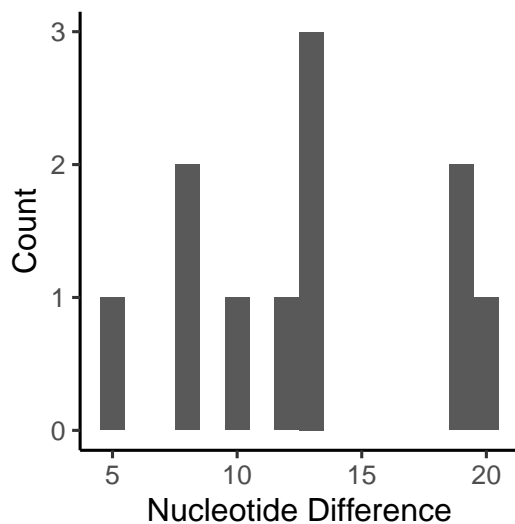


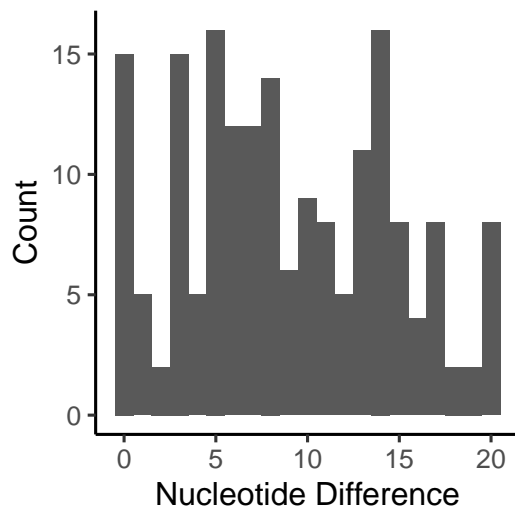
### IGHV1-2\*02

15 sequences assigned  
No exact matches.



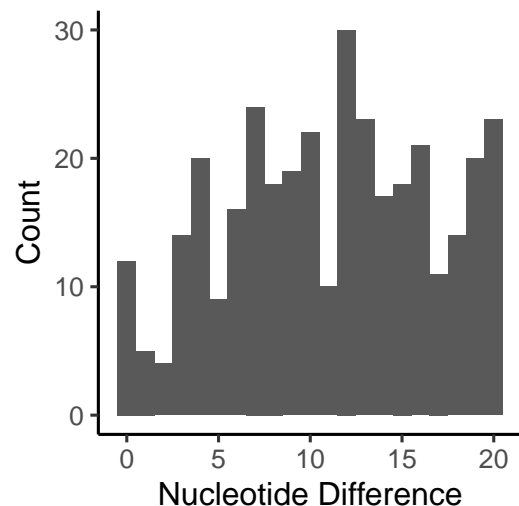
### IGHV1-3\*01\_05

227 sequences assigned  
15 (6.6%) exact matches, in which:  
14 unique CDR3  
5 unique J



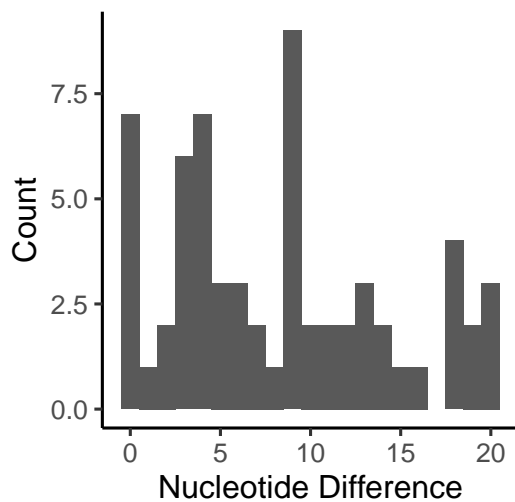
### IGHV1-18\*04

488 sequences assigned  
12 (2.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



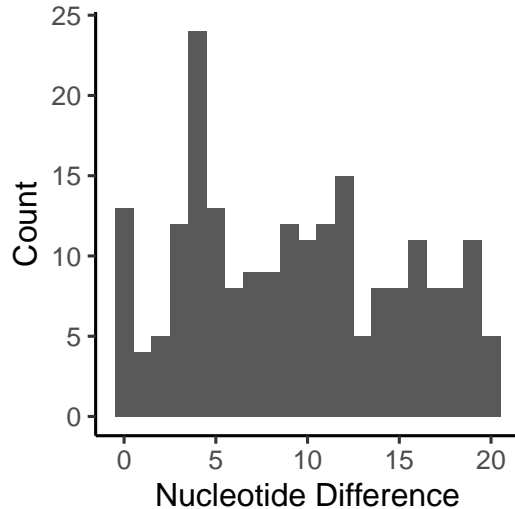
### IGHV1-2\*04

69 sequences assigned  
7 (10.1%) exact matches, in which:  
6 unique CDR3  
3 unique J



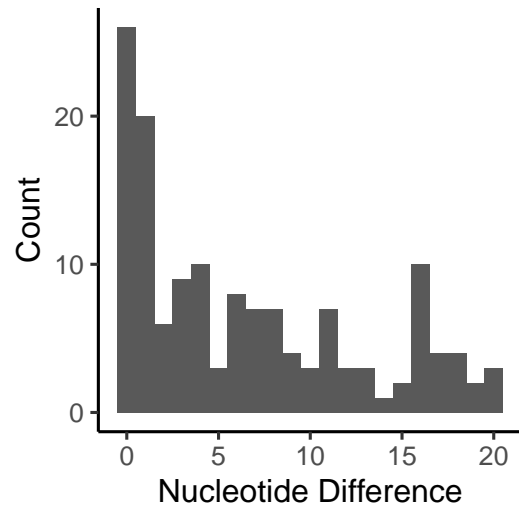
### IGHV1-8\*01

280 sequences assigned  
13 (4.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



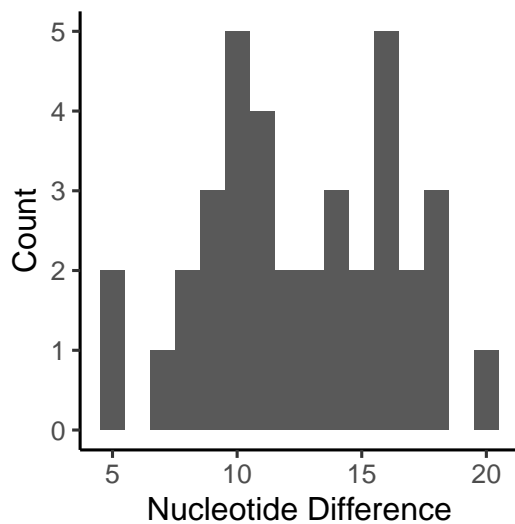
### IGHV1-24\*01

189 sequences assigned  
26 (13.8%) exact matches, in which:  
19 unique CDR3  
5 unique J



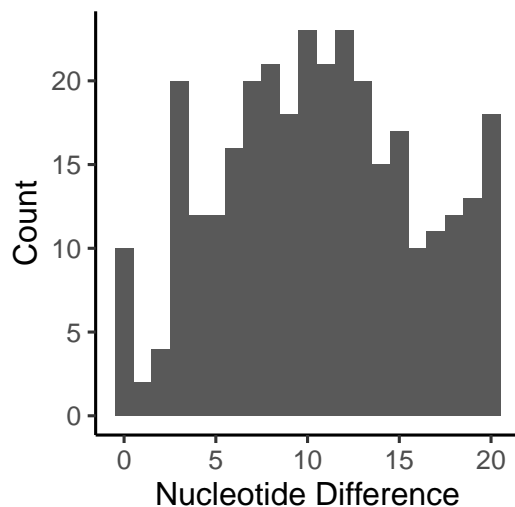
### IGHV1-3\*04

54 sequences assigned  
No exact matches.



