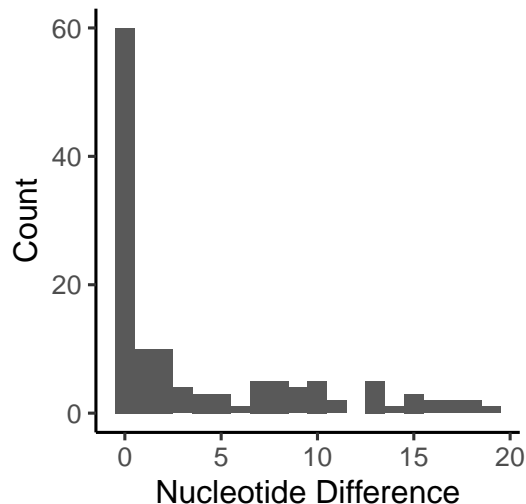


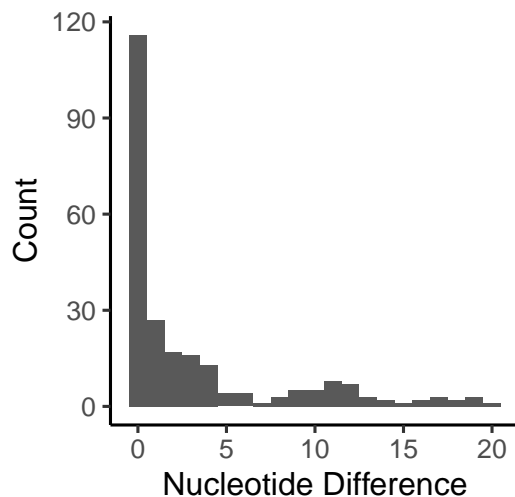
## IGHV1-2\*02

152 sequences assigned  
60 (39.5%) exact matches, in which:  
59 unique CDR3  
6 unique J



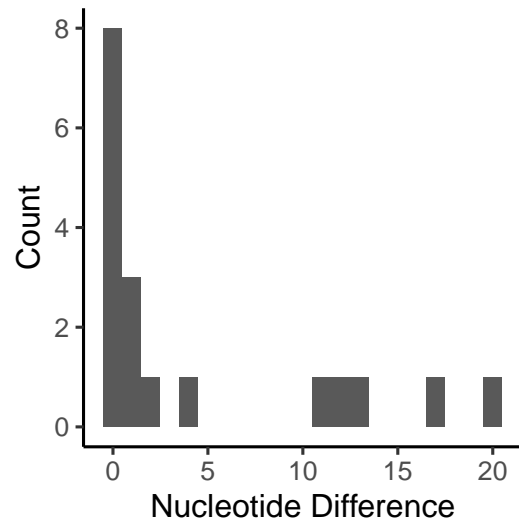
## IGHV1-18\*01

250 sequences assigned  
116 (46.4%) exact matches, in which:  
116 unique CDR3  
6 unique J



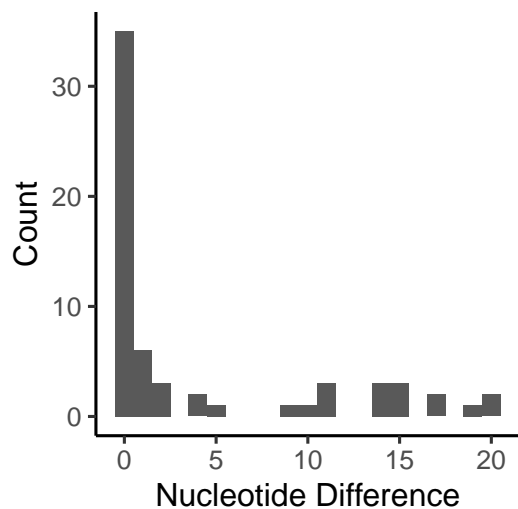
## IGHV1-58\*01

18 sequences assigned  
8 (44.4%) exact matches, in which:  
8 unique CDR3  
2 unique J



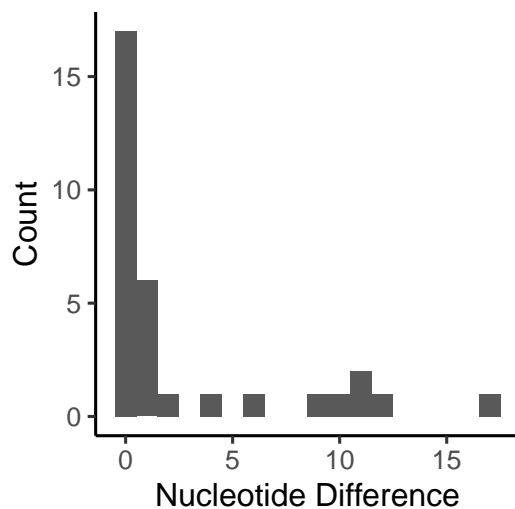
## IGHV1-3\*01

66 sequences assigned  
35 (53%) exact matches, in which:  
34 unique CDR3  
5 unique J



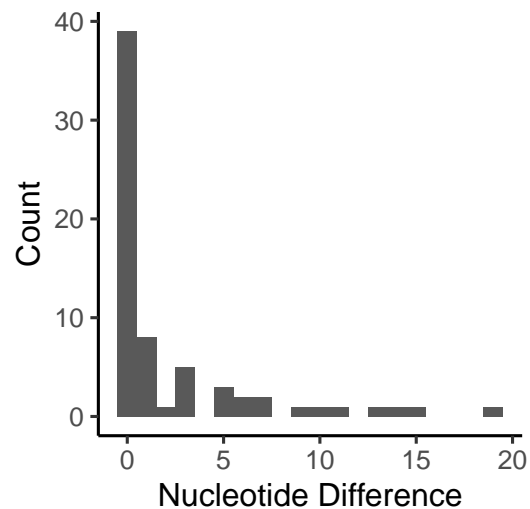
## IGHV1-24\*01

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



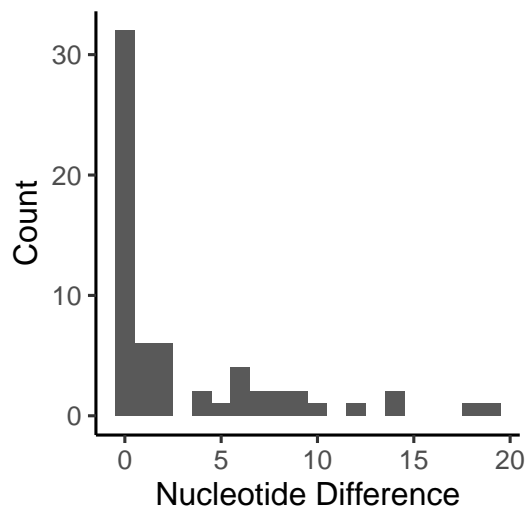
## IGHV1-69\*04

72 sequences assigned  
39 (54.2%) exact matches, in which:  
39 unique CDR3  
7 unique J



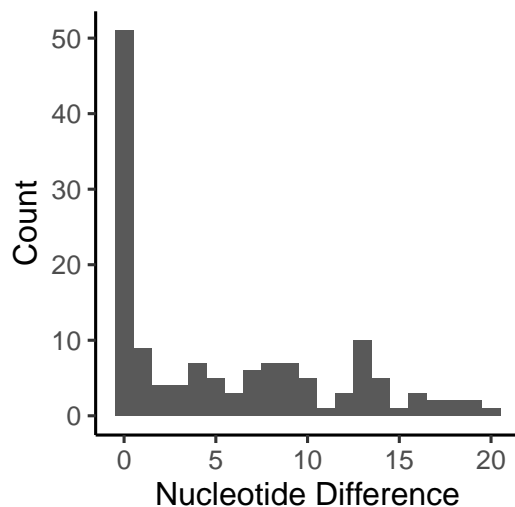
## IGHV1-8\*01

63 sequences assigned  
32 (50.8%) exact matches, in which:  
32 unique CDR3  
3 unique J



