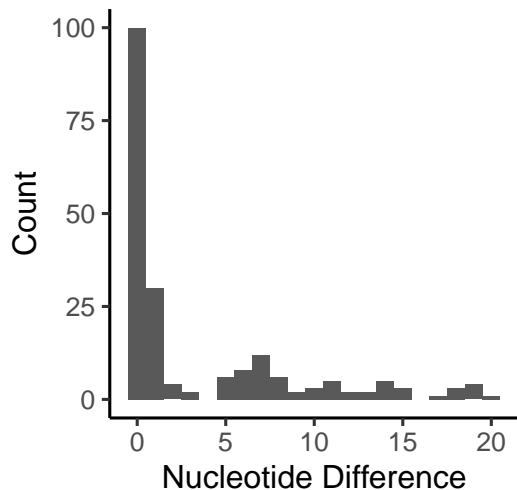


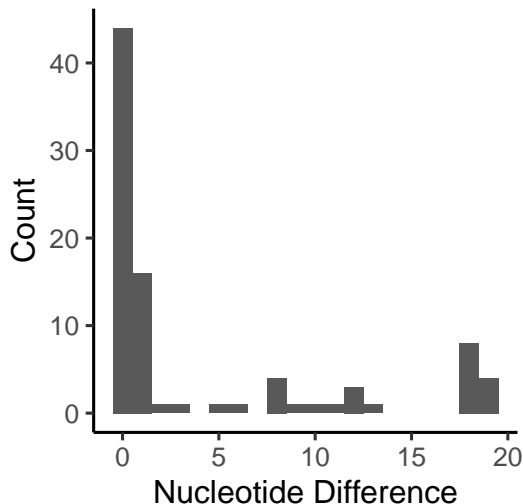
### IGHV1-2\*02

221 sequences assigned  
100 (45.2%) exact matches, in which:  
100 unique CDR3  
6 unique J



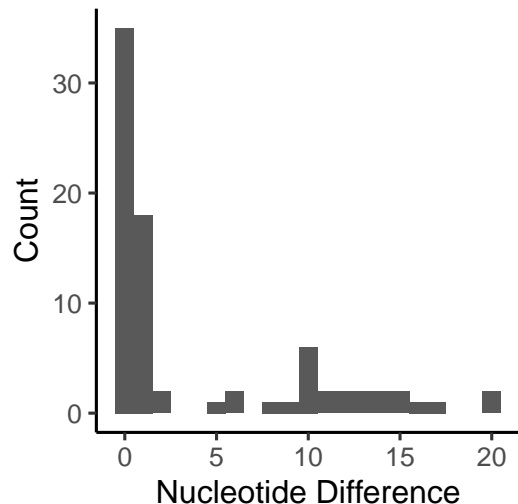
### IGHV1-8\*01

96 sequences assigned  
44 (45.8%) exact matches, in which:  
42 unique CDR3  
5 unique J



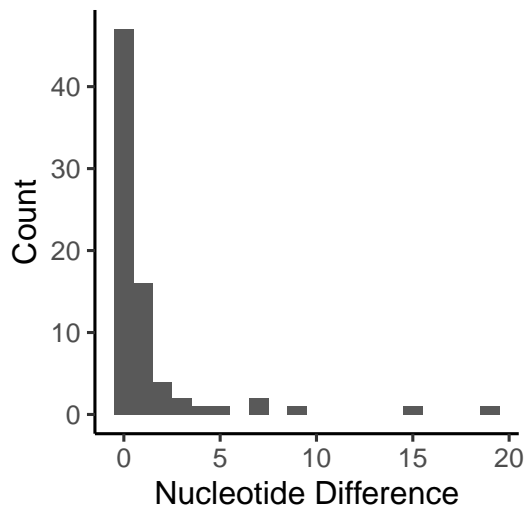
### IGHV1-46\*01

99 sequences assigned  
35 (35.4%) exact matches, in which:  
35 unique CDR3  
4 unique J



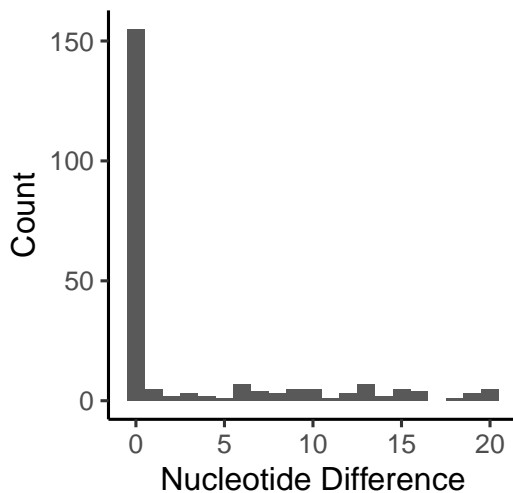
### IGHV1-2\*04

80 sequences assigned  
47 (58.8%) exact matches, in which:  
47 unique CDR3  
6 unique J



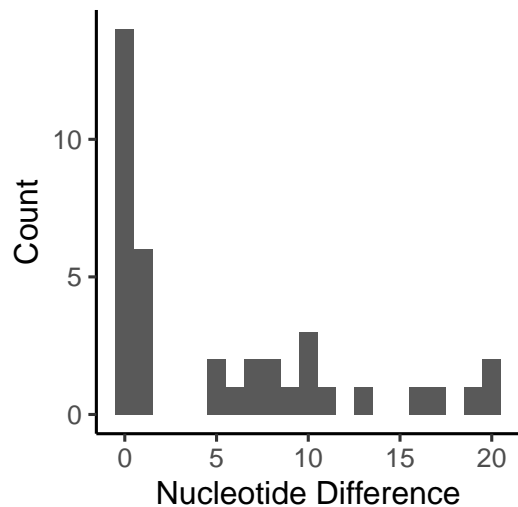
### IGHV1-18\*01

263 sequences assigned  
155 (58.9%) exact matches, in which:  
153 unique CDR3  
5 unique J



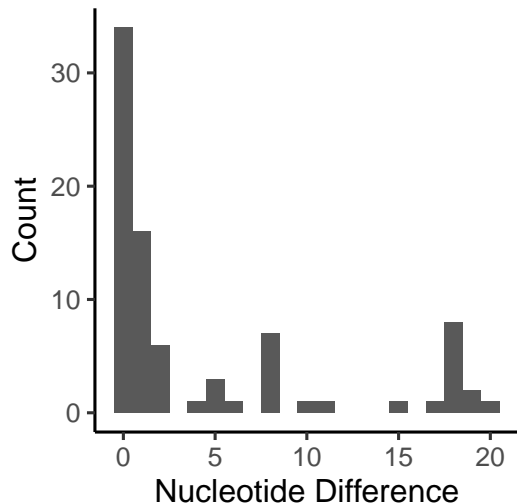
### IGHV1-46\*03

46 sequences assigned  
14 (30.4%) exact matches, in which:  
14 unique CDR3  
4 unique J



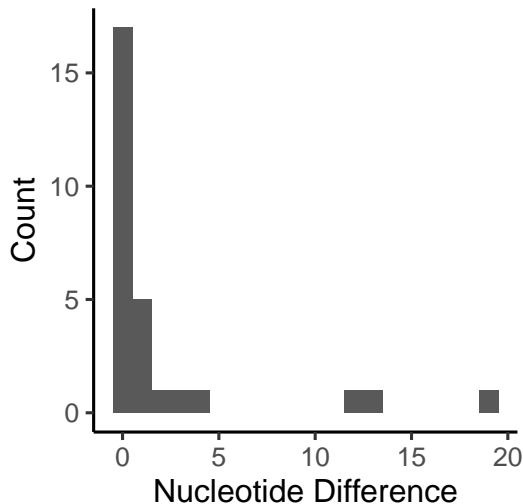
### IGHV1-3\*01\_05

89 sequences assigned  
34 (38.2%) exact matches, in which:  
32 unique CDR3  
4 unique J



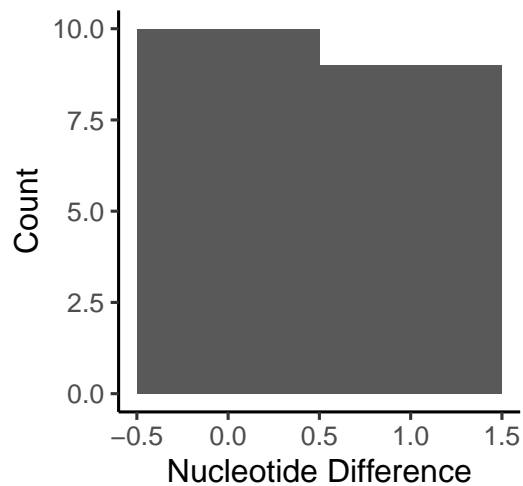
### IGHV1-24\*01

38 sequences assigned  
17 (44.7%) exact matches, in which:  
17 unique CDR3  
4 unique J



