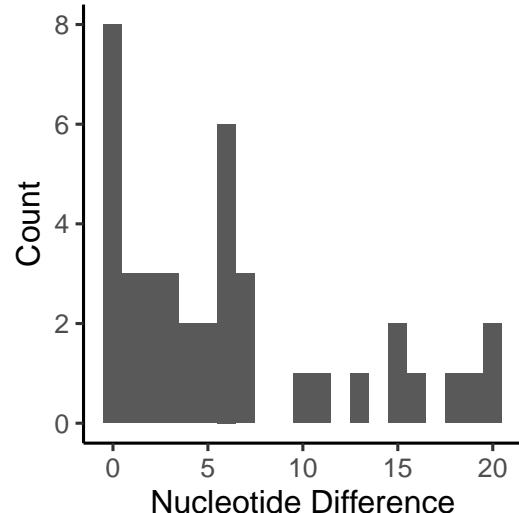
### IGHV3-49\*05

102 sequences assigned  
31 (30.4%) exact matches, in which:  
31 unique CDR3  
5 unique J



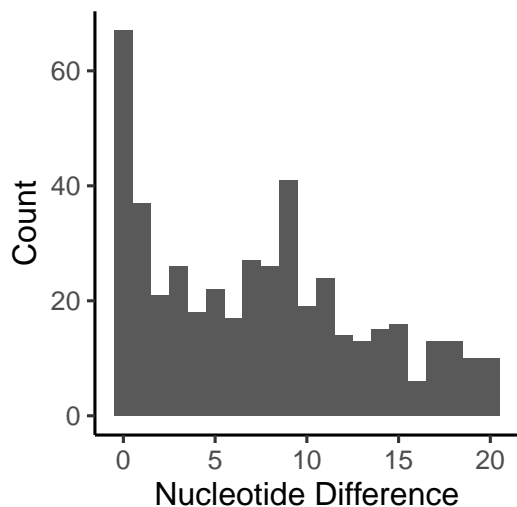
### IGHV3-64\*01

43 sequences assigned  
8 (18.6%) exact matches, in which:  
8 unique CDR3  
4 unique J



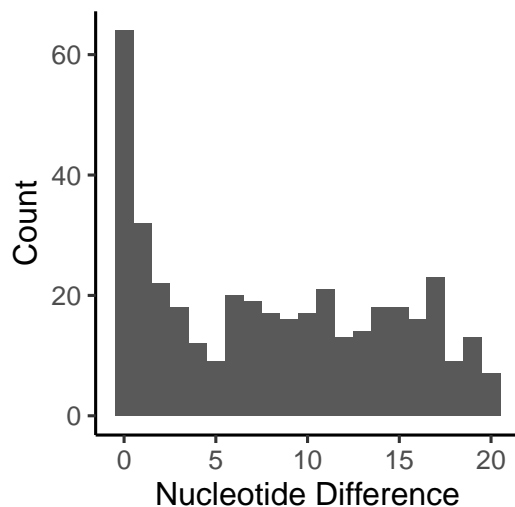
### IGHV3-48\*02

555 sequences assigned  
67 (12.1%) exact matches, in which:  
63 unique CDR3  
4 unique J



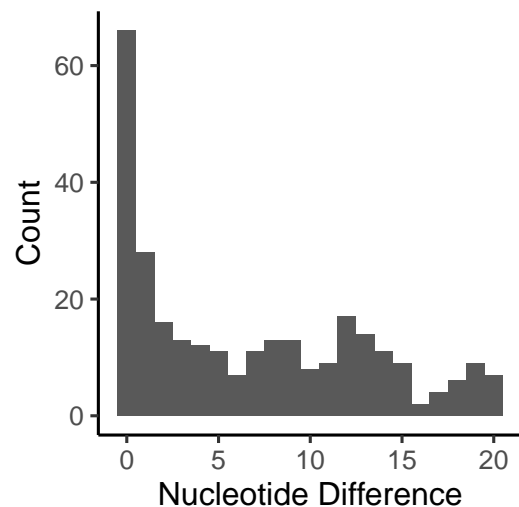
### IGHV3-53\*01

457 sequences assigned  
64 (14%) exact matches, in which:  
57 unique CDR3  
5 unique J