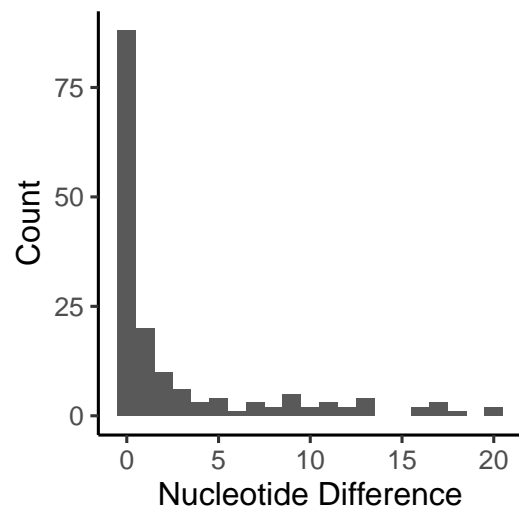
## IGHV1-46\*01

143 sequences assigned  
51 (35.7%) exact matches, in which:  
50 unique CDR3  
5 unique J



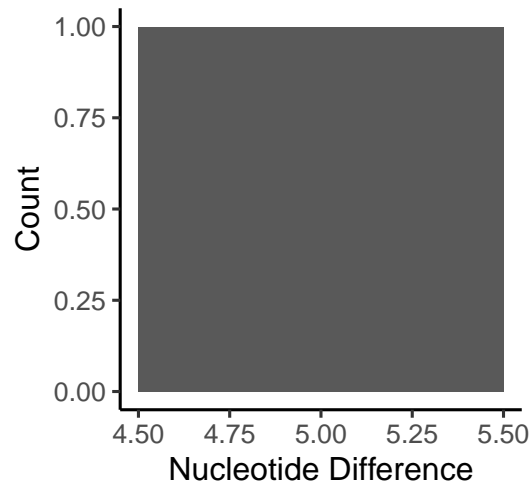
## IGHV1-69\*06

164 sequences assigned  
88 (53.7%) exact matches, in which:  
88 unique CDR3  
6 unique J



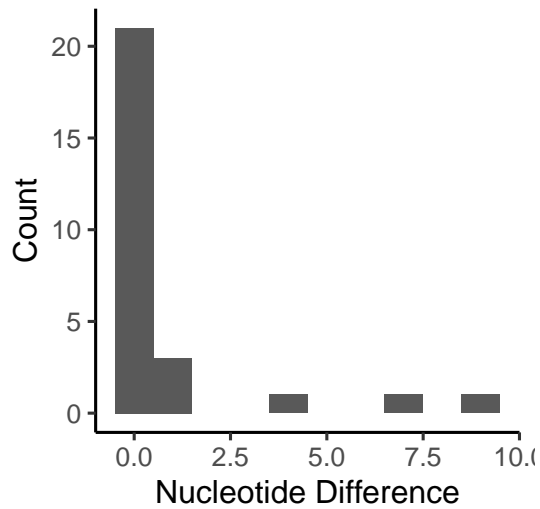
### IGHV1-69D\*01

1 sequences assigned  
No exact matches.



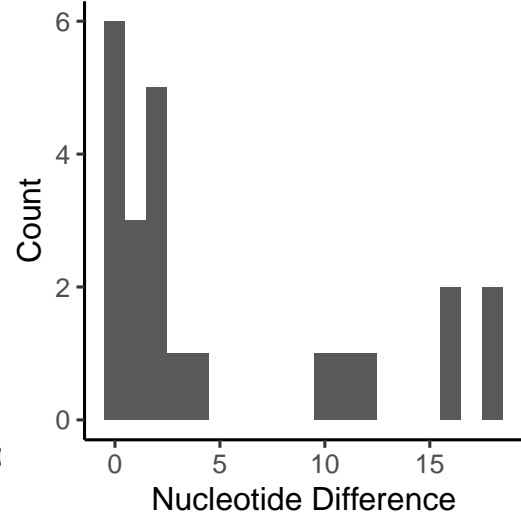
### IGHV2-70\*01

27 sequences assigned  
21 (77.8%) exact matches, in which:  
18 unique CDR3  
4 unique J



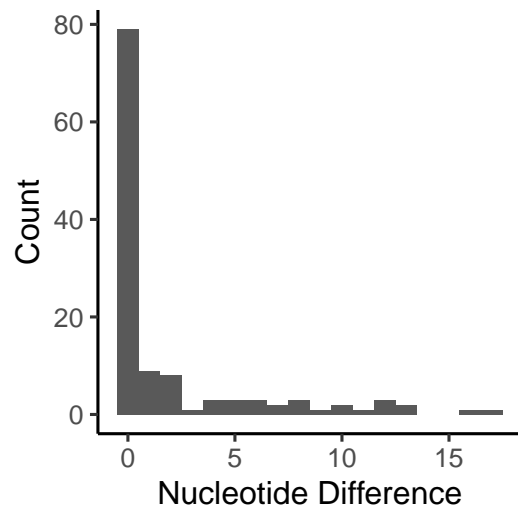
### IGHV3-7\*05

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



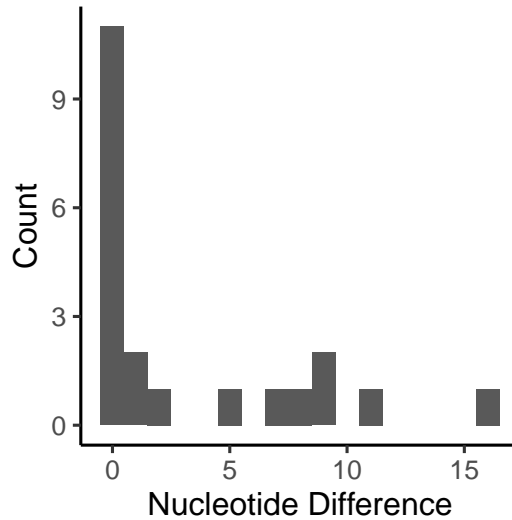
### IGHV2-5\*02

127 sequences assigned  
79 (62.2%) exact matches, in which:  
79 unique CDR3  
7 unique J



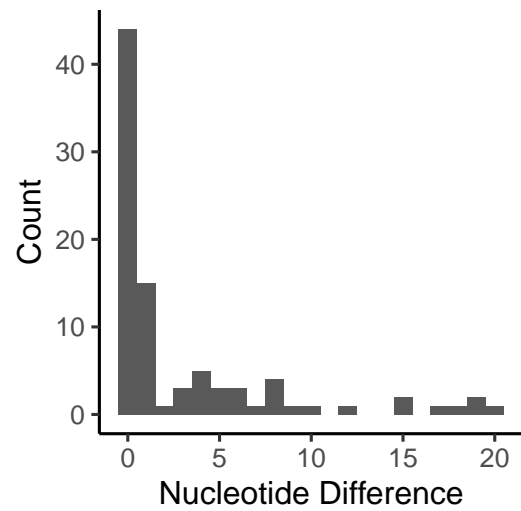
### IGHV2-70\*15

21 sequences assigned  
11 (52.4%) exact matches, in which:  
11 unique CDR3  
4 unique J



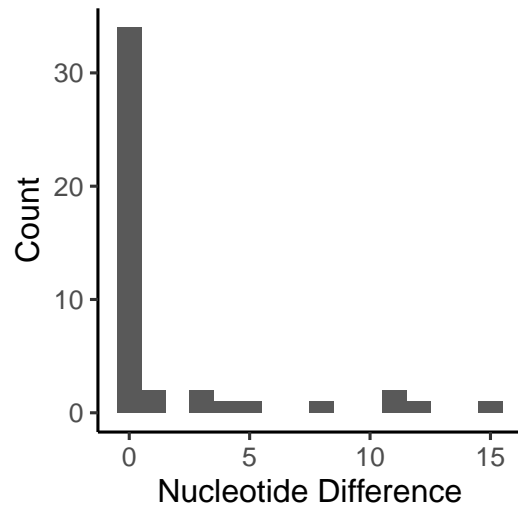
### IGHV3-9\*01

90 sequences assigned  
44 (48.9%) exact matches, in which:  
44 unique CDR3  
5 unique J