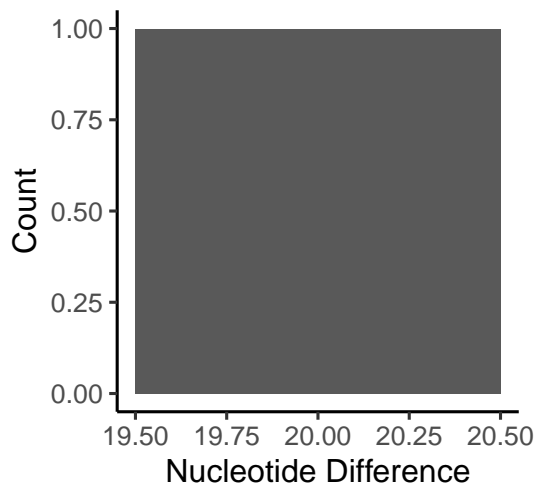
### IGHV1-58\*02

21 sequences assigned  
10 (47.6%) exact matches, in which:  
10 unique CDR3  
2 unique J



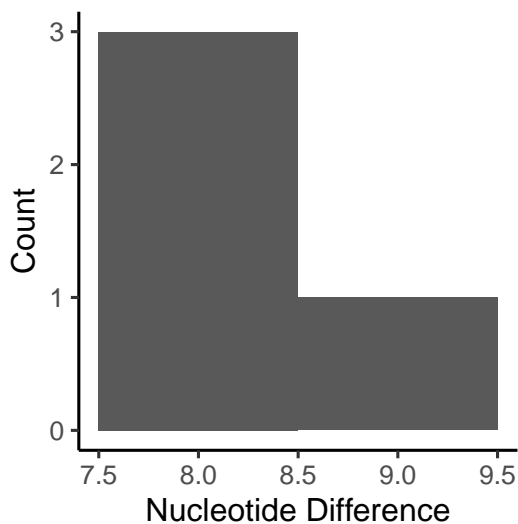
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



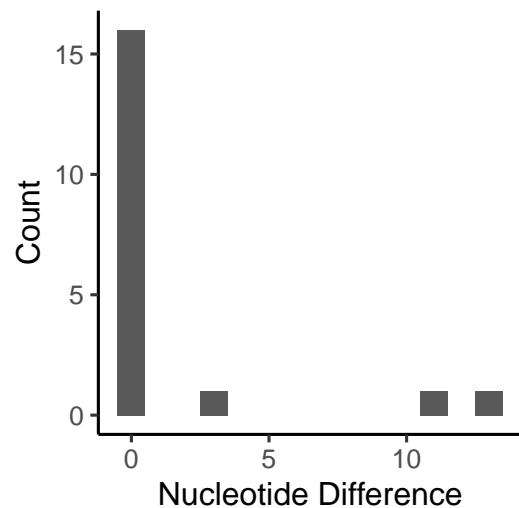
### IGHV1-NL1\*01

4 sequences assigned  
No exact matches.



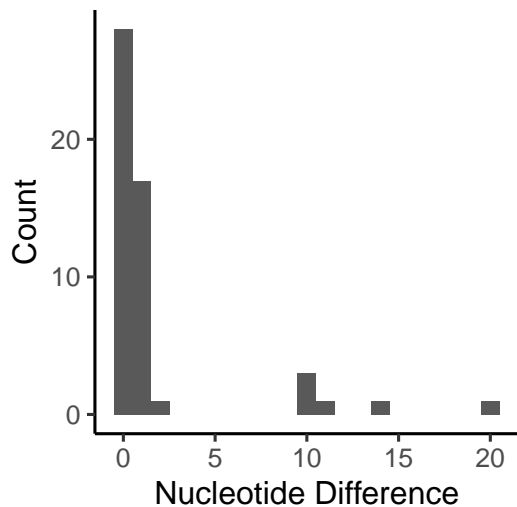
### IGHV2-26\*01

19 sequences assigned  
16 (84.2%) exact matches, in which:  
14 unique CDR3  
3 unique J



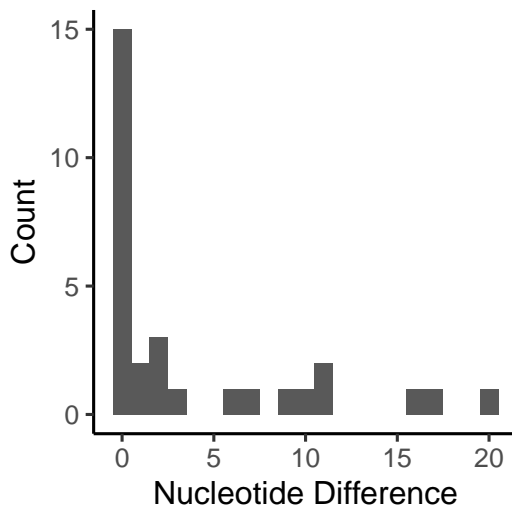
### IGHV1-69\*02

67 sequences assigned  
28 (41.8%) exact matches, in which:  
28 unique CDR3  
5 unique J



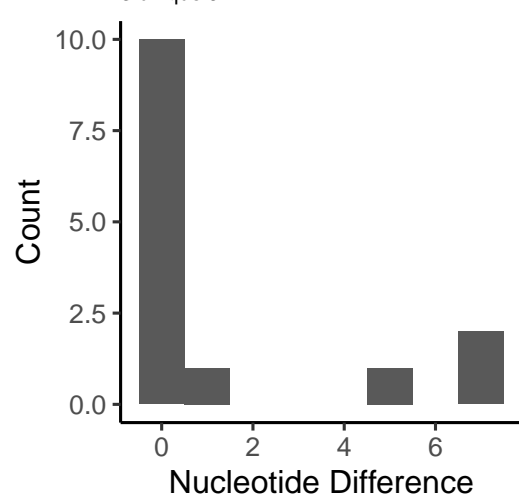
### IGHV2-5\*01

40 sequences assigned  
15 (37.5%) exact matches, in which:  
14 unique CDR3  
5 unique J



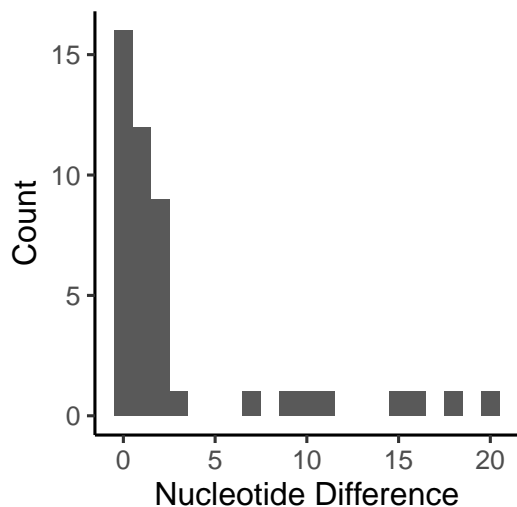
### IGHV2-70\*11\_15

16 sequences assigned  
10 (62.5%) exact matches, in which:  
8 unique CDR3  
3 unique J



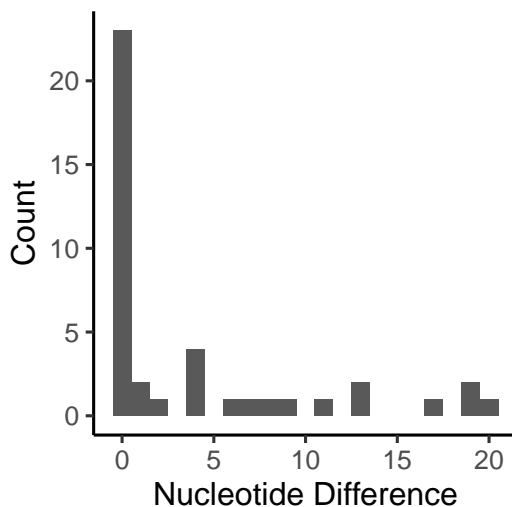
### IGHV1-69\*04\_09

65 sequences assigned  
16 (24.6%) exact matches, in which:  
16 unique CDR3  
3 unique J