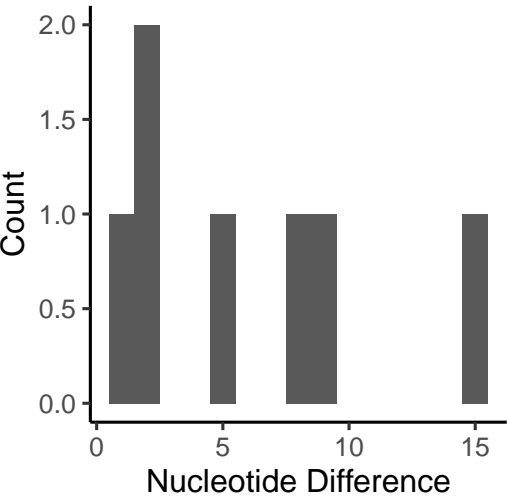
### IGHV3-66\*02

338 sequences assigned  
66 (19.5%) exact matches, in which:  
61 unique CDR3  
5 unique J



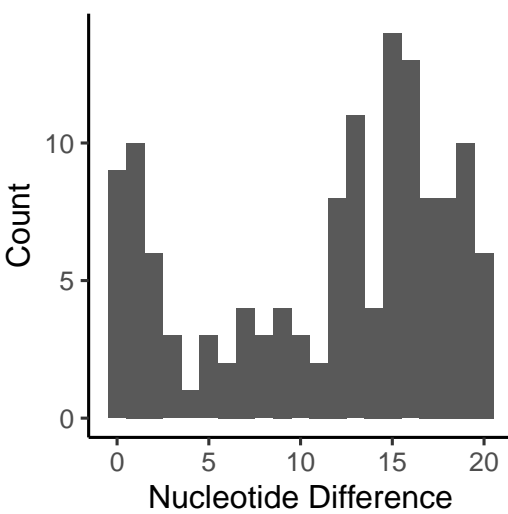
IGHV3-69-1\*02

14 sequences assigned  
No exact matches.



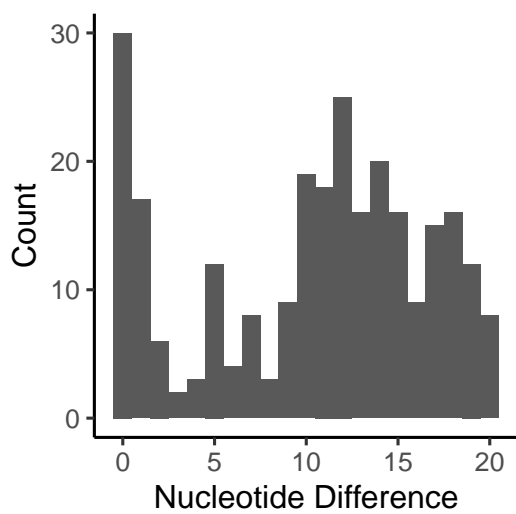
IGHV3-73\*02

180 sequences assigned  
9 (5%) exact matches, in which:  
6 unique CDR3  
3 unique J



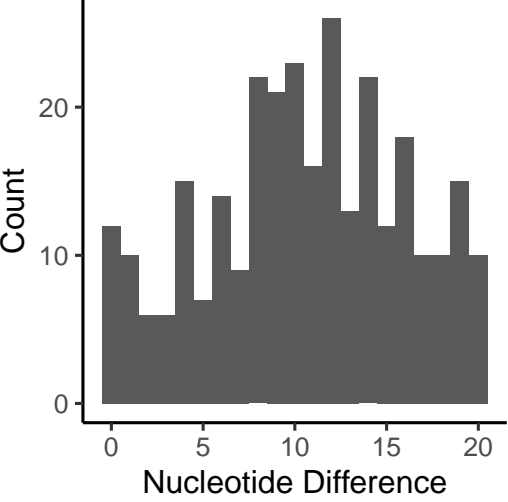
IGHV3-64D\*08

341 sequences assigned  
30 (8.8%) exact matches, in which:  
30 unique CDR3  
4 unique J



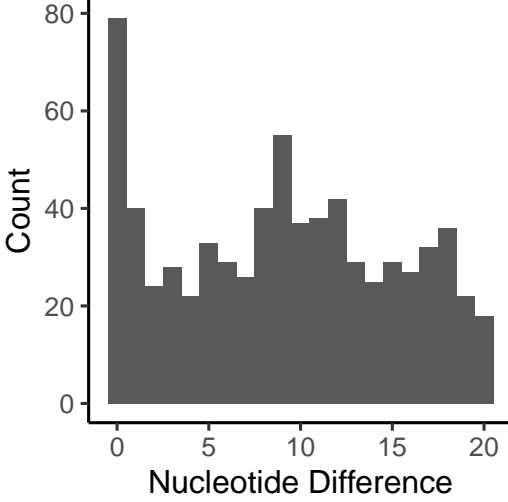
IGHV3-72\*01

359 sequences assigned  
12 (3.3%) exact matches, in which:  
12 unique CDR3  
5 unique J