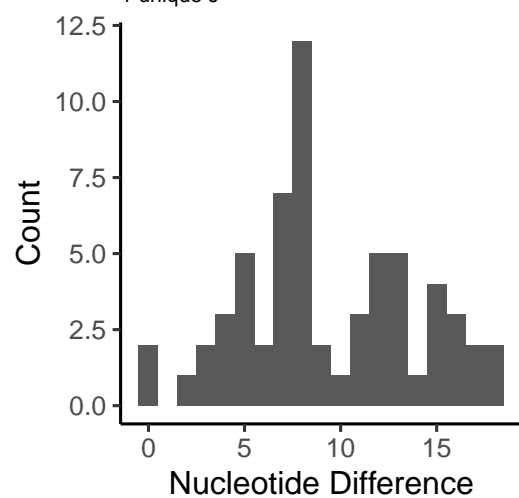
### IGHV1-18\*01

455 sequences assigned  
10 (2.2%) exact matches, in which:  
10 unique CDR3  
5 unique J



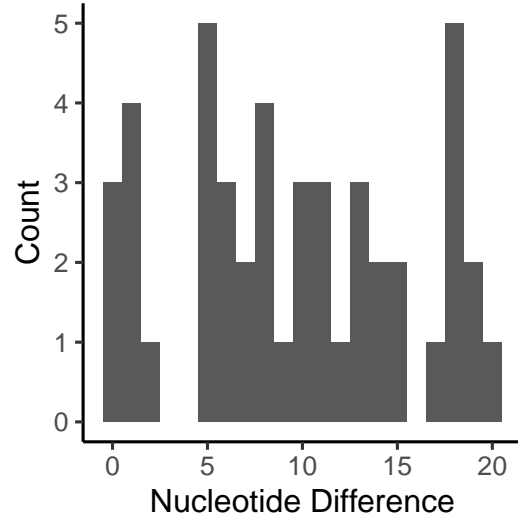
### IGHV1-46\*01

90 sequences assigned  
2 (2.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



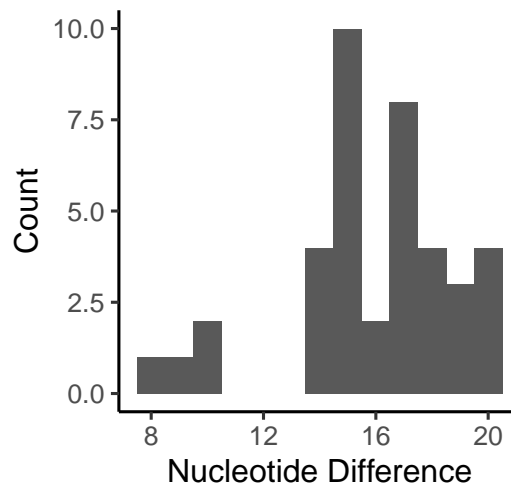
### IGHV1-46\*03

66 sequences assigned  
3 (4.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



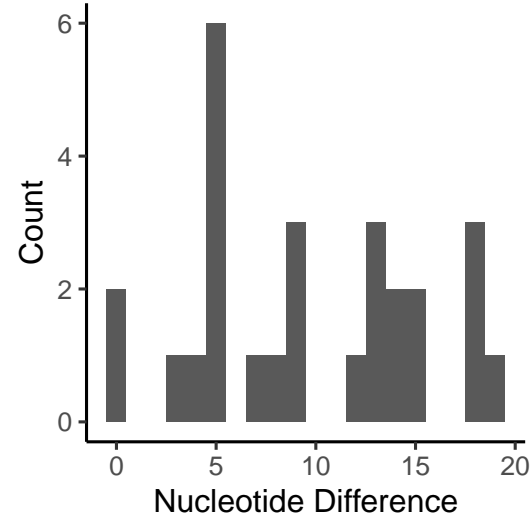
### IGHV1-69\*08

58 sequences assigned  
No exact matches.



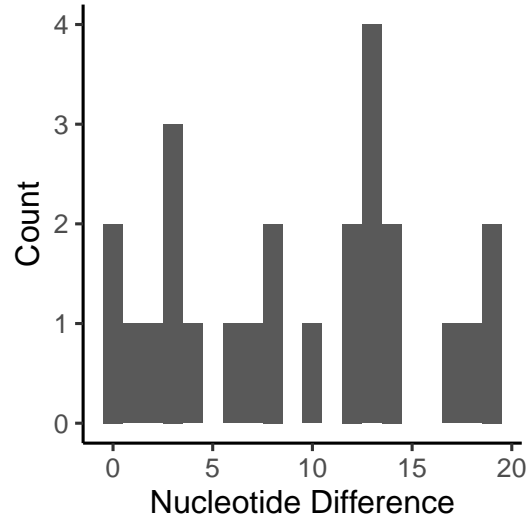
### IGHV2-26\*01

33 sequences assigned  
2 (6.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



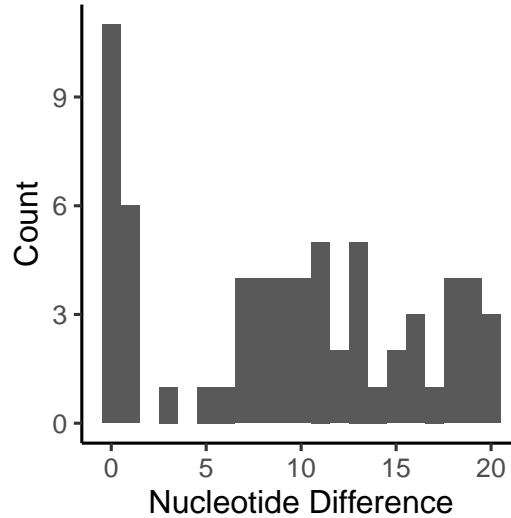
### IGHV1-58\*02

31 sequences assigned  
2 (6.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



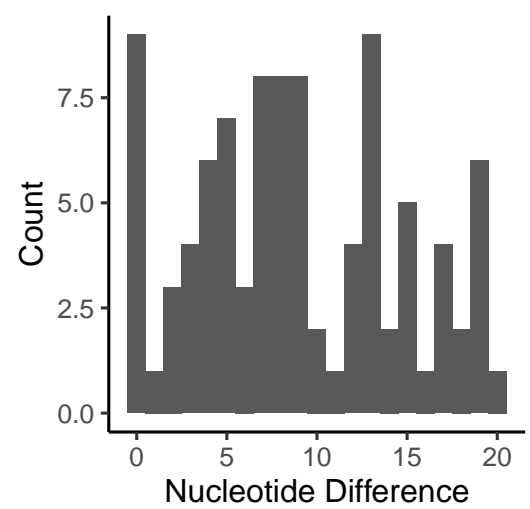
### IGHV1-69\*04\_09

99 sequences assigned  
11 (11.1%) exact matches, in which:  
8 unique CDR3  
2 unique J