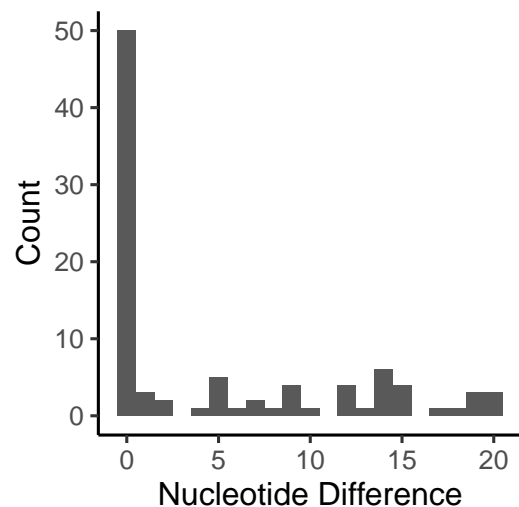
### IGHV2-5\*02

64 sequences assigned  
23 (35.9%) exact matches, in which:  
22 unique CDR3  
6 unique J



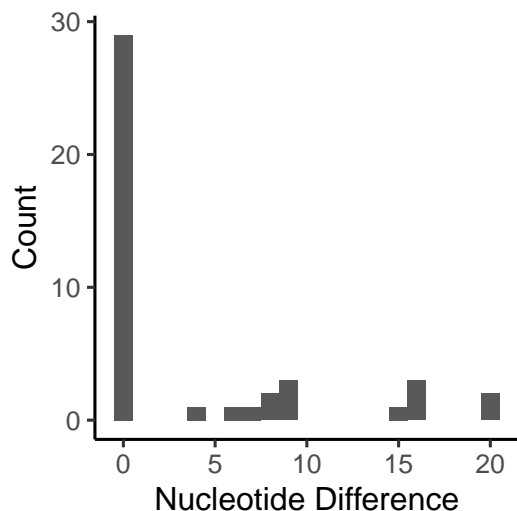
### IGHV3-7\*01

99 sequences assigned  
50 (50.5%) exact matches, in which:  
29 unique CDR3  
3 unique J



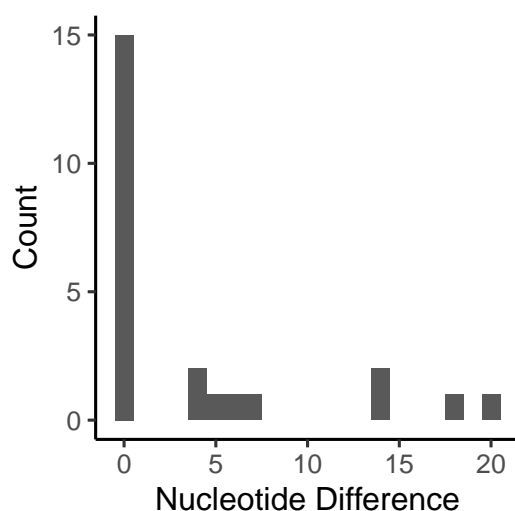
### IGHV3-7\*04

50 sequences assigned  
29 (58%) exact matches, in which:  
14 unique CDR3  
3 unique J



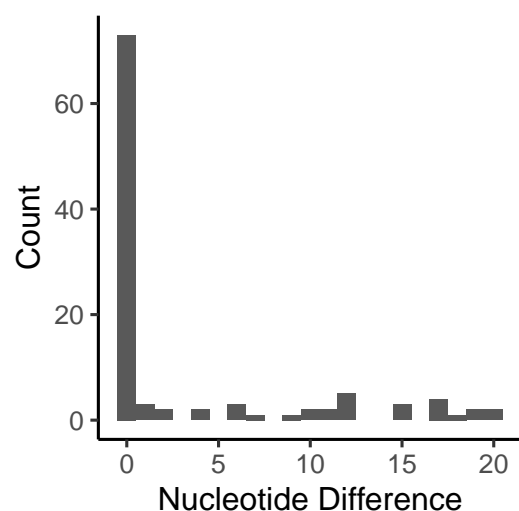
### IGHV3-11\*06

37 sequences assigned  
15 (40.5%) exact matches, in which:  
9 unique CDR3  
2 unique J



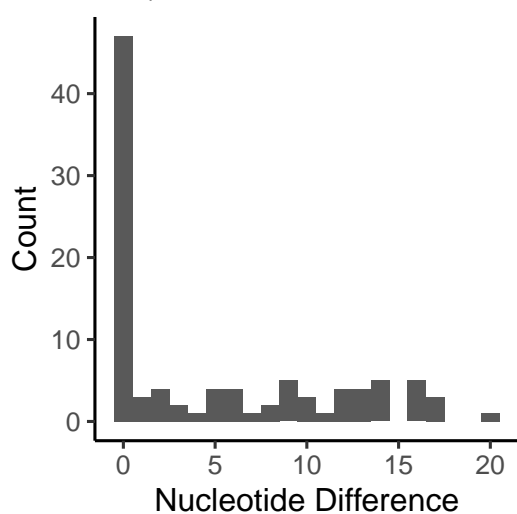
### IGHV3-15\*01\_02

125 sequences assigned  
73 (58.4%) exact matches, in which:  
48 unique CDR3  
5 unique J



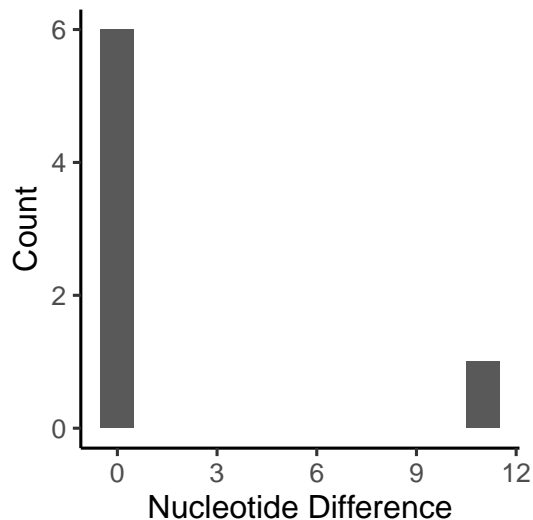
### IGHV3-9\*01

109 sequences assigned  
47 (43.1%) exact matches, in which:  
28 unique CDR3  
4 unique J



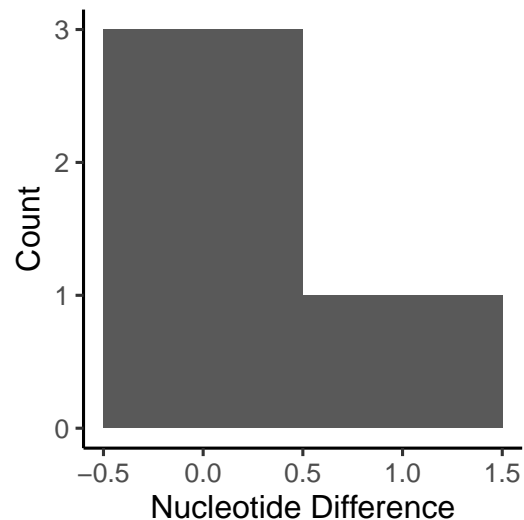
### IGHV3-13\*01

7 sequences assigned  
6 (85.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



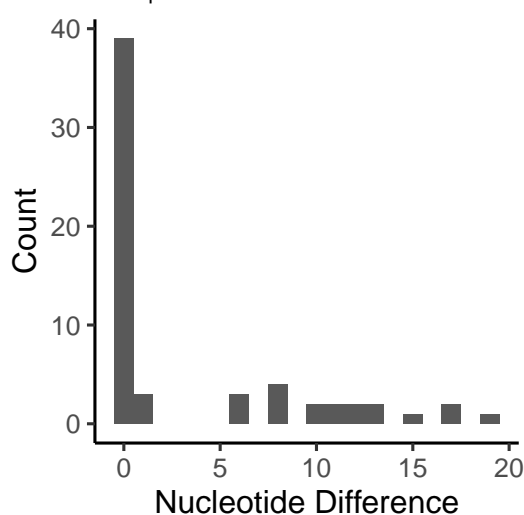
### IGHV3-20\*01\_02

4 sequences assigned  
3 (75%) exact matches, in which:  
2 unique CDR3  
1 unique J



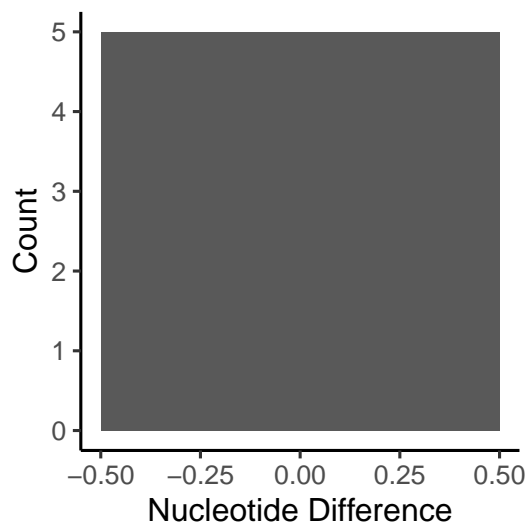
### IGHV3-11\*01

71 sequences assigned  
39 (54.9%) exact matches, in which:  
23 unique CDR3  
4 unique J