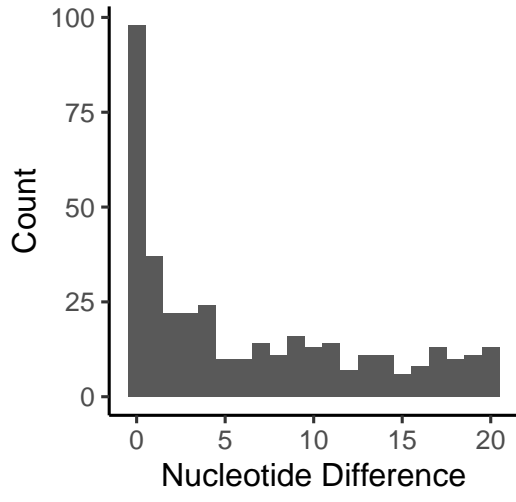
IGHV3-74\*01

885 sequences assigned  
79 (8.9%) exact matches, in which:  
79 unique CDR3  
6 unique J



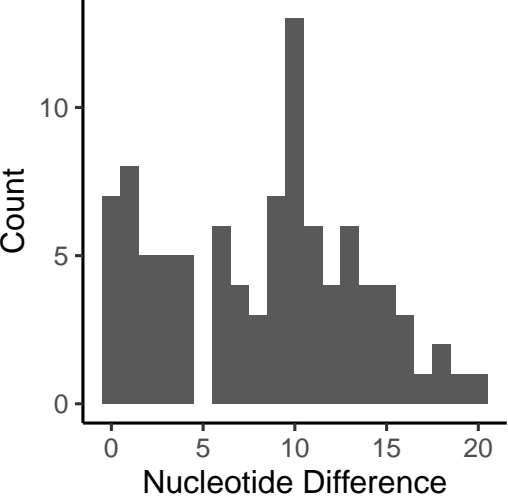
IGHV4-4\*02

443 sequences assigned  
98 (22.1%) exact matches, in which:  
97 unique CDR3  
5 unique J



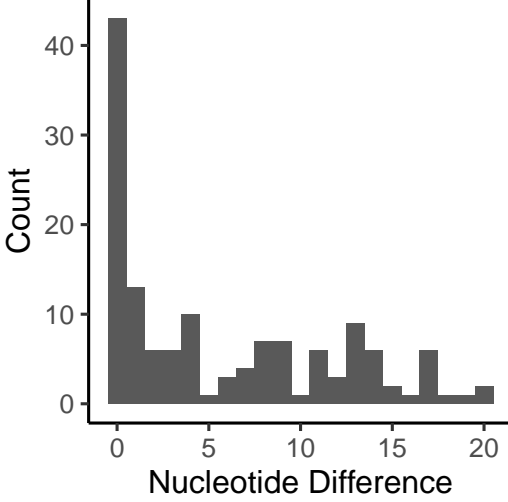
IGHV3-73\*01

129 sequences assigned  
7 (5.4%) exact matches, in which:  
7 unique CDR3  
4 unique J



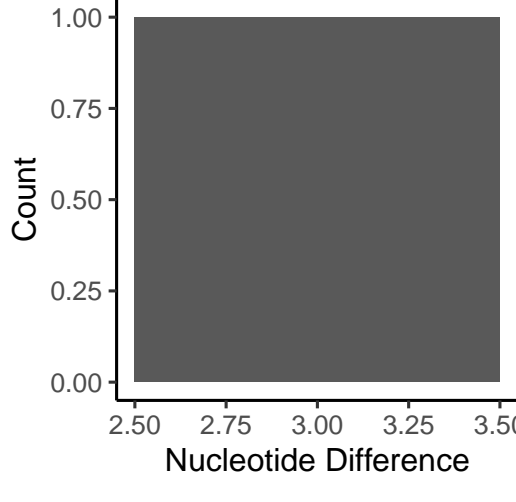
IGHV3-64D\*06

172 sequences assigned  
43 (25%) exact matches, in which:  
41 unique CDR3  
4 unique J



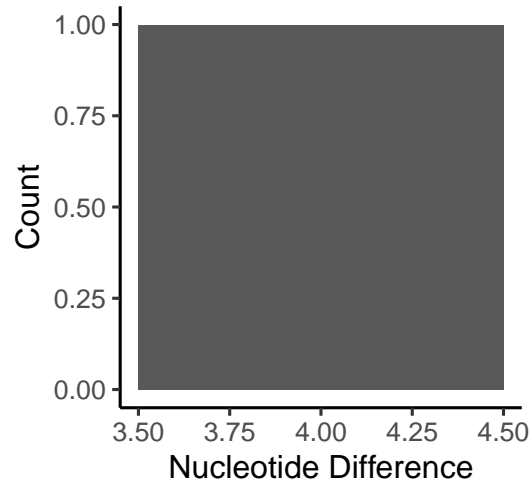
IGHV4-28\*01

1 sequences assigned  
No exact matches.