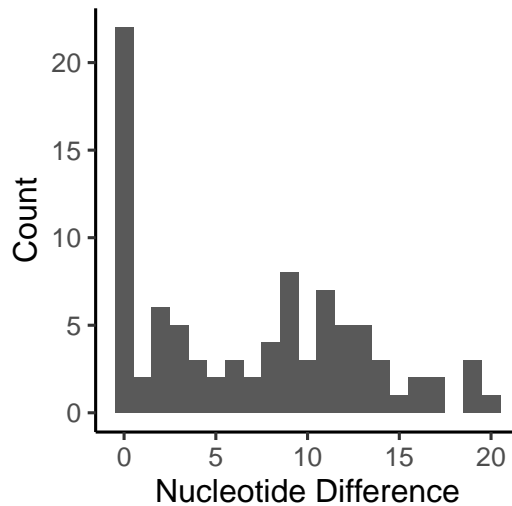
### IGHV2-26\*01

47 sequences assigned  
34 (72.3%) exact matches, in which:  
33 unique CDR3  
6 unique J



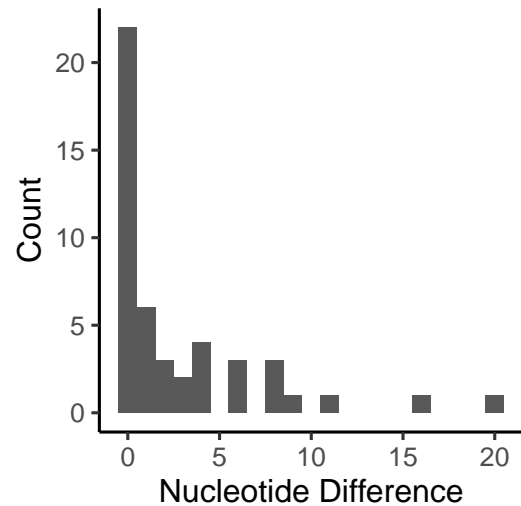
### IGHV3-7\*01

99 sequences assigned  
22 (22.2%) exact matches, in which:  
21 unique CDR3  
6 unique J



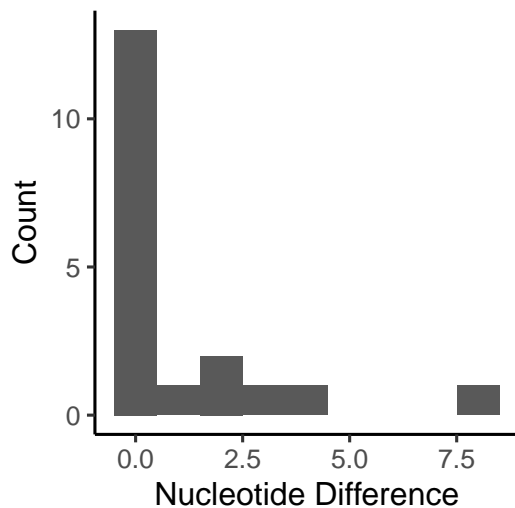
### IGHV3-11\*01

49 sequences assigned  
22 (44.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



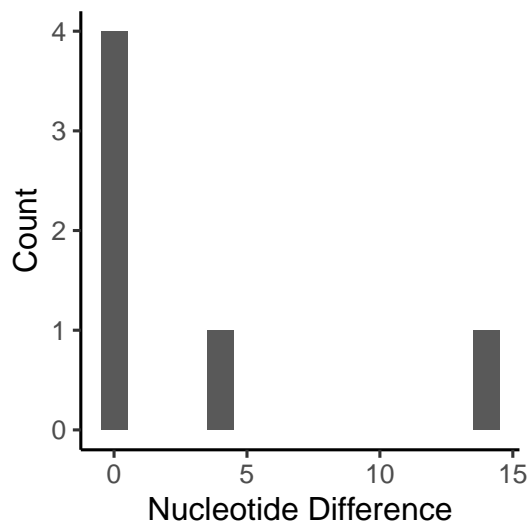
### IGHV3-11\*05

21 sequences assigned  
13 (61.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



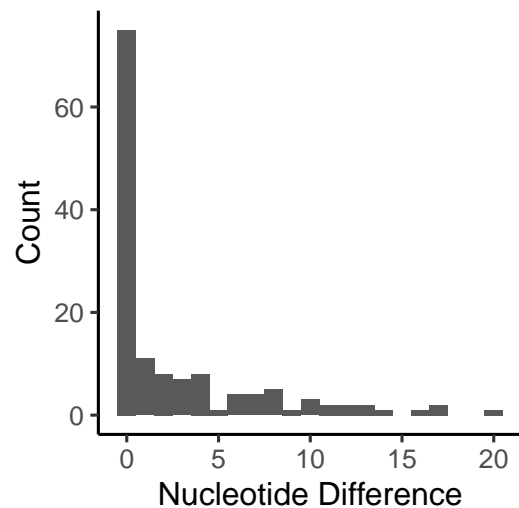
### IGHV3-13\*04

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
4 unique J



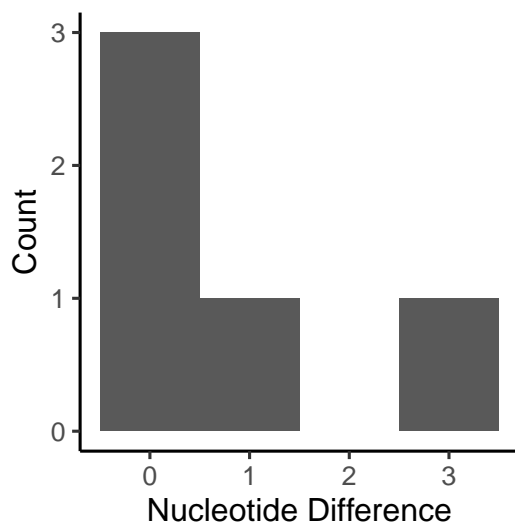
### IGHV3-21\*01

144 sequences assigned  
75 (52.1%) exact matches, in which:  
75 unique CDR3  
7 unique J



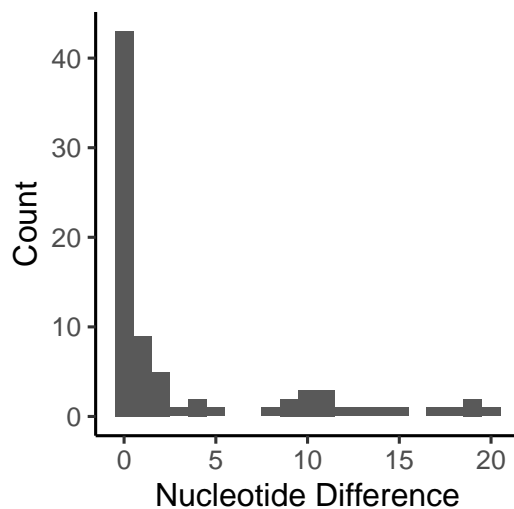
### IGHV3-11\*06

5 sequences assigned  
3 (60%) exact matches, in which:  
3 unique CDR3  
1 unique J



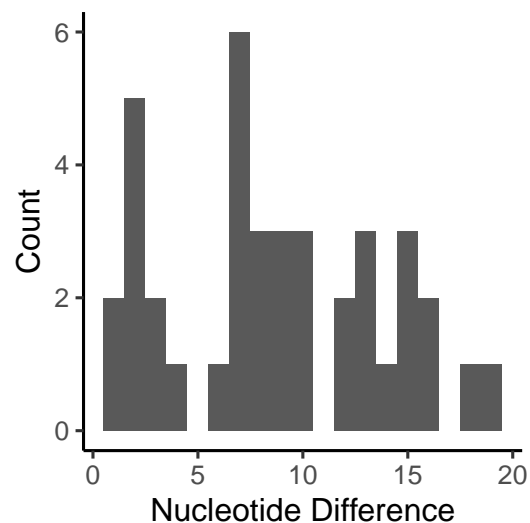
### IGHV3-15\*01

82 sequences assigned  
43 (52.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



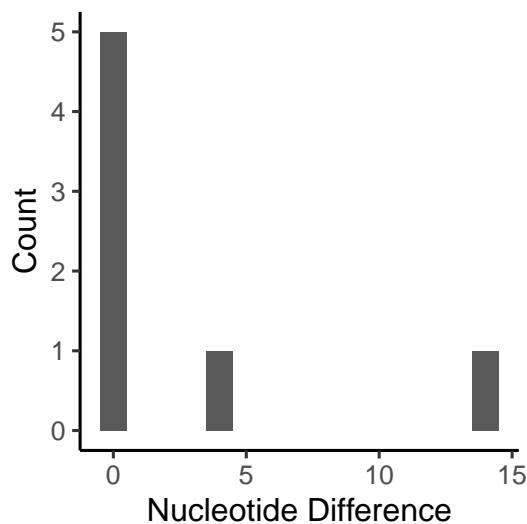
### IGHV3-23\*04

43 sequences assigned  
No exact matches.