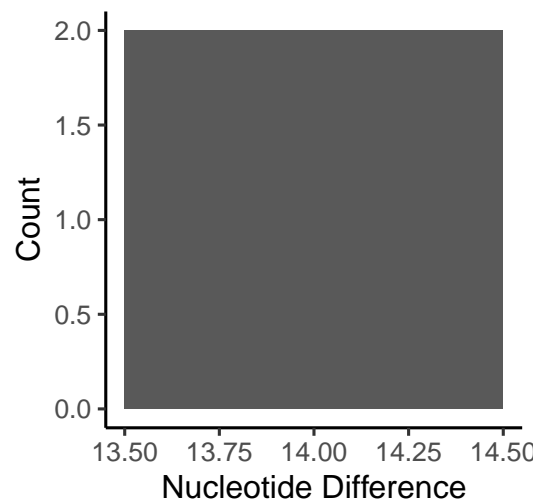
### IGHV3-13\*05

5 sequences assigned  
5 (100%) exact matches, in which:  
3 unique CDR3  
2 unique J



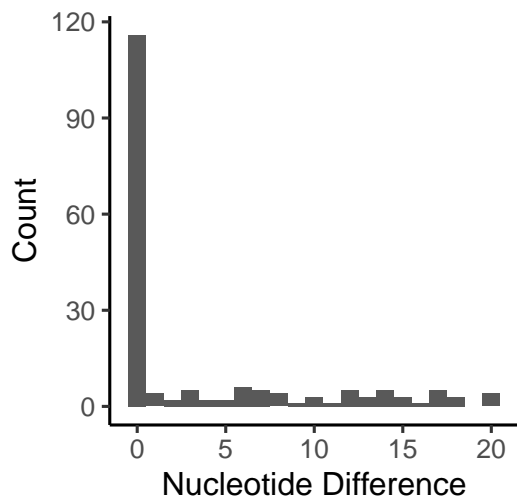
### IGHV3-20\*03\_04

4 sequences assigned  
No exact matches.



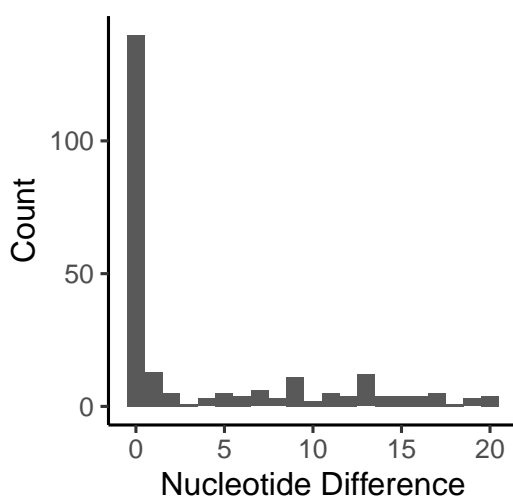
### IGHV3–21\*01\_02

207 sequences assigned  
116 (56%) exact matches, in which:  
73 unique CDR3  
5 unique J



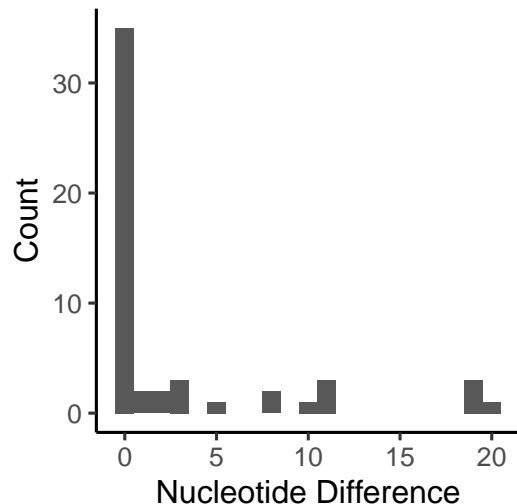
### IGHV3–33\*01

270 sequences assigned  
140 (51.9%) exact matches, in which:  
87 unique CDR3  
4 unique J



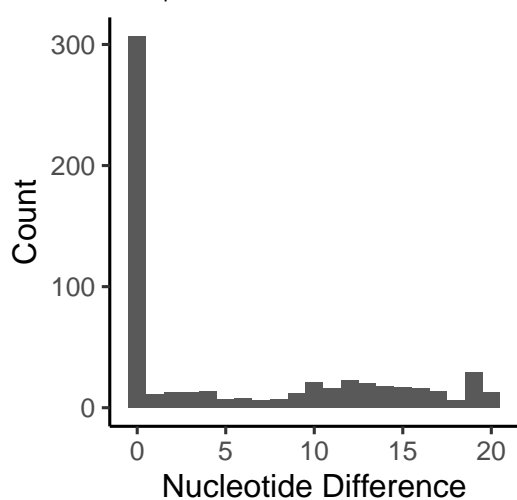
### IGHV3–48\*01

60 sequences assigned  
35 (58.3%) exact matches, in which:  
21 unique CDR3  
3 unique J



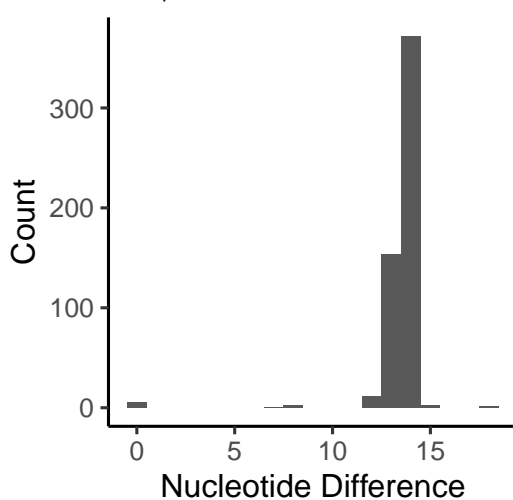
### IGHV3–23\*01\_04

714 sequences assigned  
307 (43%) exact matches, in which:  
191 unique CDR3  
6 unique J



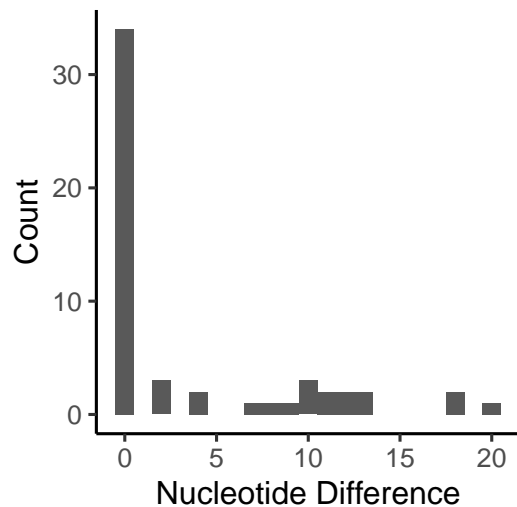
### IGHV3–43\*01

557 sequences assigned  
6 (1.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



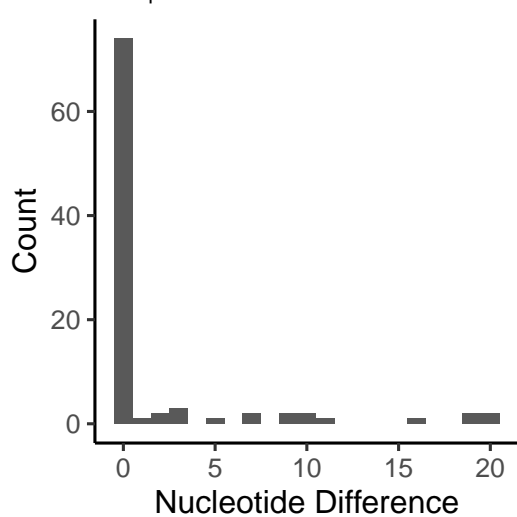
### IGHV3–48\*02

57 sequences assigned  
34 (59.6%) exact matches, in which:  
20 unique CDR3  
4 unique J