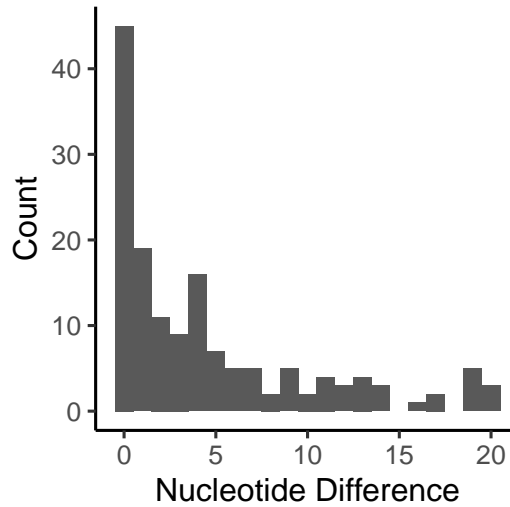
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



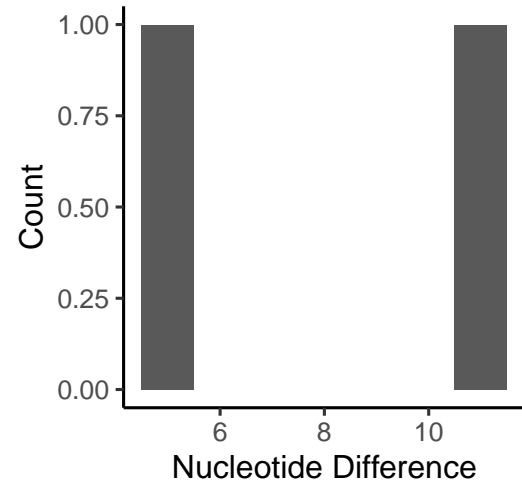
### IGHV4-30-4\*01

171 sequences assigned  
45 (26.3%) exact matches, in which:  
45 unique CDR3  
5 unique J



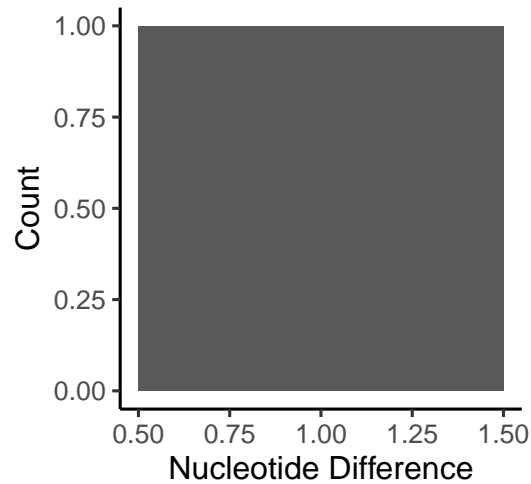
### IGHV4-38-2\*01

2 sequences assigned  
No exact matches.



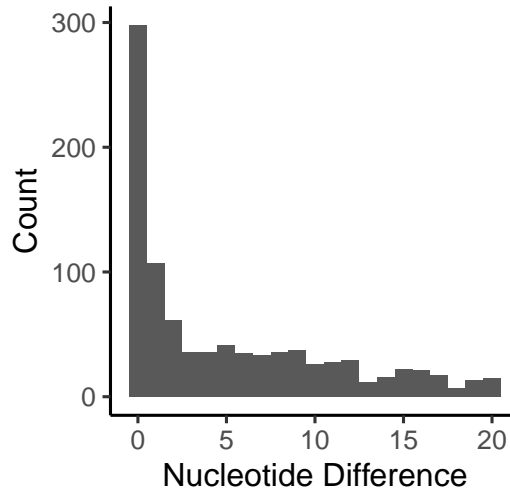
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