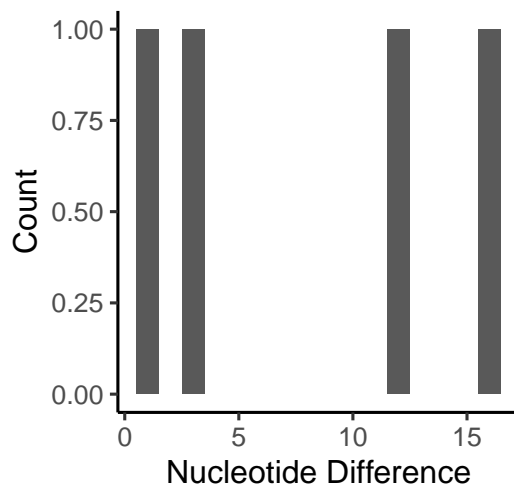
### IGHV3-13\*01

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



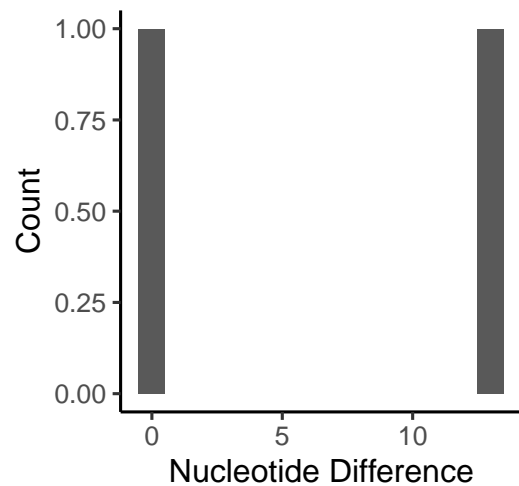
### IGHV3-20\*01

4 sequences assigned  
No exact matches.



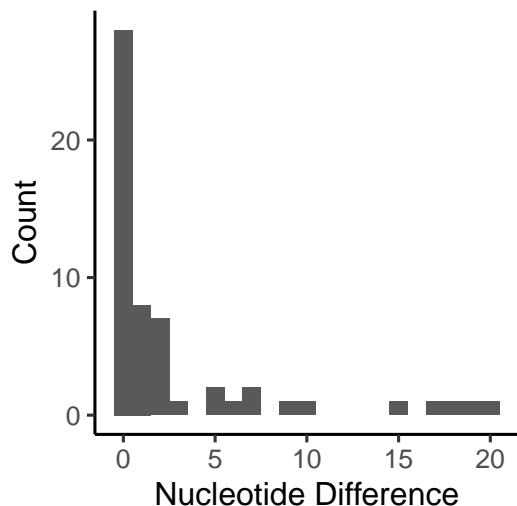
### IGHV3-30-3\*02

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



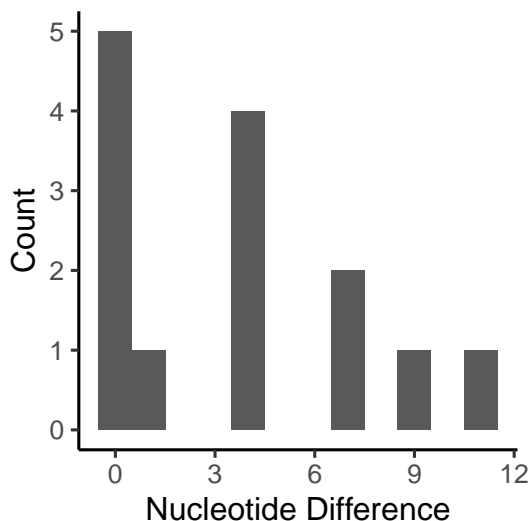
### IGHV3-33\*01

56 sequences assigned  
28 (50%) exact matches, in which:  
28 unique CDR3  
6 unique J



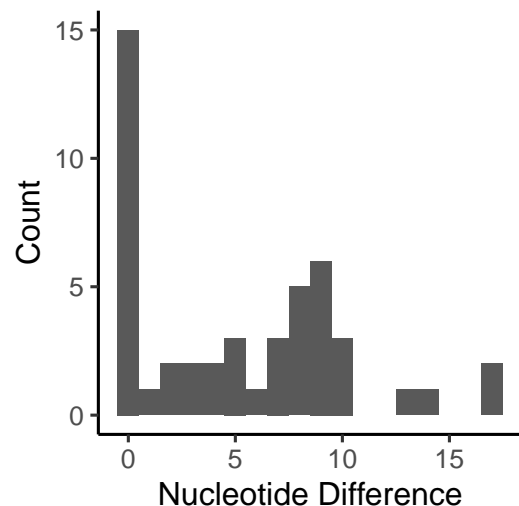
### IGHV3-43\*01

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



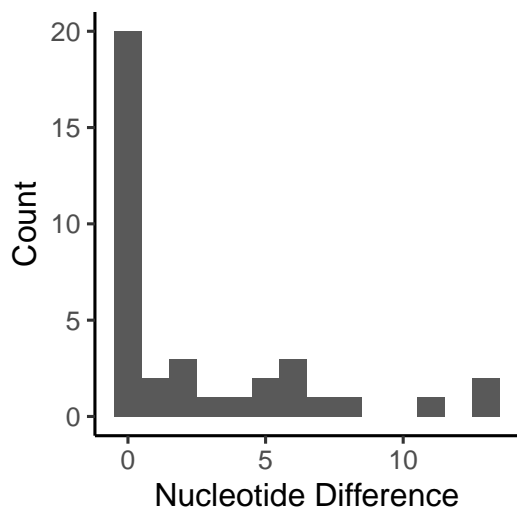
### IGHV3-48\*04

47 sequences assigned  
15 (31.9%) exact matches, in which:  
15 unique CDR3  
3 unique J



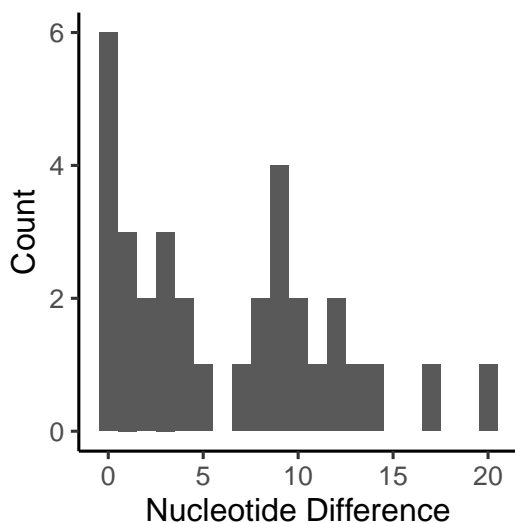
### IGHV3-33\*06

37 sequences assigned  
20 (54.1%) exact matches, in which:  
20 unique CDR3  
5 unique J