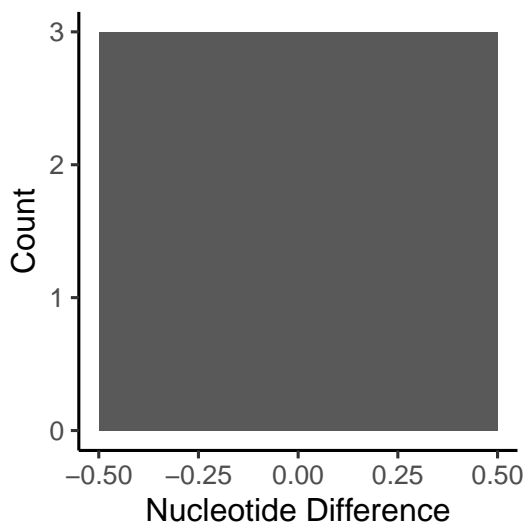
### IGHV3–30–3\*01

105 sequences assigned  
74 (70.5%) exact matches, in which:  
46 unique CDR3  
3 unique J



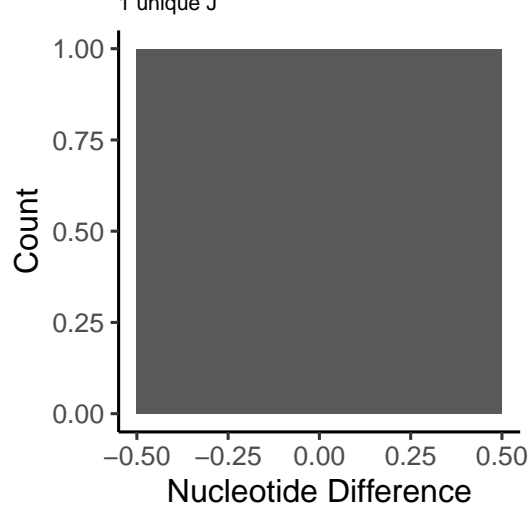
### IGHV3–47\*02

3 sequences assigned  
3 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



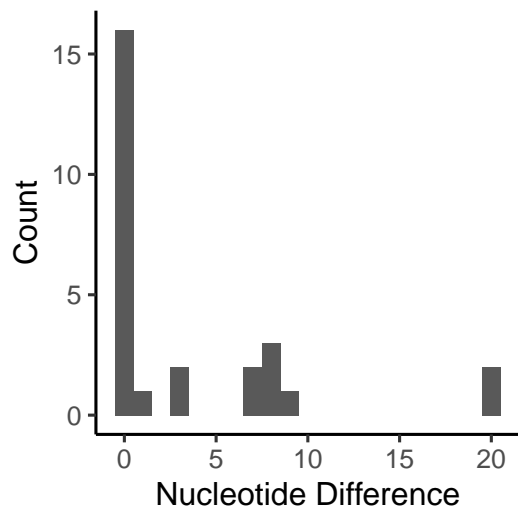
### IGHV3–48\*04

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



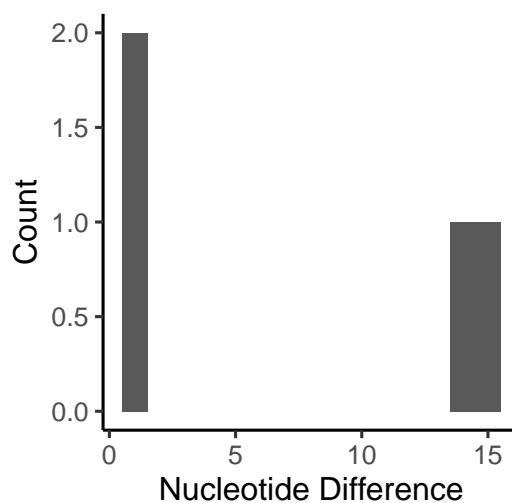
### IGHV3-49\*03\_05

31 sequences assigned  
16 (51.6%) exact matches, in which:  
12 unique CDR3  
3 unique J



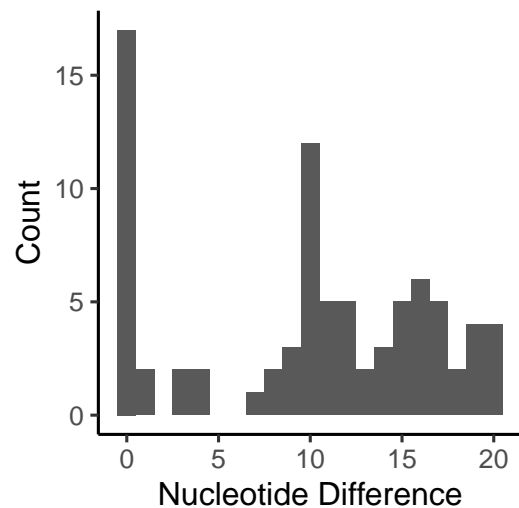
### IGHV3-53\*05

4 sequences assigned  
No exact matches.



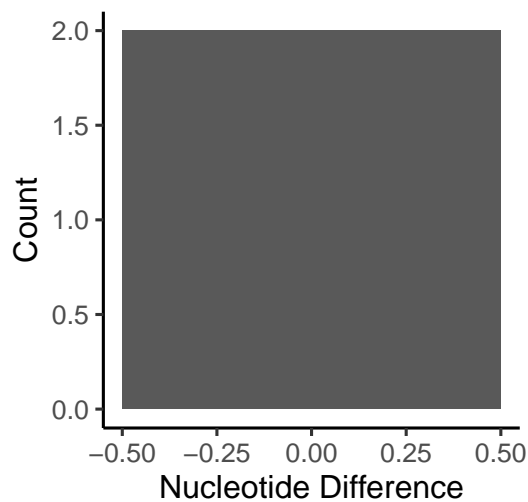
### IGHV3-66\*01

96 sequences assigned  
17 (17.7%) exact matches, in which:  
10 unique CDR3  
4 unique J



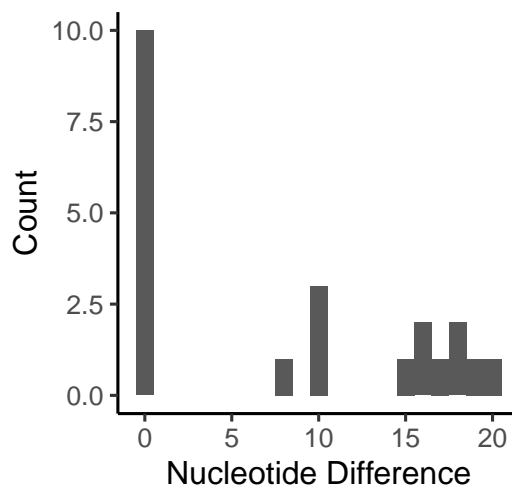
### IGHV3-52\*02

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



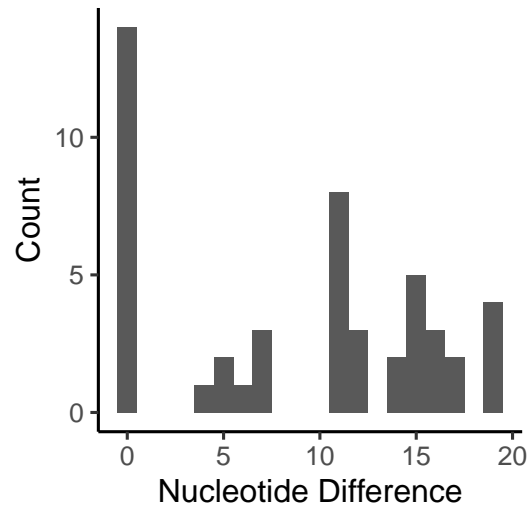
### IGHV3-53\*01\_02

27 sequences assigned  
10 (37%) exact matches, in which:  
7 unique CDR3  
2 unique J



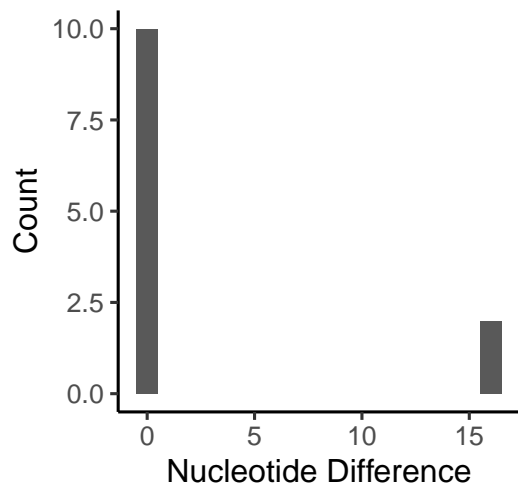
### IGHV3-66\*02

60 sequences assigned  
14 (23.3%) exact matches, in which:  
8 unique CDR3  
4 unique J