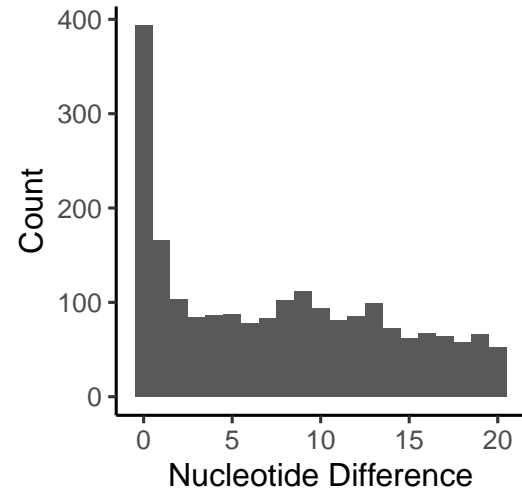
### IGHV4-31\*03

1050 sequences assigned  
298 (28.4%) exact matches, in which:  
287 unique CDR3  
7 unique J



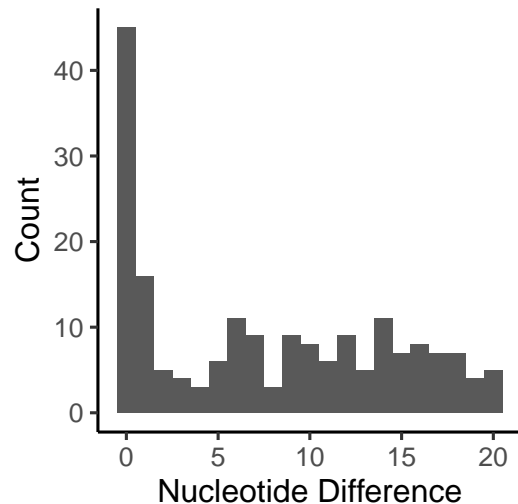
### IGHV4-39\*01

2624 sequences assigned  
394 (15%) exact matches, in which:  
384 unique CDR3  
7 unique J



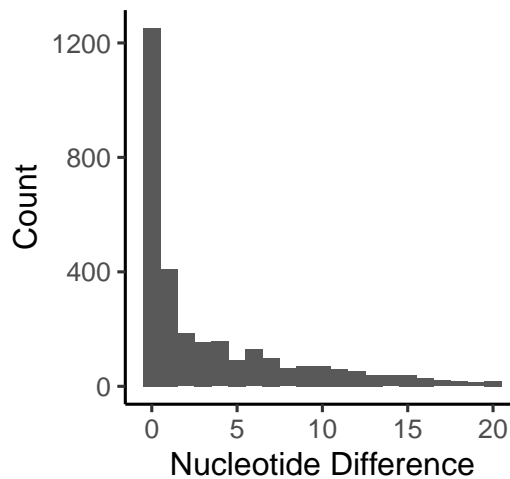
### IGHV4-30-2\*01

218 sequences assigned  
45 (20.6%) exact matches, in which:  
44 unique CDR3  
5 unique J



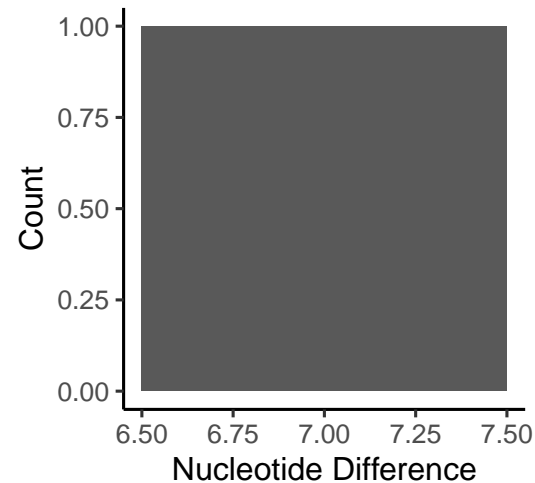
### IGHV4-34\*01

3205 sequences assigned  
1252 (39.1%) exact matches, in which:  
1213 unique CDR3  
7 unique J



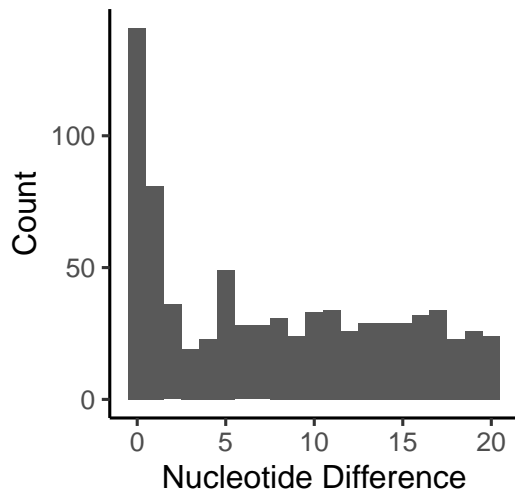
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