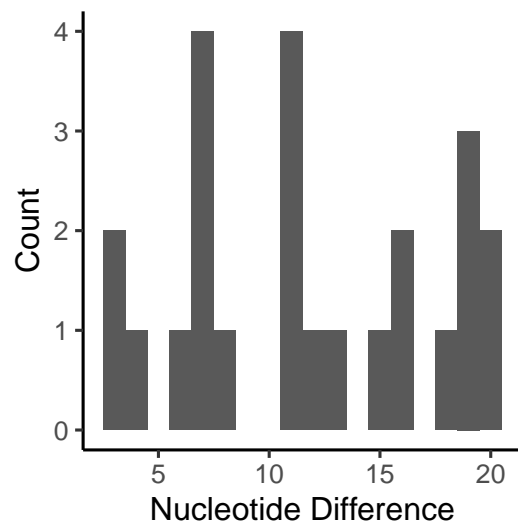
### IGHV2-70\*11\_15

104 sequences assigned  
9 (8.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



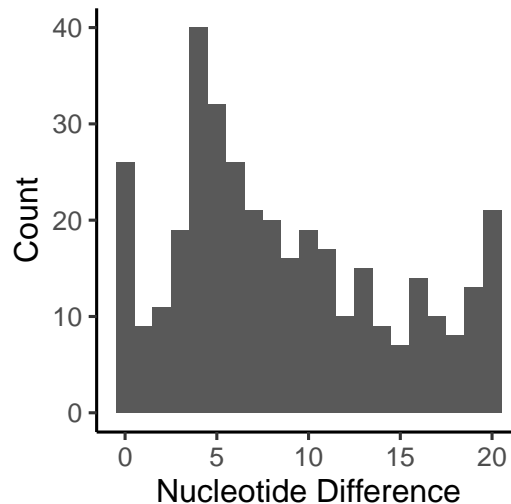
### IGHV1-69\*02

39 sequences assigned  
No exact matches.



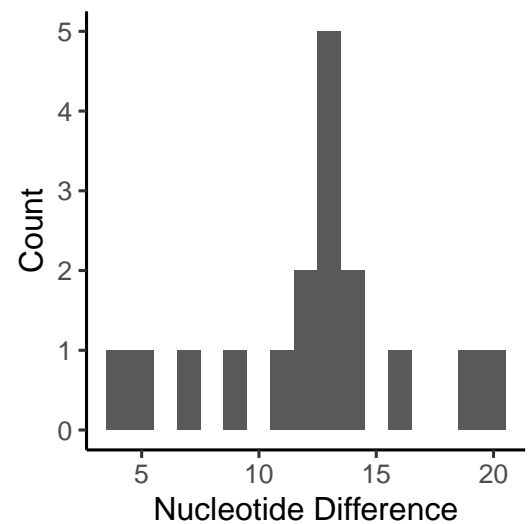
### IGHV2-5\*02

445 sequences assigned  
26 (5.8%) exact matches, in which:  
22 unique CDR3  
4 unique J



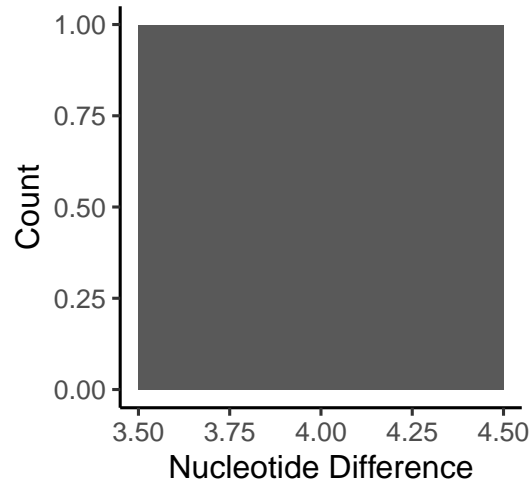
### IGHV2-70\*16\_17

18 sequences assigned  
No exact matches.



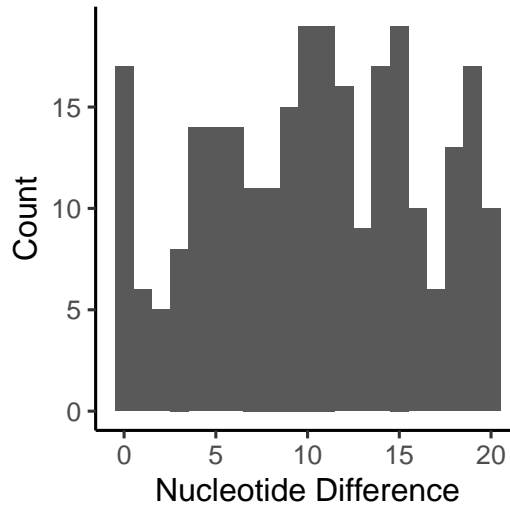
### IGHV2-70D\*04

1 sequences assigned  
No exact matches.



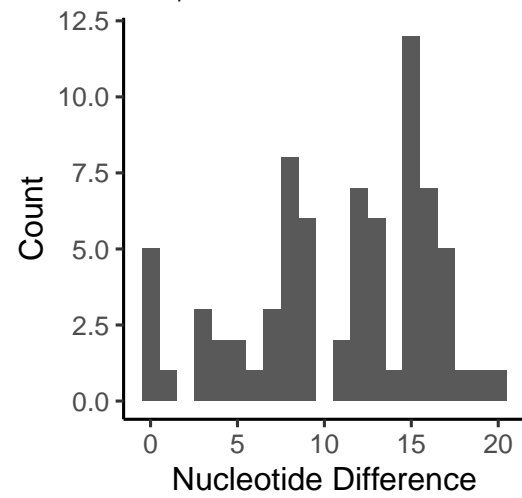
### IGHV3-9\*01

378 sequences assigned  
17 (4.5%) exact matches, in which:  
12 unique CDR3  
3 unique J



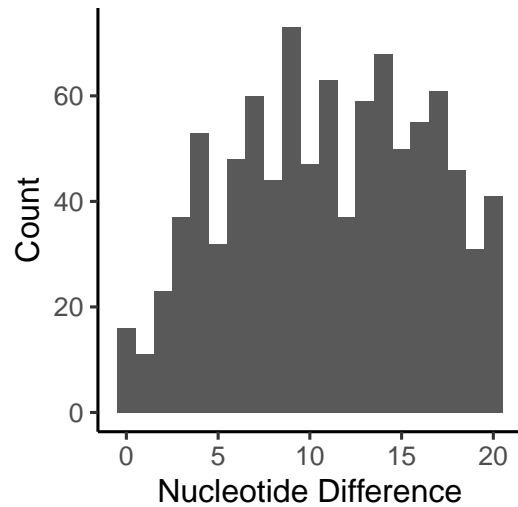
### IGHV3-13\*01

85 sequences assigned  
5 (5.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