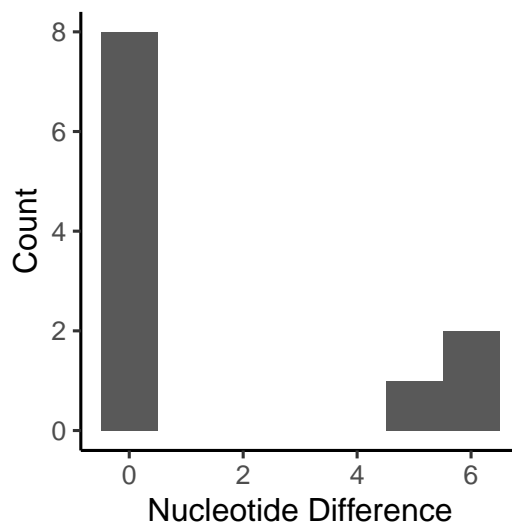
### IGHV3-53\*04

15 sequences assigned  
10 (66.7%) exact matches, in which:  
6 unique CDR3  
3 unique J



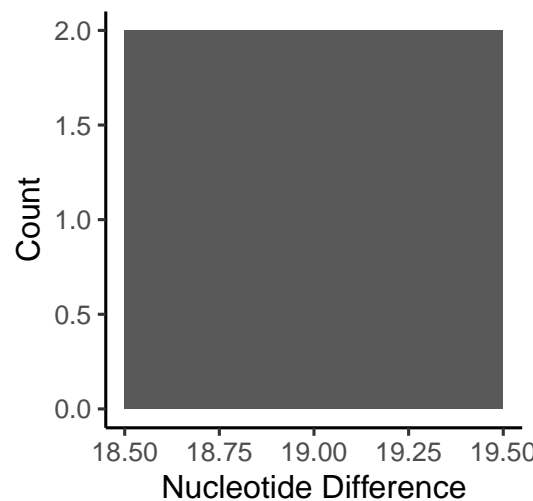
### IGHV3-64\*01

11 sequences assigned  
8 (72.7%) exact matches, in which:  
5 unique CDR3  
3 unique J



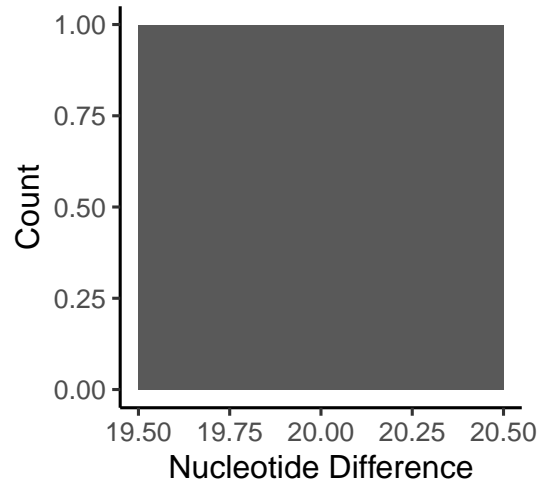
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



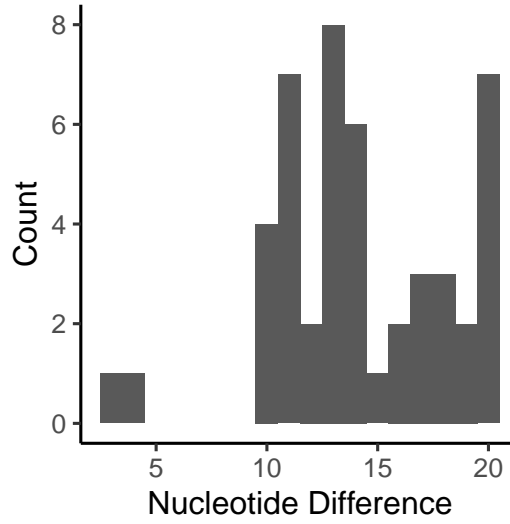
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



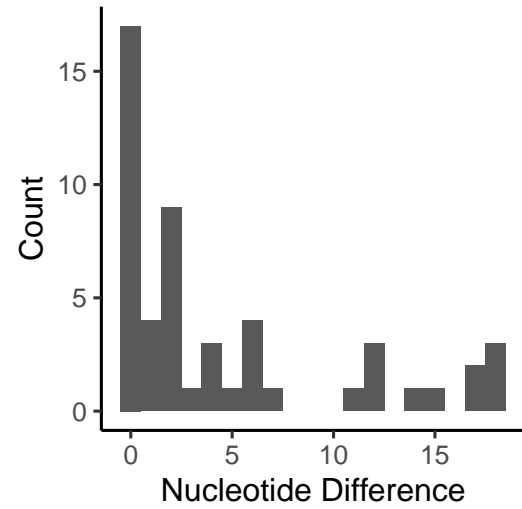
### IGHV3-74\*03

63 sequences assigned  
No exact matches.



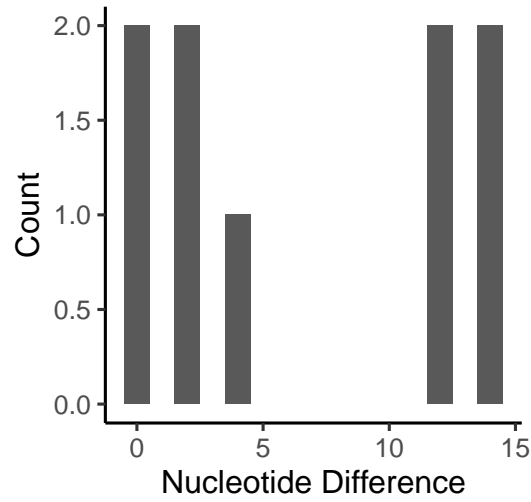
### IGHV4-4\*07

66 sequences assigned  
17 (25.8%) exact matches, in which:  
17 unique CDR3  
4 unique J



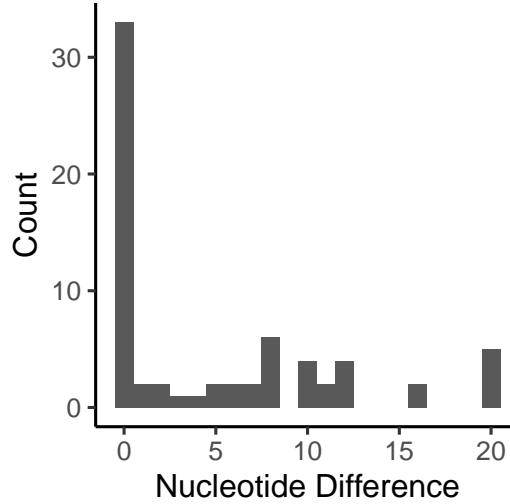
### IGHV3-72\*01

13 sequences assigned  
2 (15.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



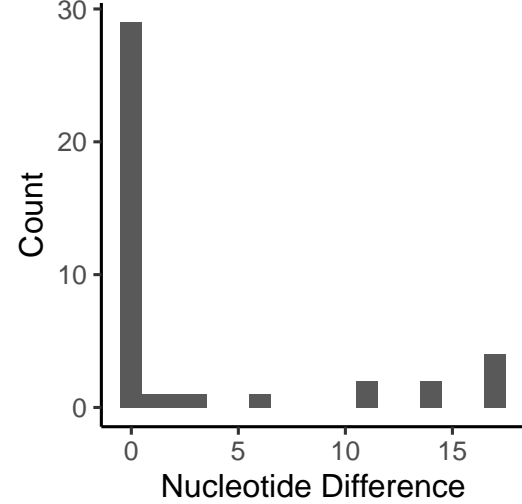
### IGHV3-74\*01\_02

84 sequences assigned  
33 (39.3%) exact matches, in which:  
18 unique CDR3  
4 unique J



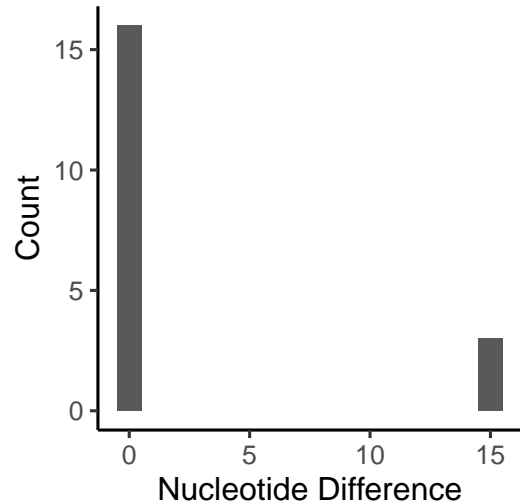
### IGHV4-4\*02\_03

52 sequences assigned  
29 (55.8%) exact matches, in which:  
27 unique CDR3  
4 unique J