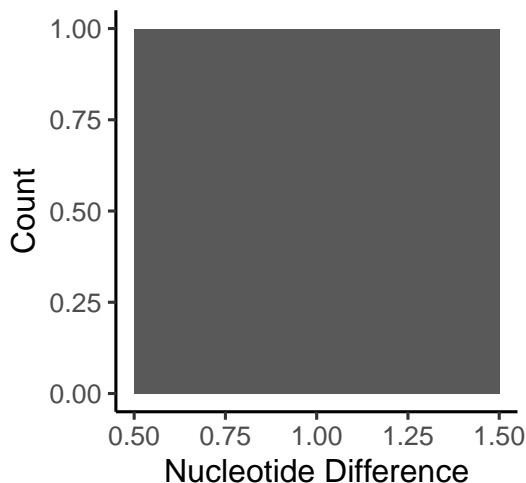
### IGHV4–59\*01

908 sequences assigned  
141 (15.5%) exact matches, in which:  
140 unique CDR3  
7 unique J



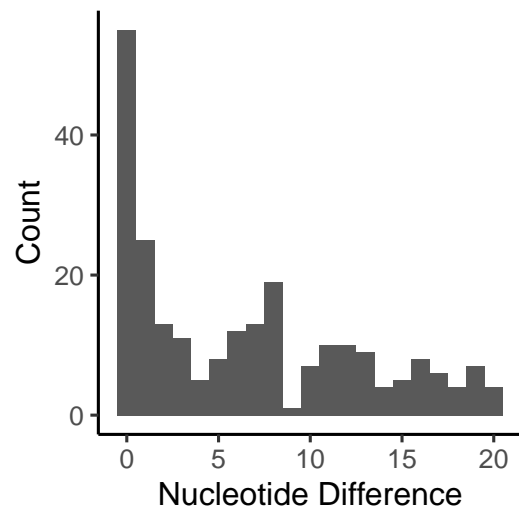
### IGHV1/OR15–9\*01

1 sequences assigned  
No exact matches.



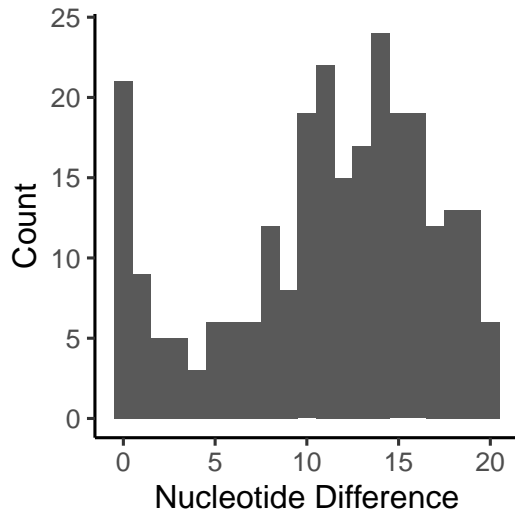
### IGHV5–51\*03

264 sequences assigned  
55 (20.8%) exact matches, in which:  
55 unique CDR3  
6 unique J



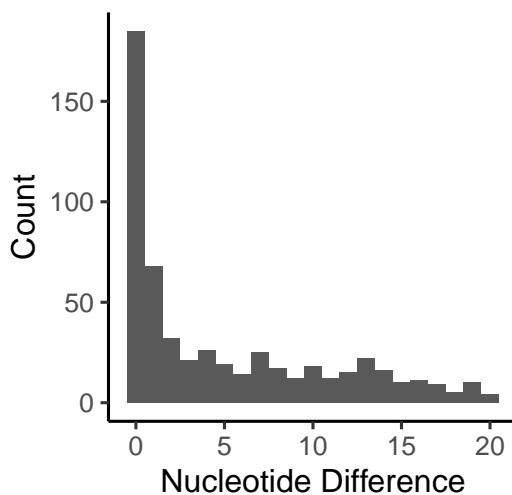
### IGHV4–61\*01

287 sequences assigned  
21 (7.3%) exact matches, in which:  
20 unique CDR3  
4 unique J