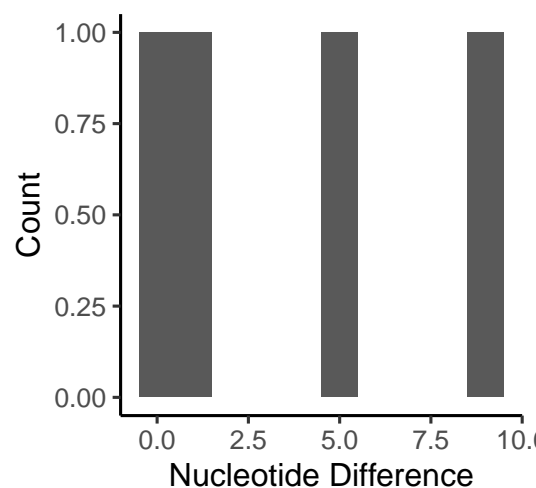
### IGHV3-48\*01

33 sequences assigned  
6 (18.2%) exact matches, in which:  
6 unique CDR3  
3 unique J



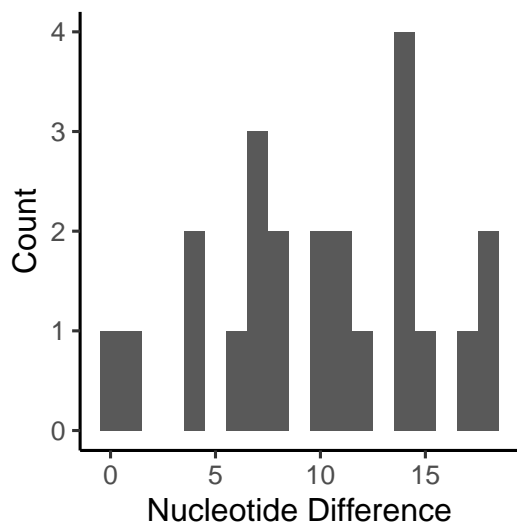
### IGHV3-49\*03

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



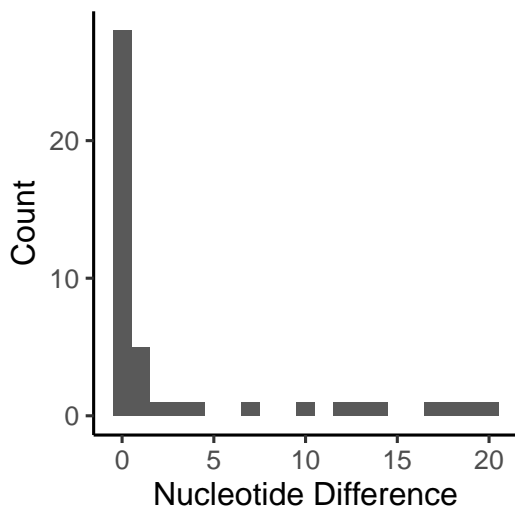
### IGHV3-33\*08

23 sequences assigned  
1 (4.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



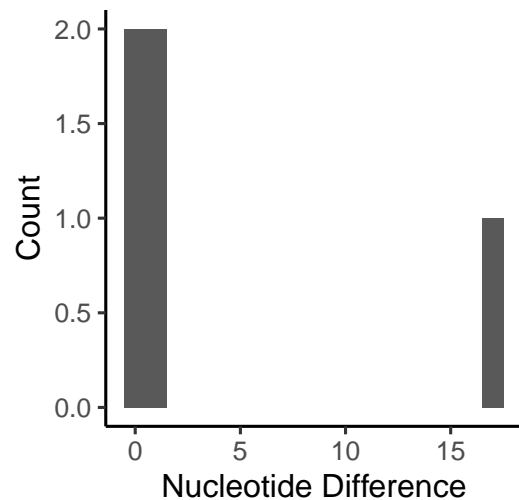
### IGHV3-48\*02

47 sequences assigned  
28 (59.6%) exact matches, in which:  
28 unique CDR3  
5 unique J



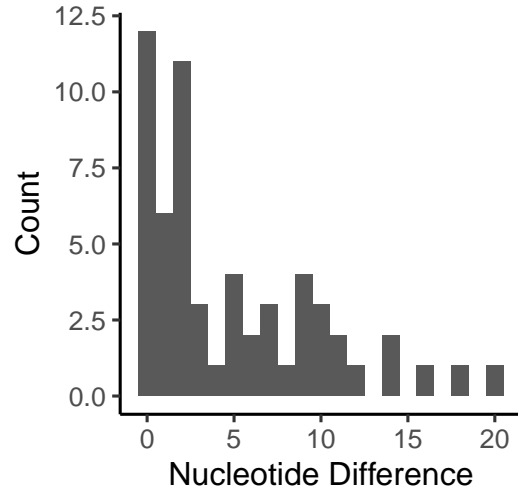
### IGHV3-49\*05

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



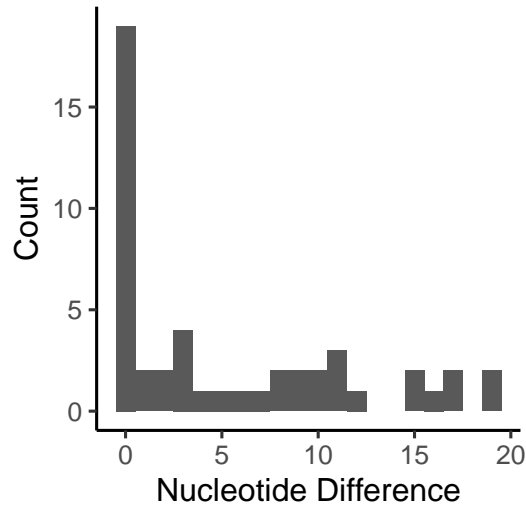
### IGHV3-53\*01

59 sequences assigned  
12 (20.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



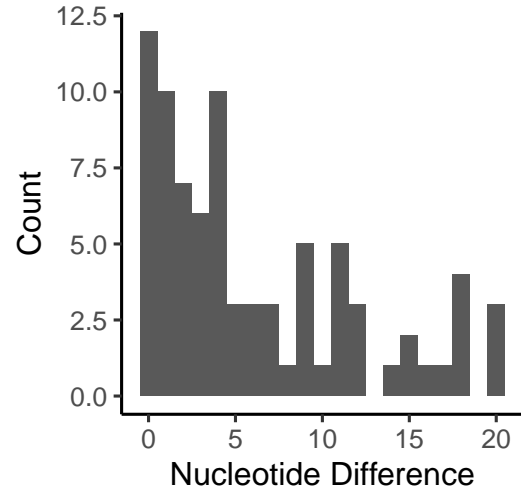
### IGHV3-66\*01

50 sequences assigned  
19 (38%) exact matches, in which:  
19 unique CDR3  
5 unique J



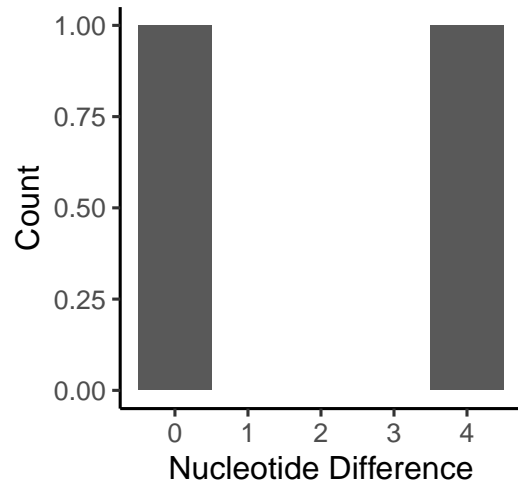
### IGHV3-74\*01

85 sequences assigned  
12 (14.1%) exact matches, in which:  
12 unique CDR3  
4 unique J