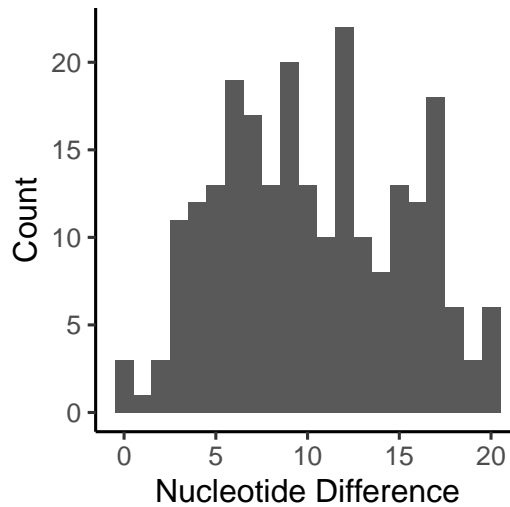
### IGHV3-7\*01

1272 sequences assigned  
16 (1.3%) exact matches, in which:  
12 unique CDR3  
4 unique J



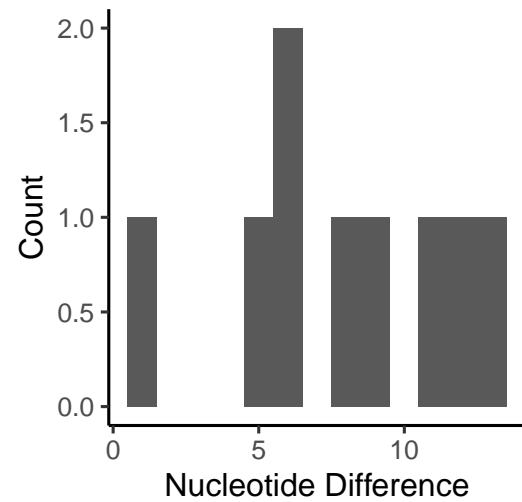
### IGHV3-11\*01

325 sequences assigned  
3 (0.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



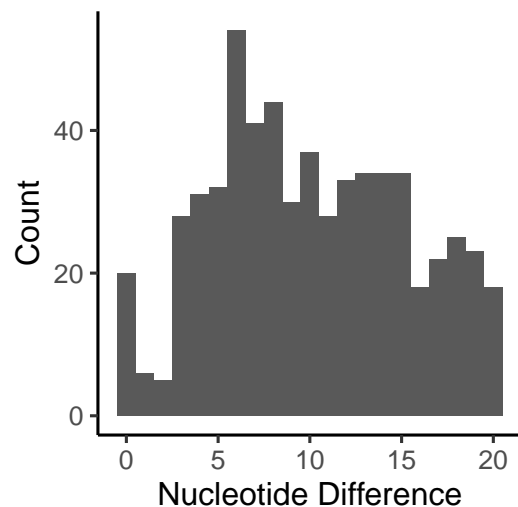
### IGHV3-13\*05

14 sequences assigned  
No exact matches.



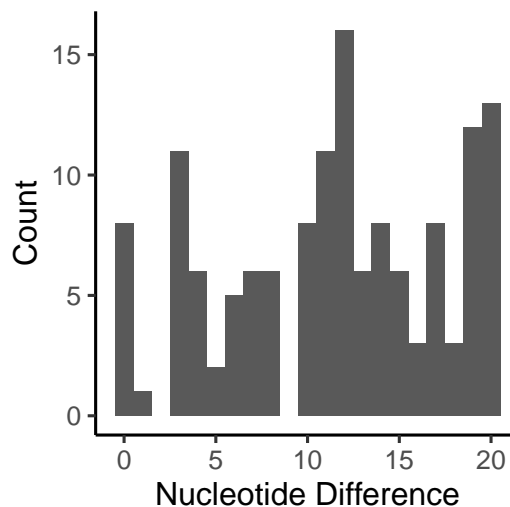
### IGHV3-7\*03

804 sequences assigned  
20 (2.5%) exact matches, in which:  
14 unique CDR3  
4 unique J



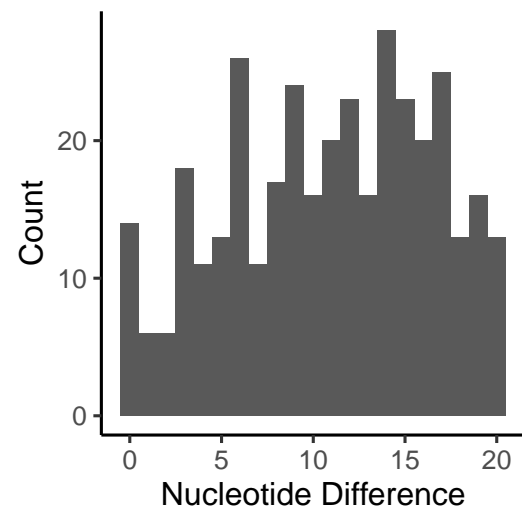
### IGHV3-11\*06

196 sequences assigned  
8 (4.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



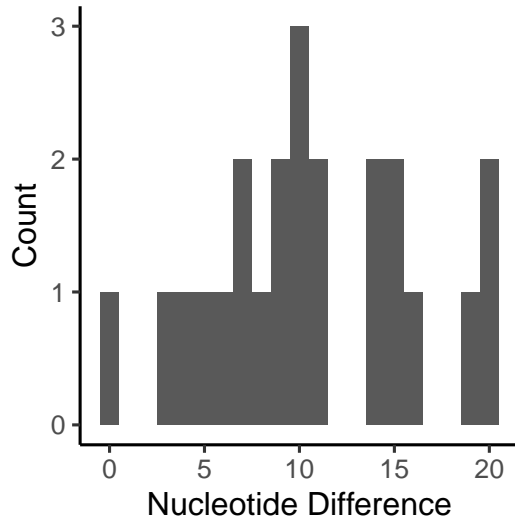
### IGHV3-15\*01\_02

487 sequences assigned  
14 (2.9%) exact matches, in which:  
9 unique CDR3  
4 unique J



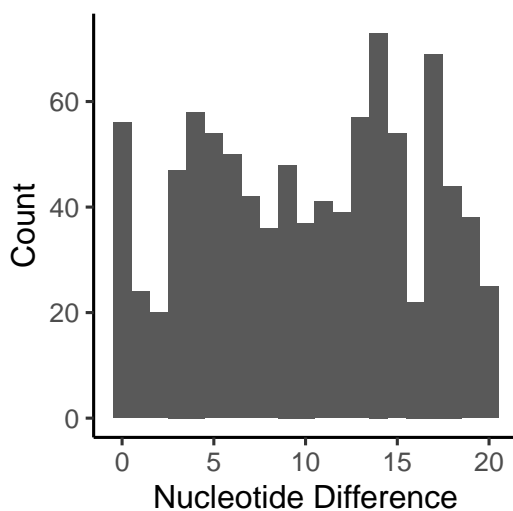
### IGHV3-20\*01\_02

30 sequences assigned  
1 (3.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



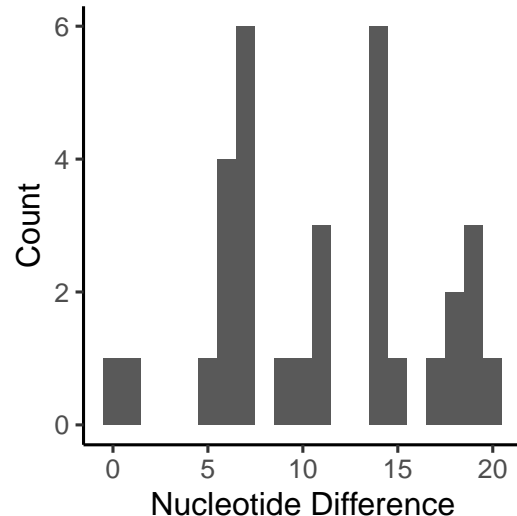
### IGHV3-21\*01\_02

1142 sequences assigned  
56 (4.9%) exact matches, in which:  
35 unique CDR3  
7 unique J