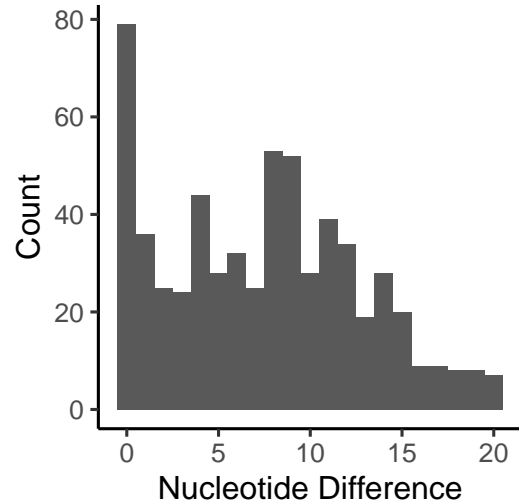
### IGHV5–10–1\*03

618 sequences assigned  
185 (29.9%) exact matches, in which:  
181 unique CDR3  
7 unique J



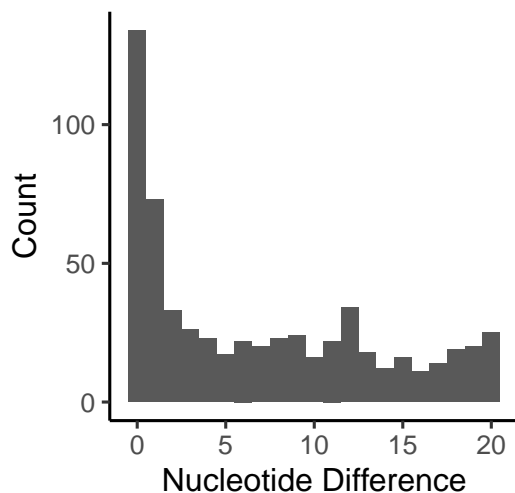
### IGHV6–1\*01

639 sequences assigned  
79 (12.4%) exact matches, in which:  
78 unique CDR3  
5 unique J



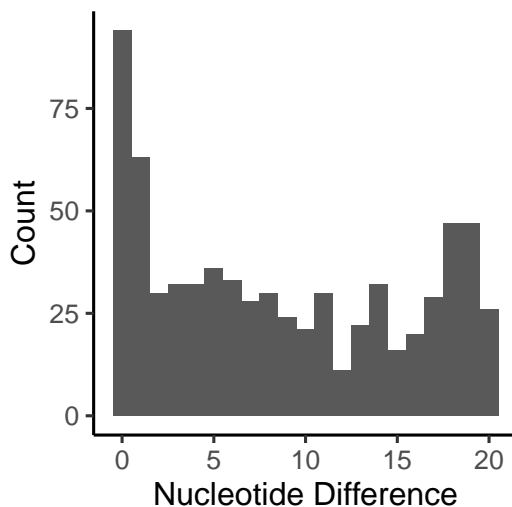
### IGHV4–61\*02

748 sequences assigned  
134 (17.9%) exact matches, in which:  
124 unique CDR3  
6 unique J



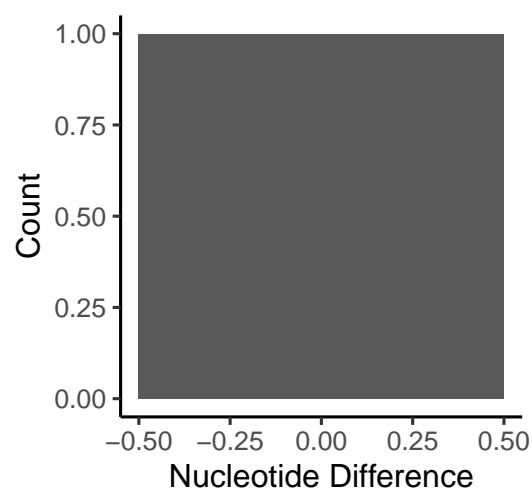
### IGHV5–51\*01

880 sequences assigned  
94 (10.7%) exact matches, in which:  
94 unique CDR3  
6 unique J