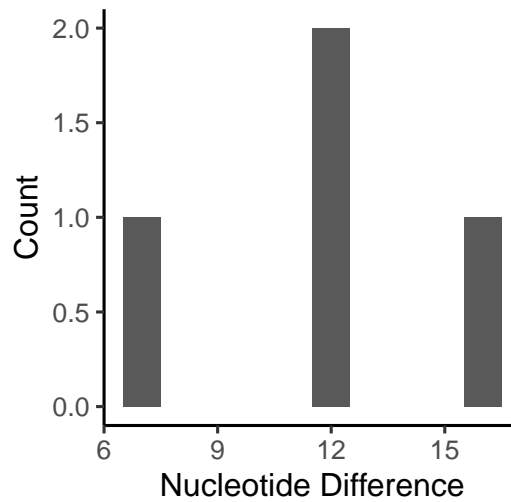
### IGHV3-64\*01

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



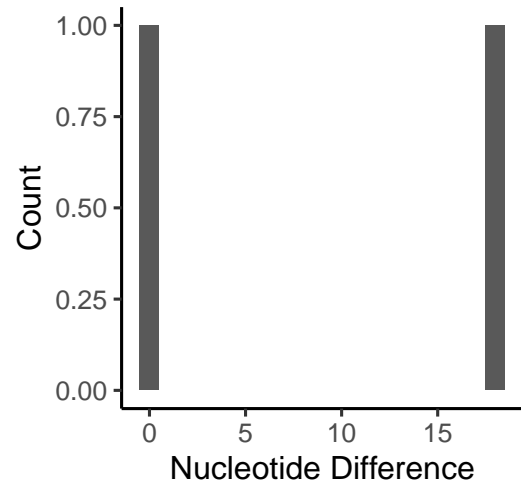
### IGHV3-69-1\*01

4 sequences assigned  
No exact matches.



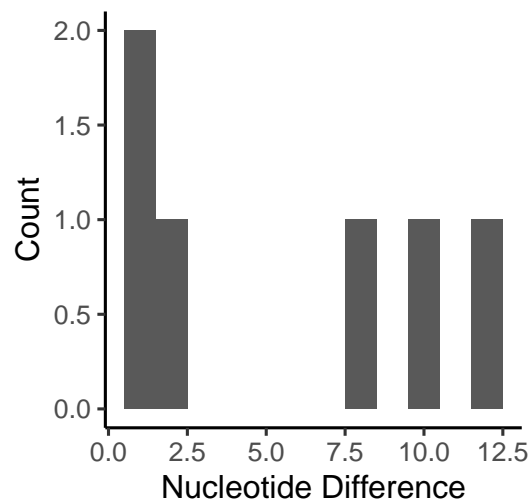
### IGHV3-43D\*03

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



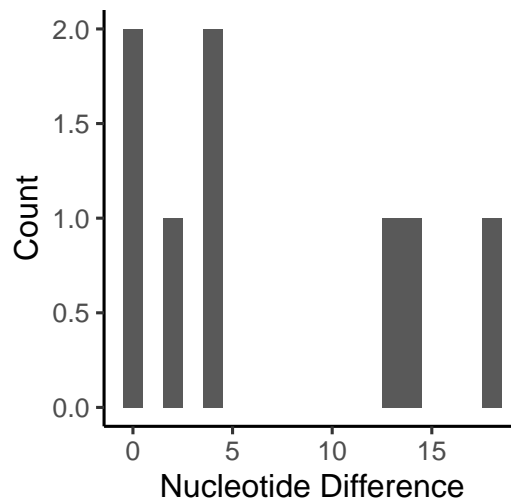
### IGHV3-64\*04

6 sequences assigned  
No exact matches.



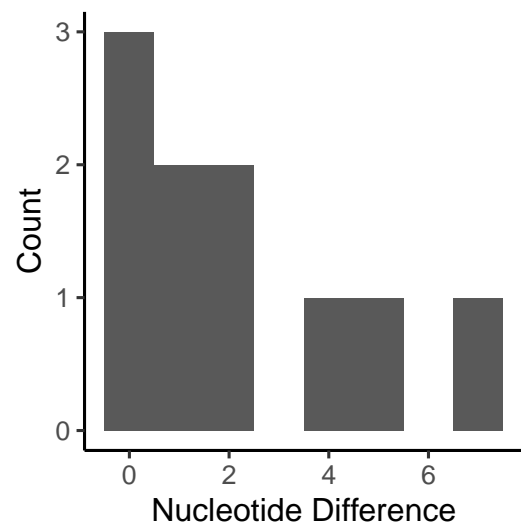
### IGHV3-72\*01

9 sequences assigned  
2 (22.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



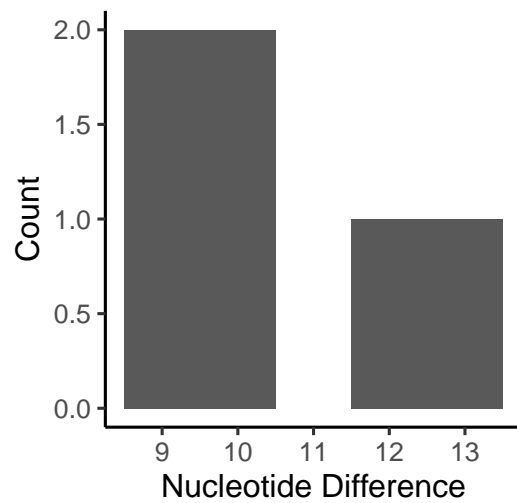
### IGHV3-64D\*09

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



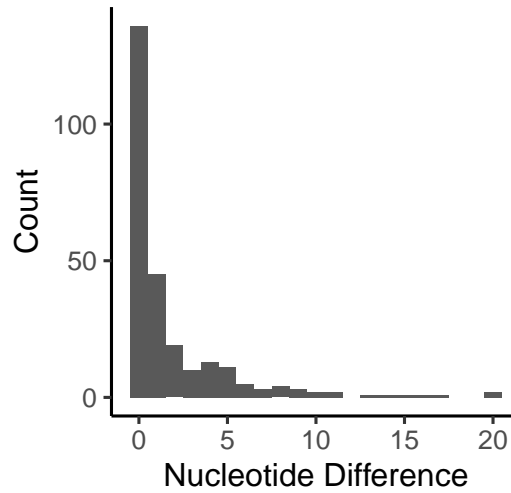
### IGHV3–NL1\*01

6 sequences assigned  
No exact matches.



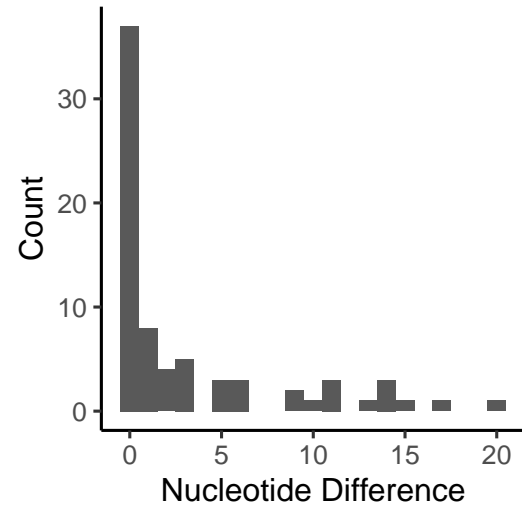
### IGHV4–34\*01

264 sequences assigned  
136 (51.5%) exact matches, in which:  
135 unique CDR3  
7 unique J



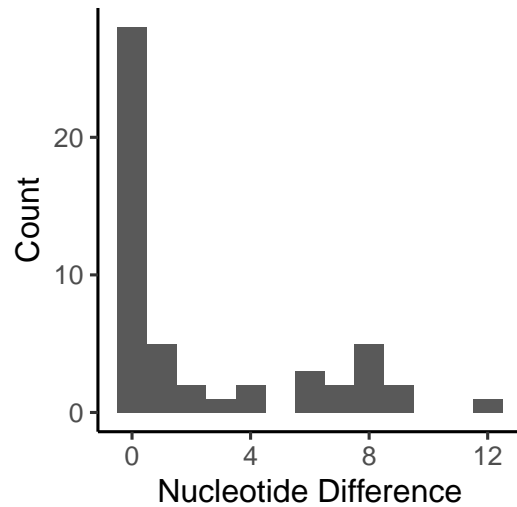
### IGHV4–59\*01

74 sequences assigned  
37 (50%) exact matches, in which:  
37 unique CDR3  
7 unique J