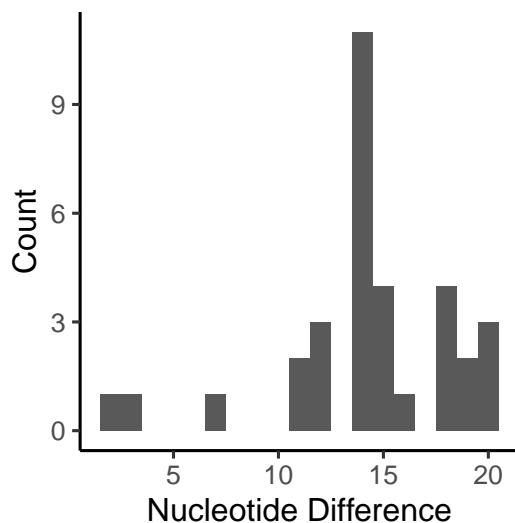
### IGHV3-30\*03

86 sequences assigned  
1 (1.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



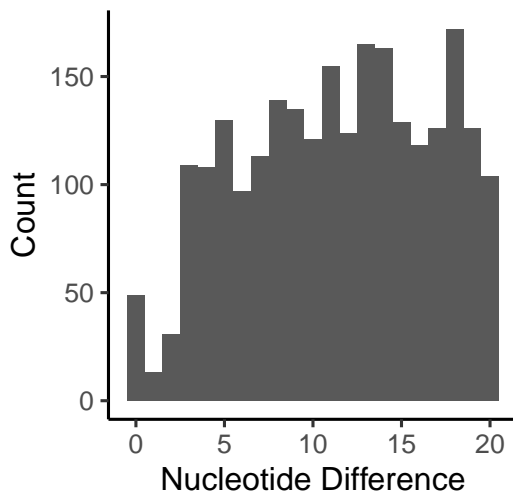
### IGHV3-20\*03\_04

57 sequences assigned  
No exact matches.



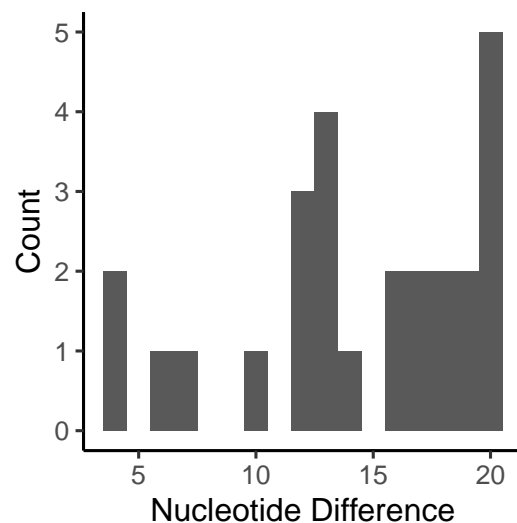
### IGHV3-23\*01\_04

3360 sequences assigned  
49 (1.5%) exact matches, in which:  
28 unique CDR3  
7 unique J



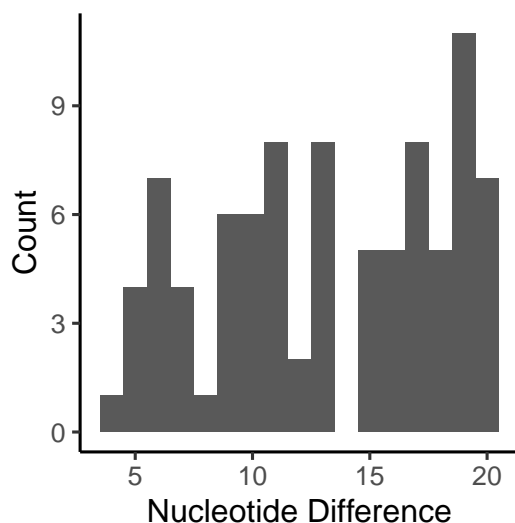
### IGHV3-30\*04

78 sequences assigned  
No exact matches.



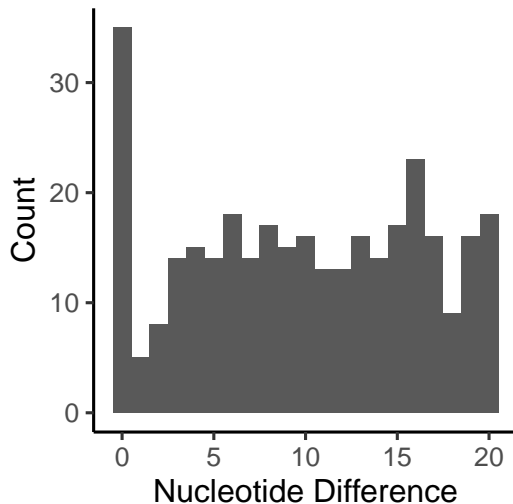
### IGHV3-21\*06

186 sequences assigned  
No exact matches.



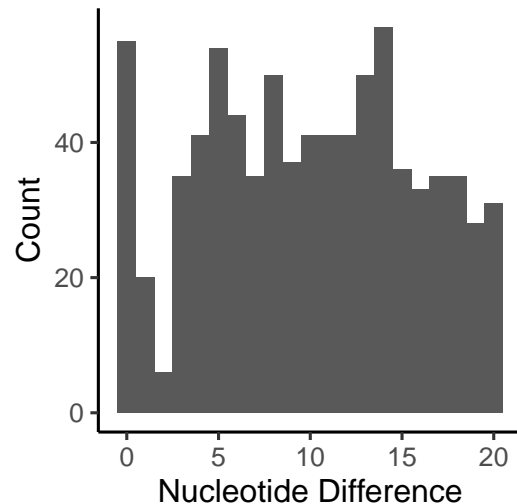
### IGHV3-30-3\*01

468 sequences assigned  
35 (7.5%) exact matches, in which:  
22 unique CDR3  
4 unique J



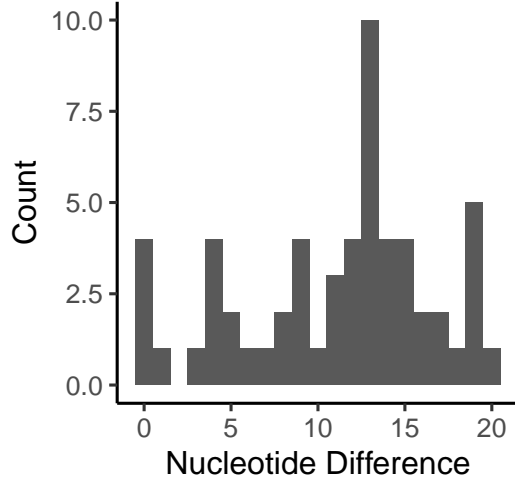
### IGHV3-33\*01

1012 sequences assigned  
55 (5.4%) exact matches, in which:  
31 unique CDR3  
6 unique J