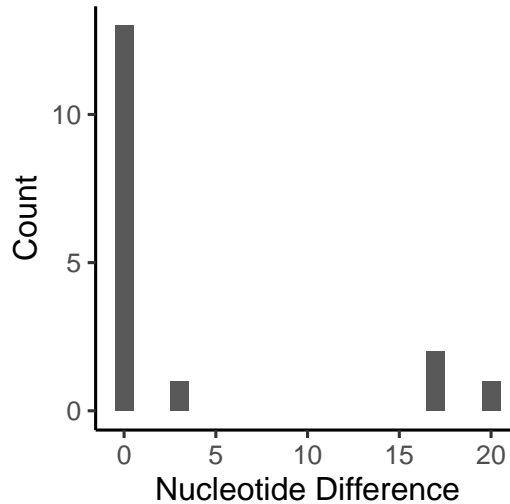
### IGHV3-73\*01\_02

21 sequences assigned  
16 (76.2%) exact matches, in which:  
10 unique CDR3  
2 unique J



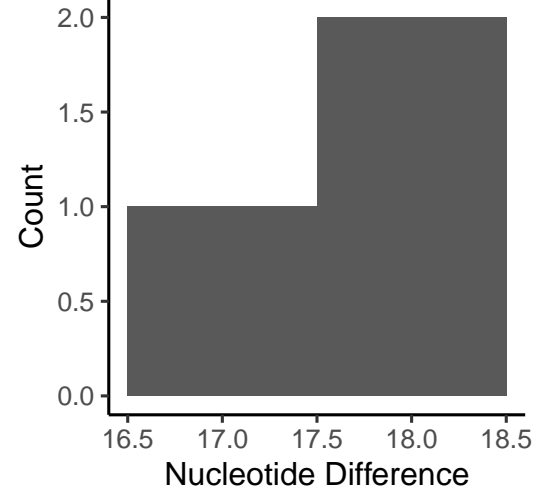
### IGHV3-64D\*06

36 sequences assigned  
13 (36.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



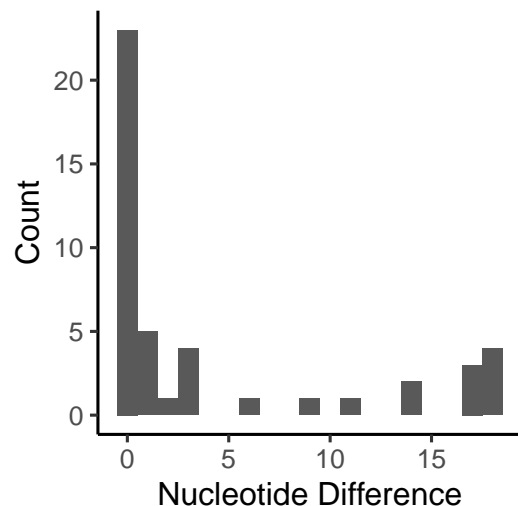
### IGHV4-28\*03

7 sequences assigned  
No exact matches.



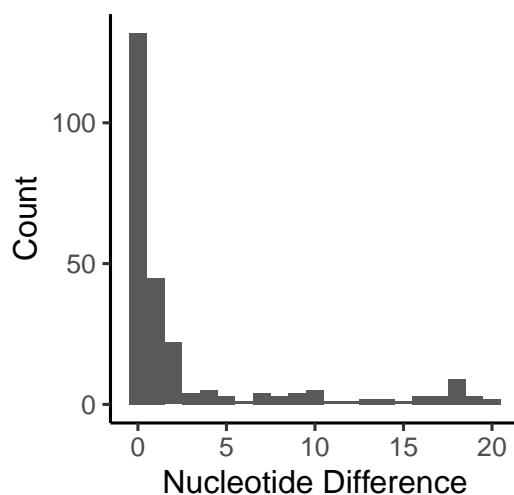
## IGHV4-30-4\*01

57 sequences assigned  
23 (40.4%) exact matches, in which:  
21 unique CDR3  
5 unique J



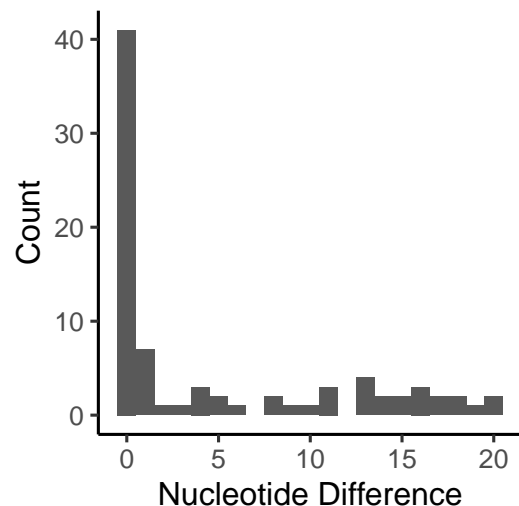
## IGHV4-34\*01\_02

271 sequences assigned  
132 (48.7%) exact matches, in which:  
121 unique CDR3  
5 unique J



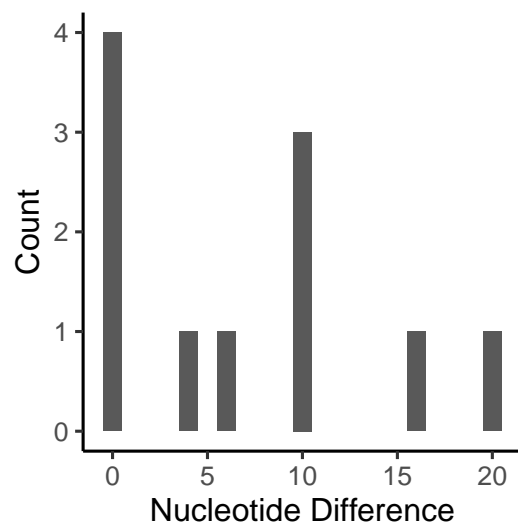
## IGHV4-59\*08

109 sequences assigned  
41 (37.6%) exact matches, in which:  
37 unique CDR3  
5 unique J



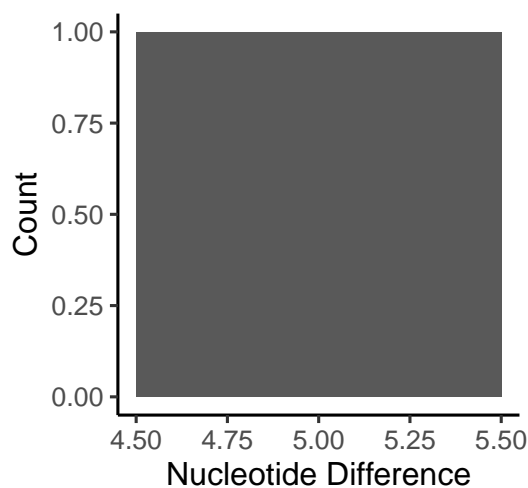
## IGHV4-30-2\*01

12 sequences assigned  
4 (33.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



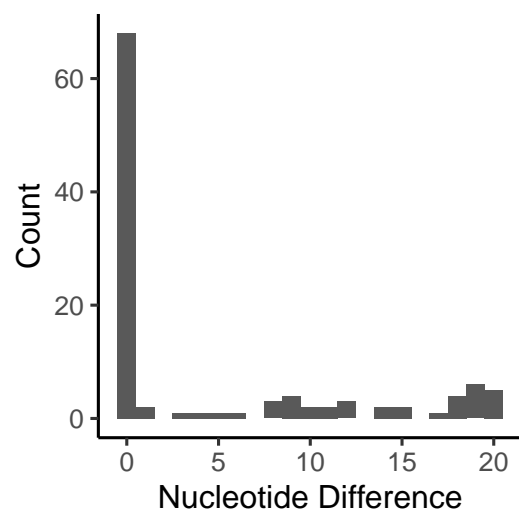
## IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



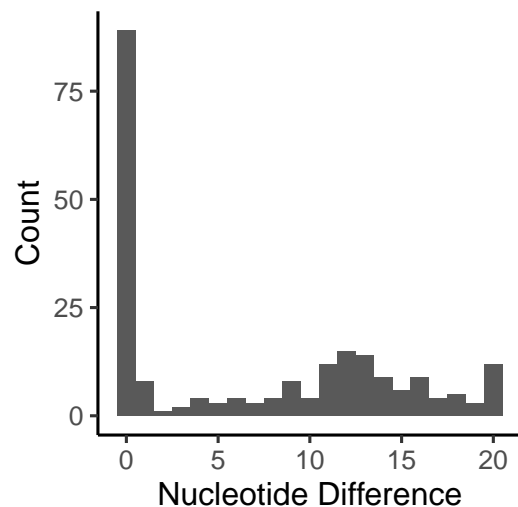
## IGHV4-59\*01\_07

124 sequences assigned  
68 (54.8%) exact matches, in which:  
62 unique CDR3  
5 unique J