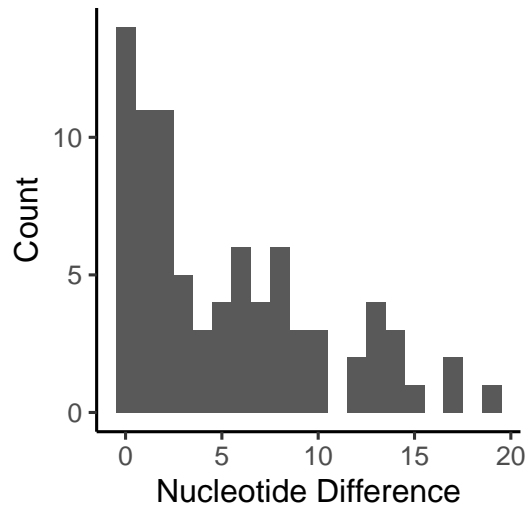
### IGHV4–4\*07

55 sequences assigned  
28 (50.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



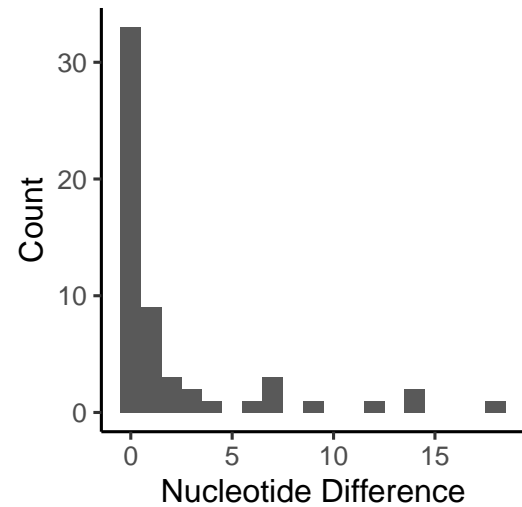
### IGHV4–38–2\*02

86 sequences assigned  
14 (16.3%) exact matches, in which:  
14 unique CDR3  
4 unique J



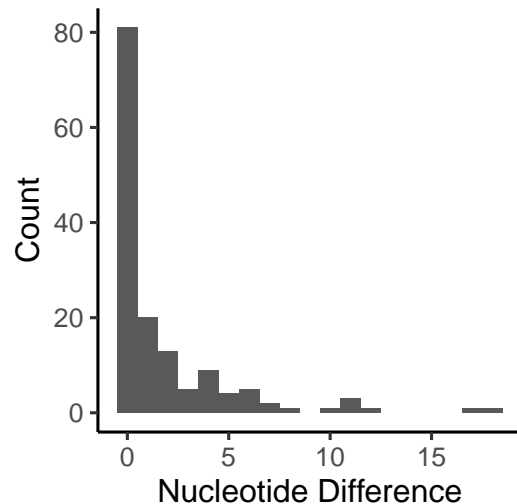
### IGHV4–59\*08

60 sequences assigned  
33 (55%) exact matches, in which:  
33 unique CDR3  
6 unique J



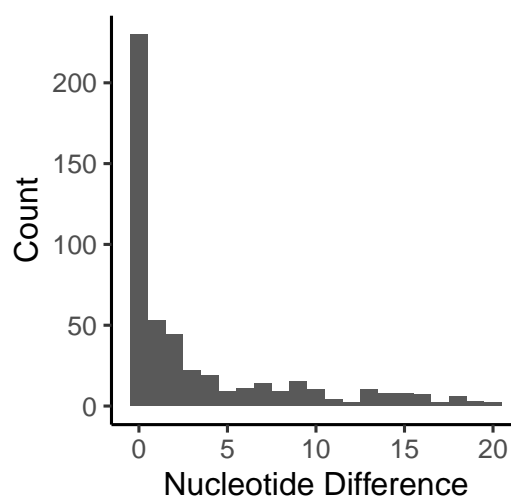
### IGHV4–31\*03

148 sequences assigned  
81 (54.7%) exact matches, in which:  
80 unique CDR3  
6 unique J



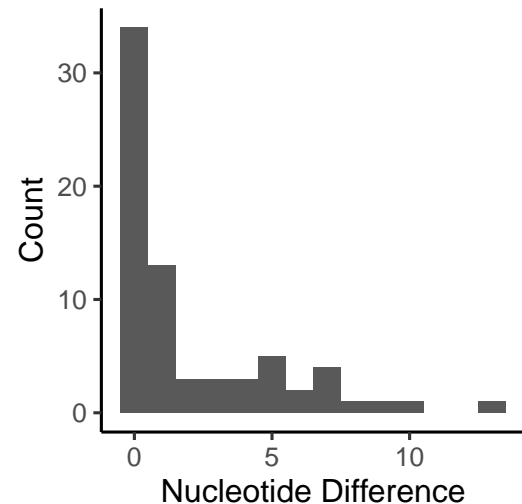
### IGHV4–39\*07

506 sequences assigned  
230 (45.5%) exact matches, in which:  
227 unique CDR3  
6 unique J



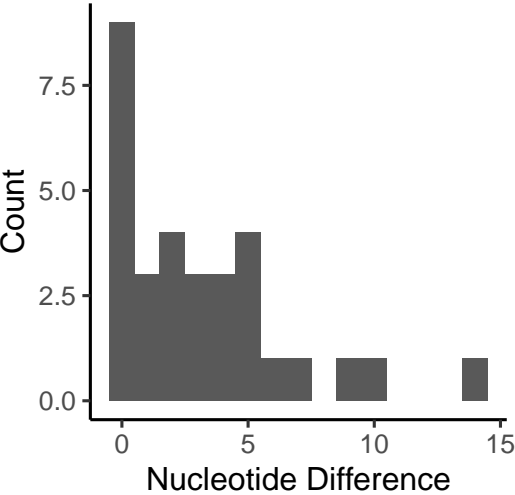
### IGHV4–59\*12

73 sequences assigned  
34 (46.6%) exact matches, in which:  
34 unique CDR3  
6 unique J



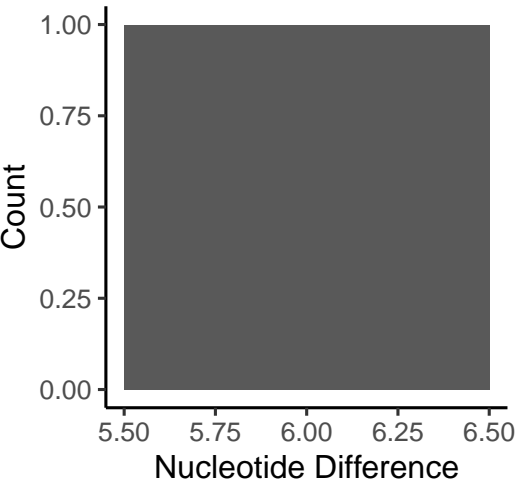
IGHV4-61\*01

31 sequences assigned  
9 (29%) exact matches, in which:  
9 unique CDR3  
4 unique J



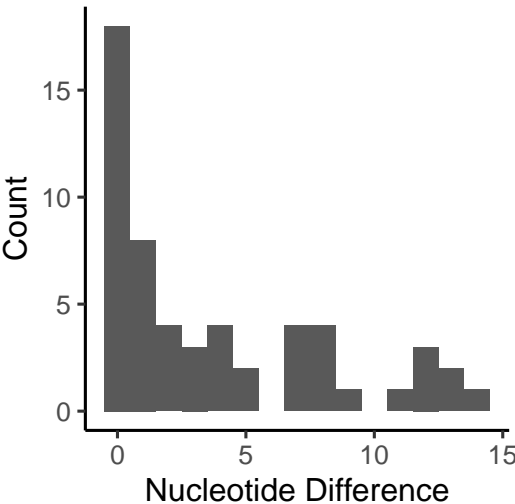
IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