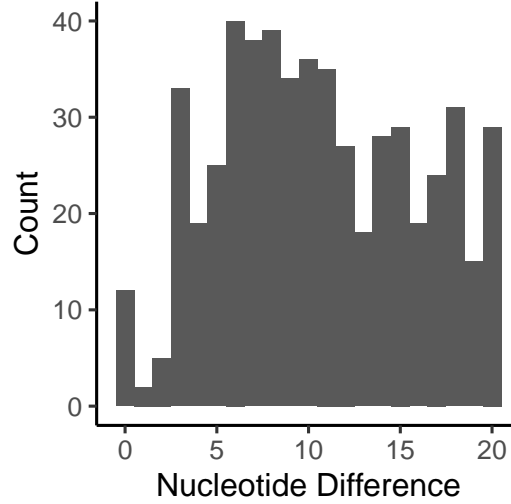
### IGHV3-43\*01

68 sequences assigned  
4 (5.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



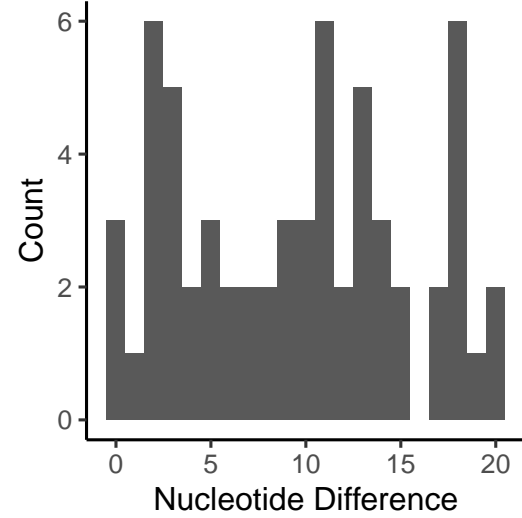
### IGHV3-48\*03

701 sequences assigned  
12 (1.7%) exact matches, in which:  
8 unique CDR3  
3 unique J



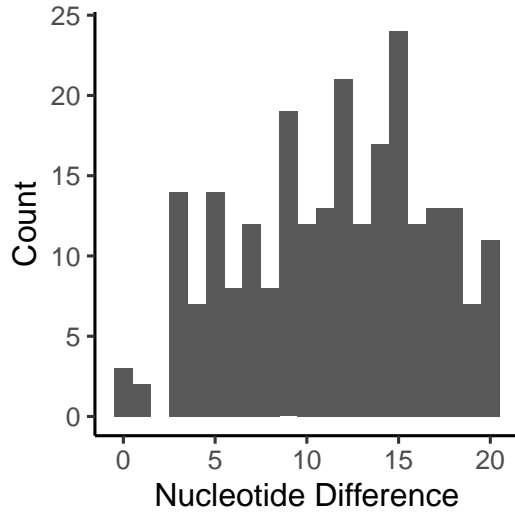
### IGHV3-53\*04

77 sequences assigned  
3 (3.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



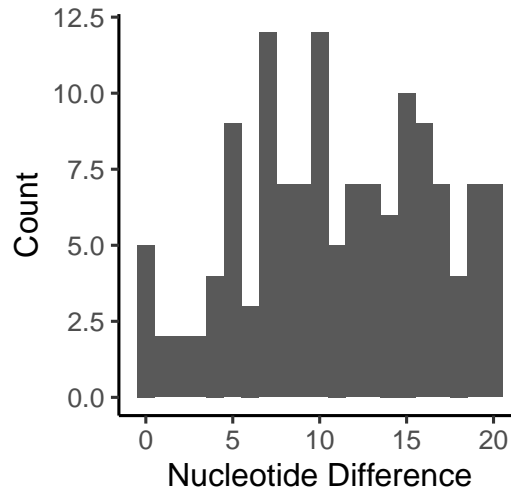
### IGHV3-43\*02

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



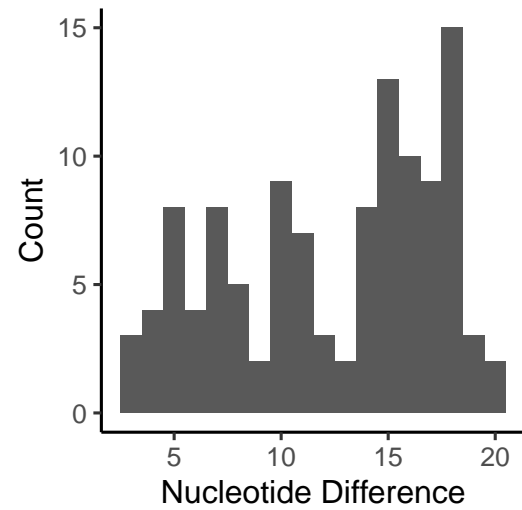
### IGHV3-49\*04

231 sequences assigned  
5 (2.2%) exact matches, in which:  
3 unique CDR3  
2 unique J



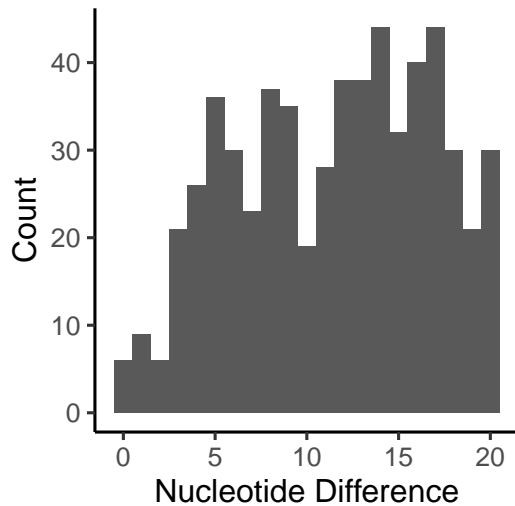
### IGHV3-53\*01\_02

182 sequences assigned  
No exact matches.



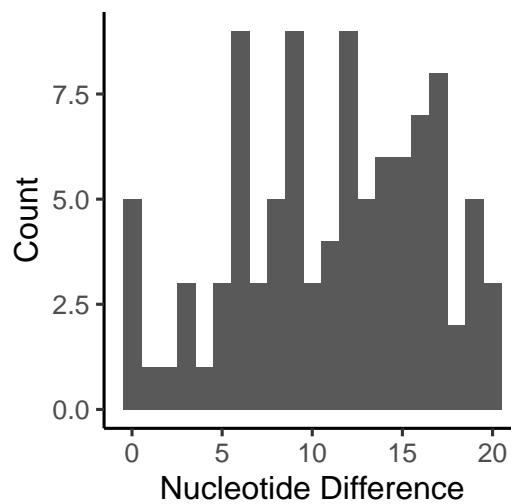
### IGHV3-48\*01

765 sequences assigned  
6 (0.8%) exact matches, in which:  
4 unique CDR3  
3 unique J



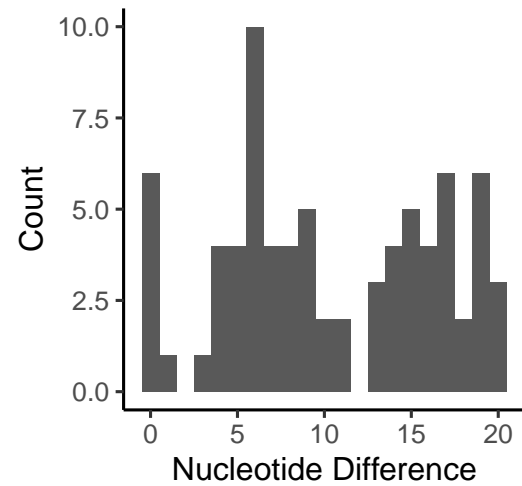
### IGHV3-49\*03\_05

125 sequences assigned  
5 (4%) exact matches, in which:  
3 unique CDR3  
2 unique J