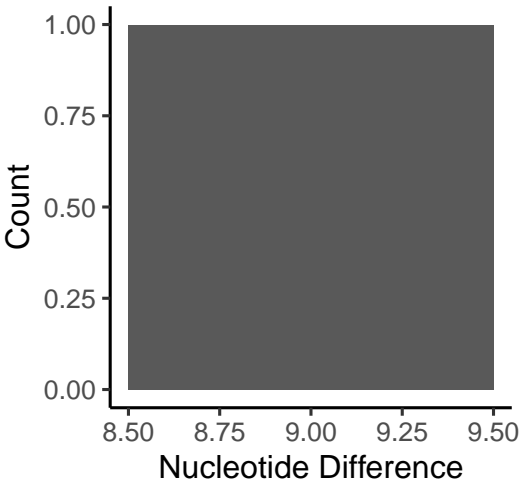
### IGHV3/OR16–6\*02

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



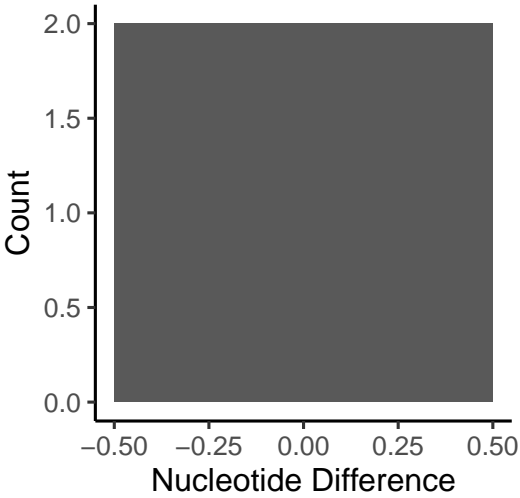
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



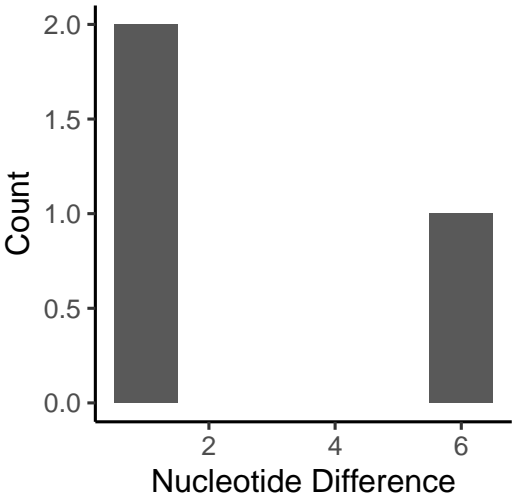
IGHV7-4-1\*01

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



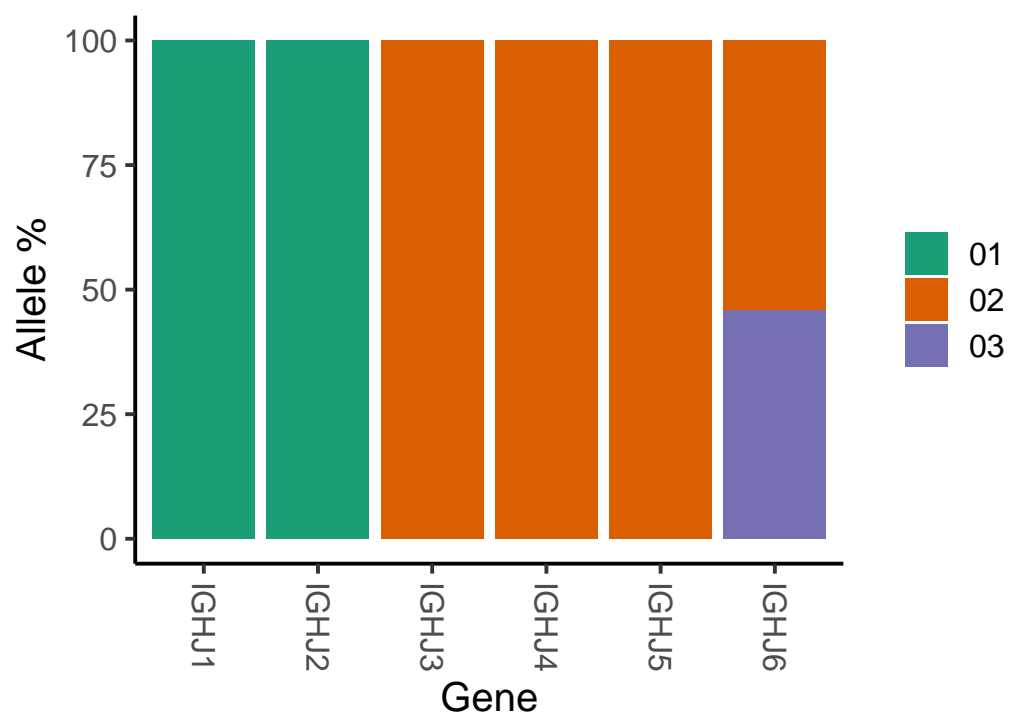
IGHV7-4-1\*02

3 sequences assigned  
No exact matches.





Allele Usage



Sequence Count by IGHJ6 allele usage