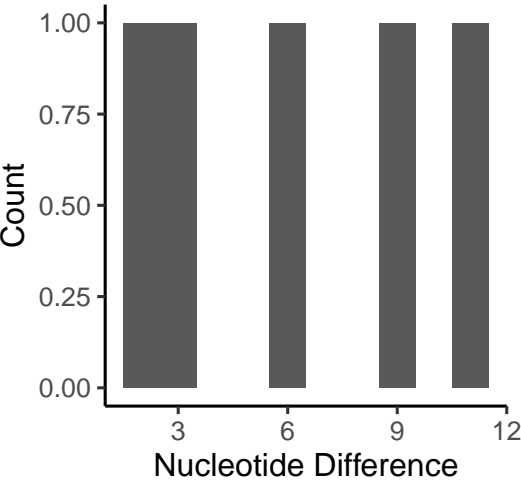
IGHV6-1\*01

56 sequences assigned  
18 (32.1%) exact matches, in which:  
18 unique CDR3  
6 unique J



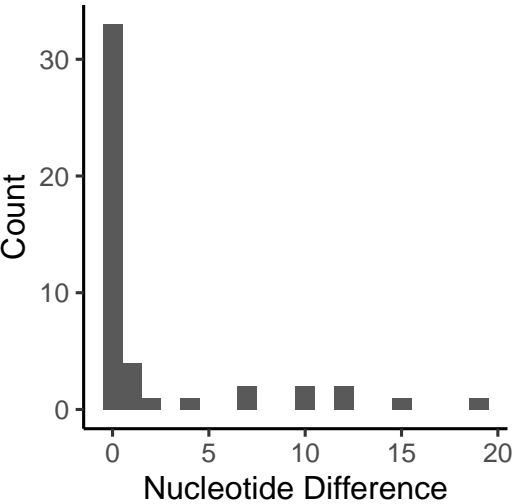
IGHV4-61\*02

5 sequences assigned  
No exact matches.



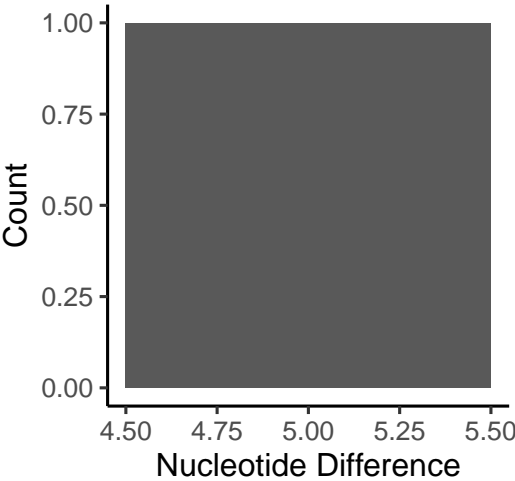
IGHV5-10-1\*01

50 sequences assigned  
33 (66%) exact matches, in which:  
32 unique CDR3  
5 unique J



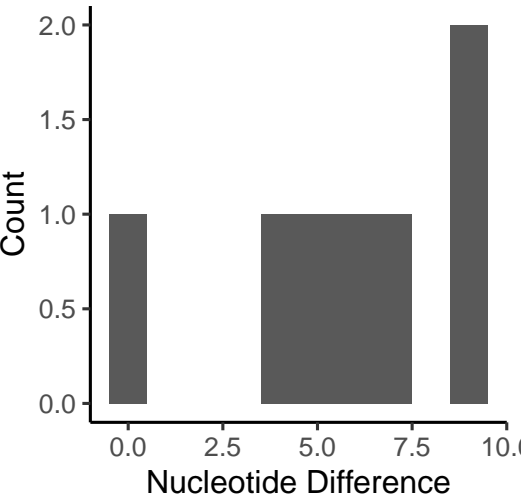
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



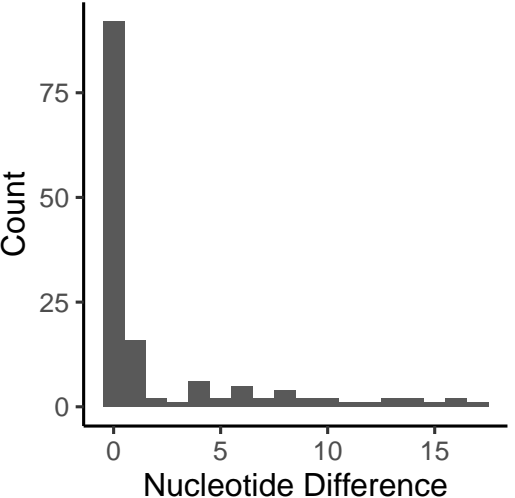
IGHV4-61\*08

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



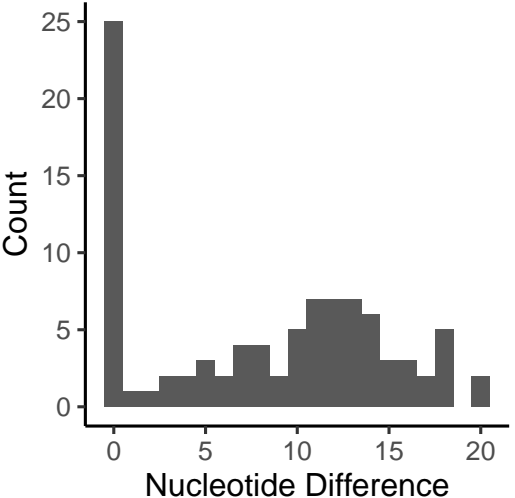
IGHV5-51\*01

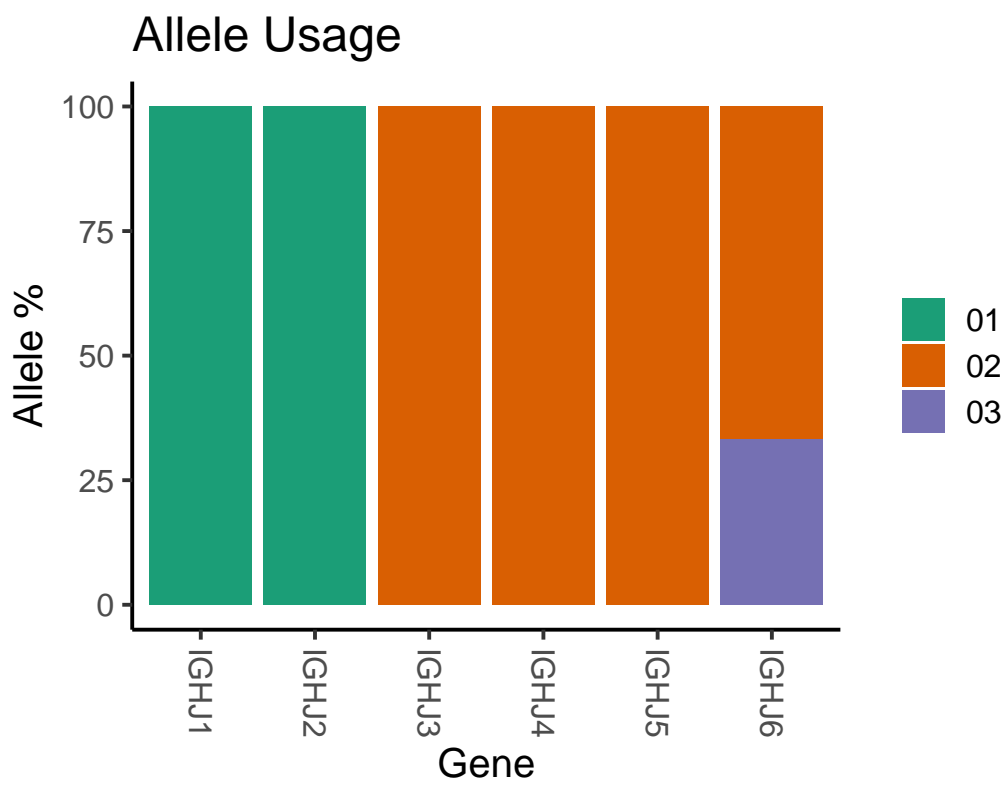
150 sequences assigned  
92 (61.3%) exact matches, in which:  
91 unique CDR3  
7 unique J



IGHV7-4-1\*02

99 sequences assigned  
25 (25.3%) exact matches, in which:  
24 unique CDR3  
6 unique J







Sequence Count by IGHJ6 allele usage