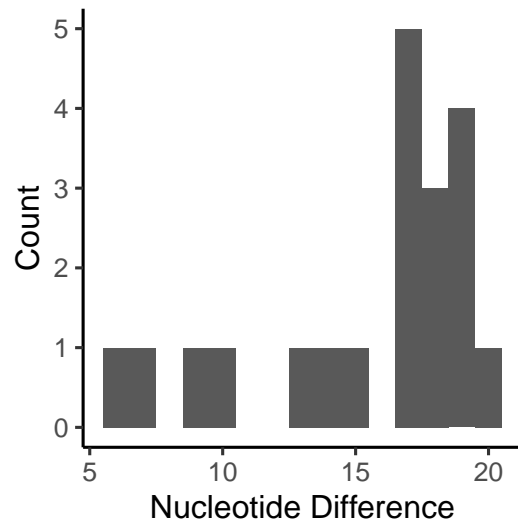
### IGHV3-64\*01

106 sequences assigned  
6 (5.7%) exact matches, in which:  
3 unique CDR3  
3 unique J



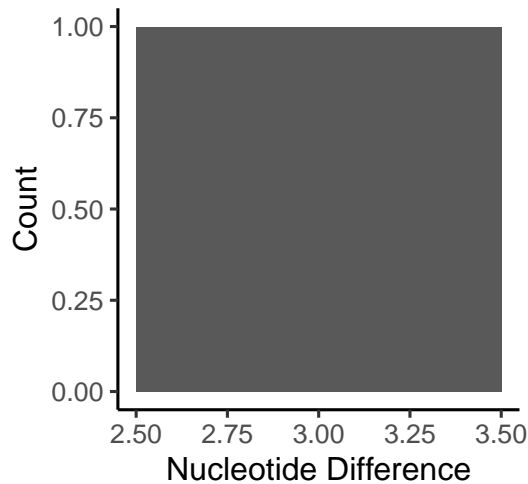
### IGHV3-64\*02\_07

34 sequences assigned  
No exact matches.



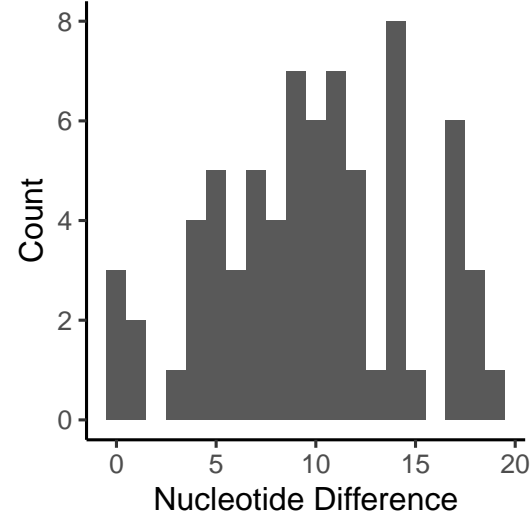
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



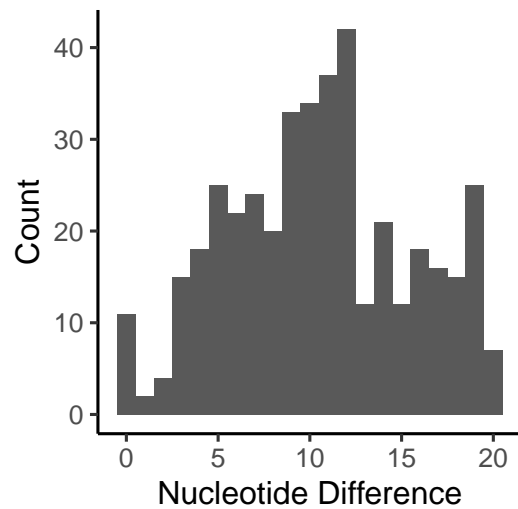
### IGHV3-73\*01\_02

103 sequences assigned  
3 (2.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



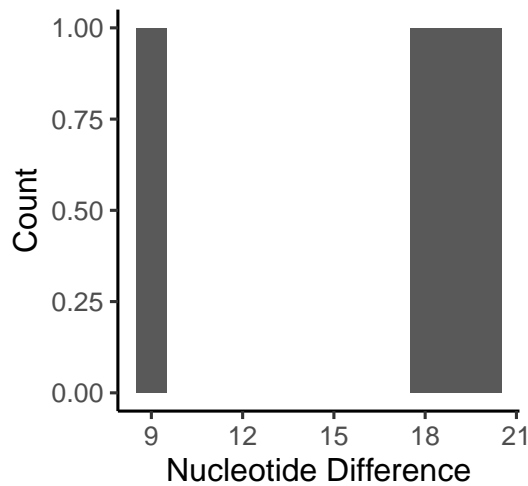
### IGHV3-66\*01

488 sequences assigned  
11 (2.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



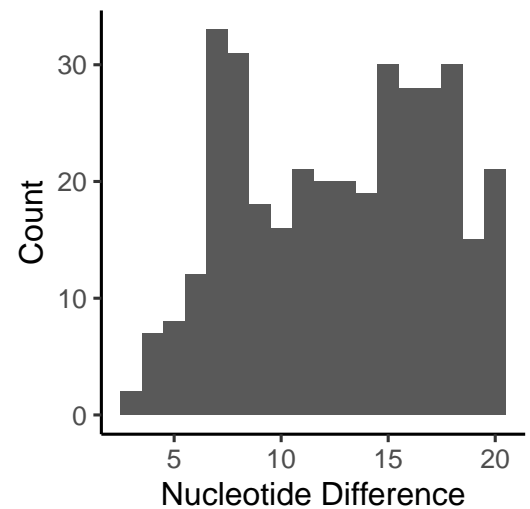
### IGHV3-69-1\*02

5 sequences assigned  
No exact matches.



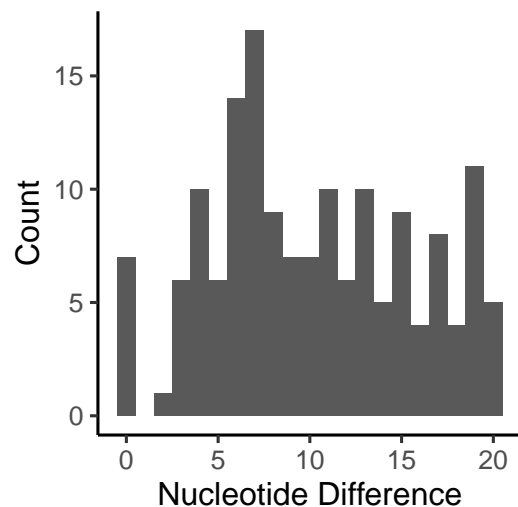
### IGHV3-74\*03

584 sequences assigned  
No exact matches.