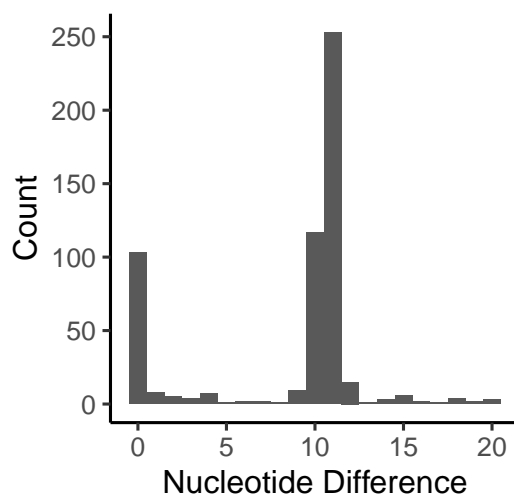
## IGHV4-31\*02

254 sequences assigned  
89 (35%) exact matches, in which:  
82 unique CDR3  
5 unique J



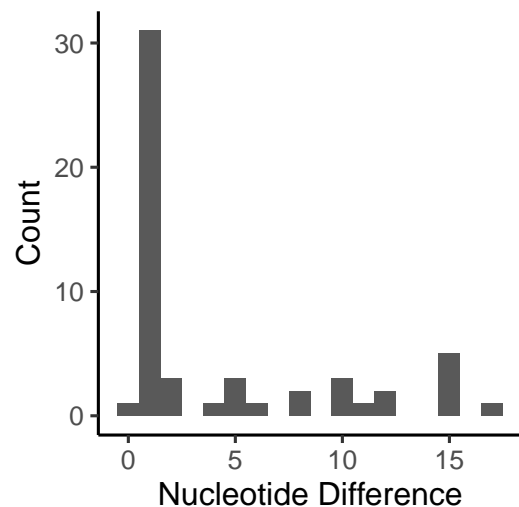
## IGHV4-39\*02\_C258G

746 sequences assigned  
103 (13.8%) exact matches, in which:  
98 unique CDR3  
6 unique J



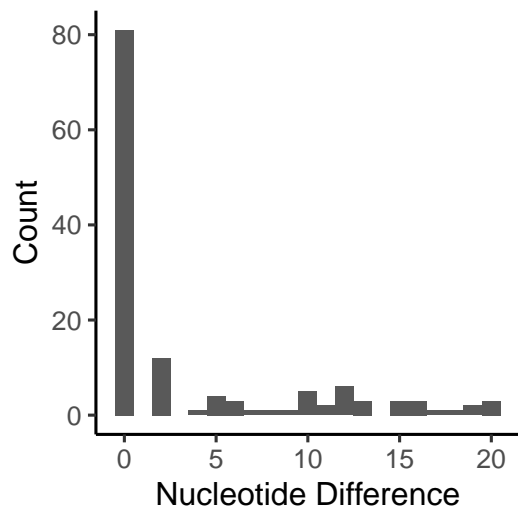
## IGHV4-59\*12

60 sequences assigned  
1 (1.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



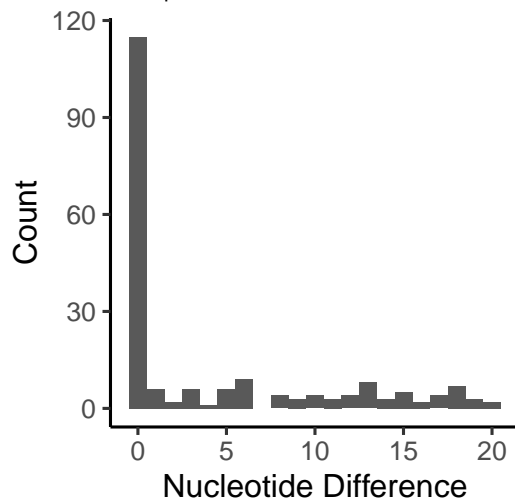
## IGHV4-61\*02

170 sequences assigned  
81 (47.6%) exact matches, in which:  
79 unique CDR3  
6 unique J



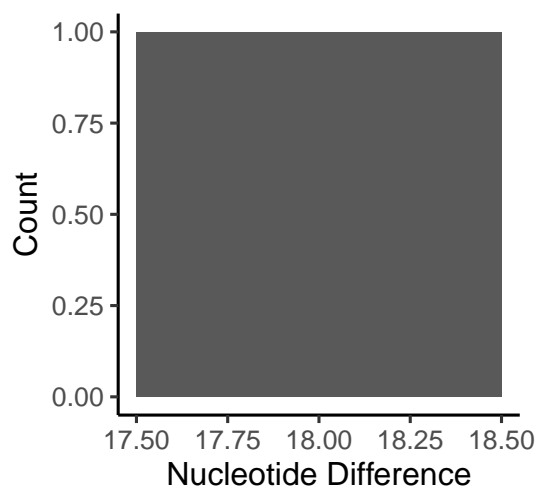
## IGHV5-51\*07\_A128G

220 sequences assigned  
115 (52.3%) exact matches, in which:  
104 unique CDR3  
6 unique J



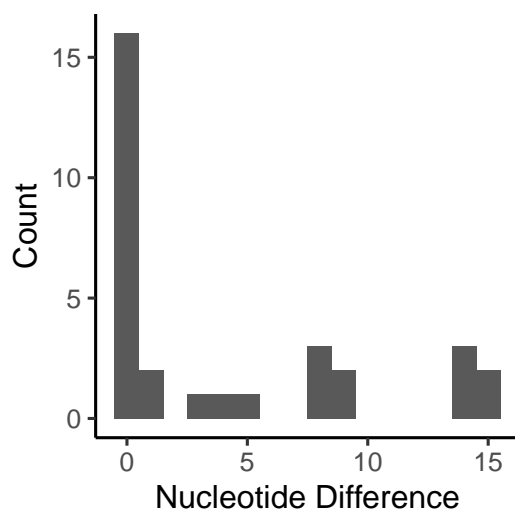
## IGHV4/OR15-8\*02

3 sequences assigned  
No exact matches.



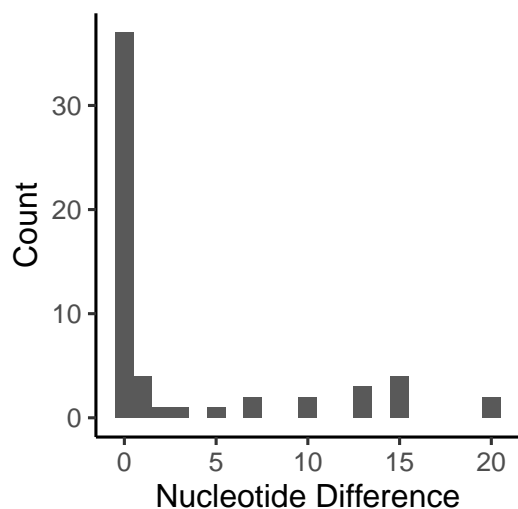
## IGHV6-1\*01\_02

40 sequences assigned  
16 (40%) exact matches, in which:  
16 unique CDR3  
5 unique J



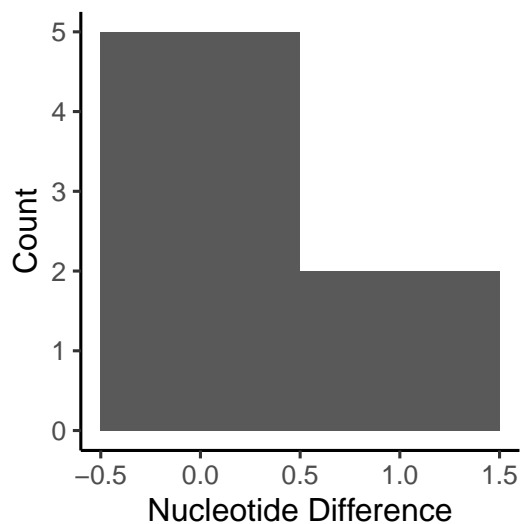
## IGHV5-10-1\*01\_03

65 sequences assigned  
37 (56.9%) exact matches, in which:  
28 unique CDR3  
4 unique J



## IGHV7-4-1\*01

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
2 unique J







Warning – no inferred sequences found.