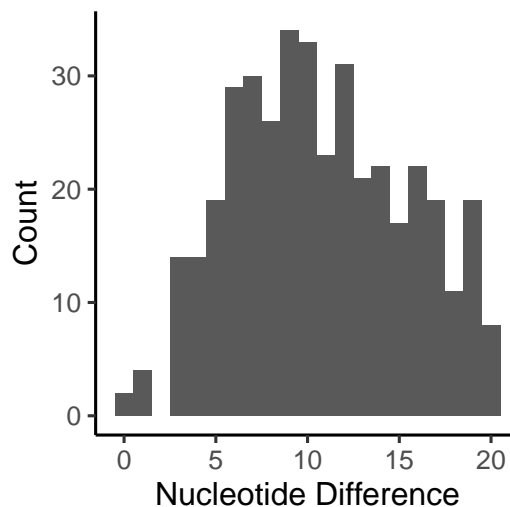
### IGHV3-66\*02

251 sequences assigned  
7 (2.8%) exact matches, in which:  
6 unique CDR3  
3 unique J



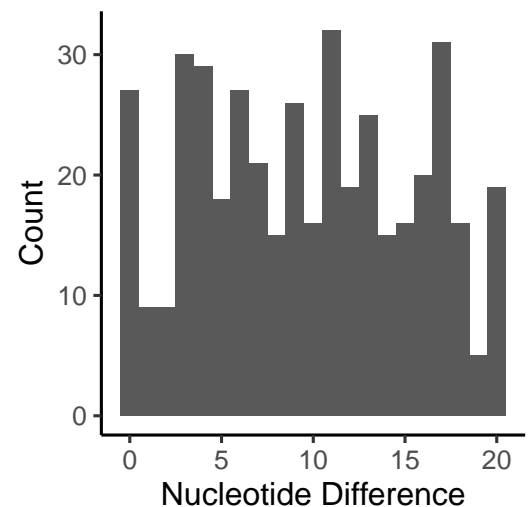
### IGHV3-72\*01

452 sequences assigned  
2 (0.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



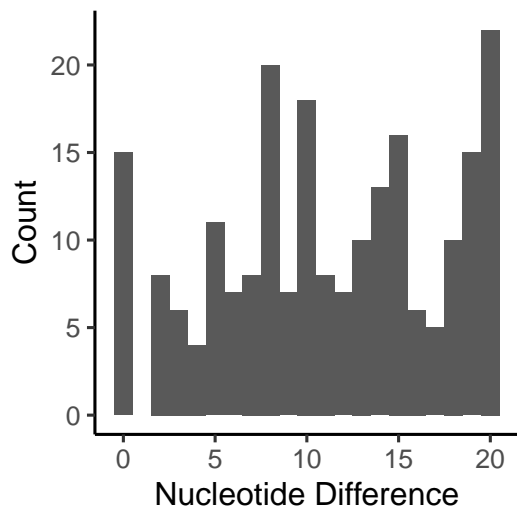
### IGHV3-74\*01\_02

523 sequences assigned  
27 (5.2%) exact matches, in which:  
14 unique CDR3  
5 unique J



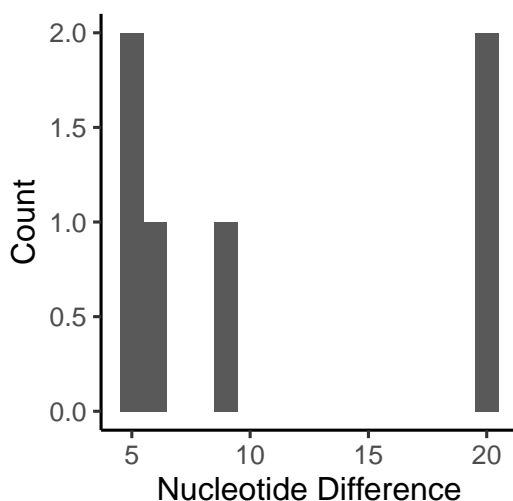
### IGHV3-64D\*09

352 sequences assigned  
15 (4.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



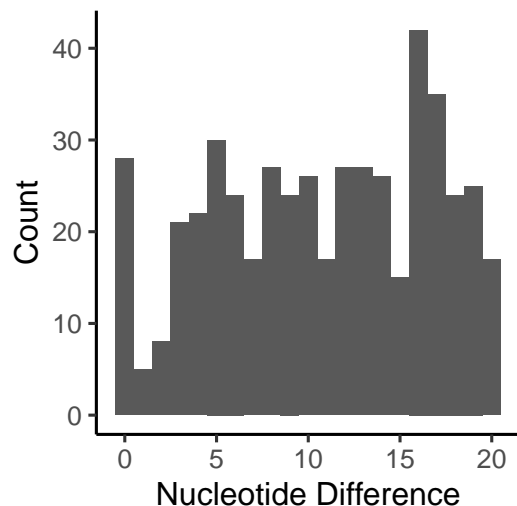
### IGHV4-28\*01\_07

6 sequences assigned  
No exact matches.



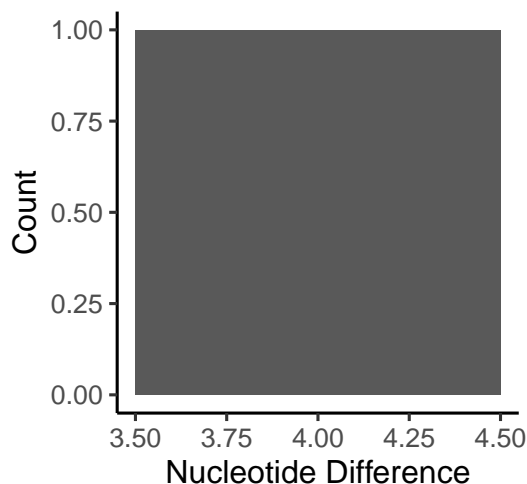
### IGHV4-31\*02

750 sequences assigned  
28 (3.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



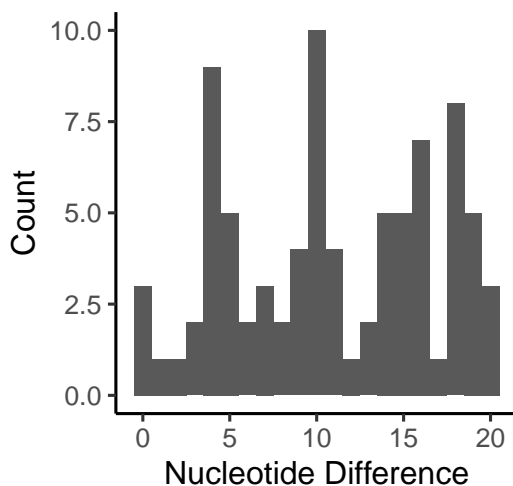
### IGHV3-NL1\*01

1 sequences assigned  
No exact matches.



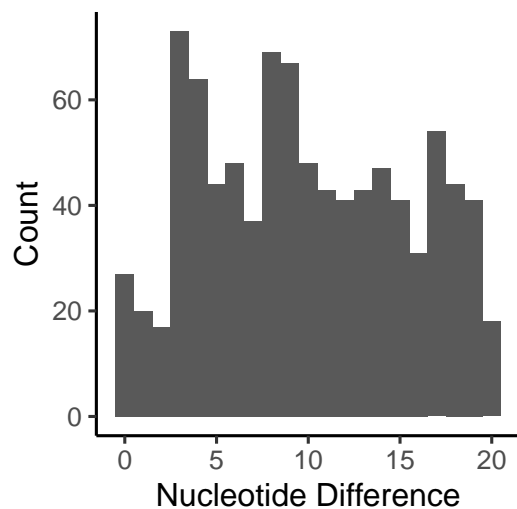
### IGHV4-30-2\*01

120 sequences assigned  
3 (2.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



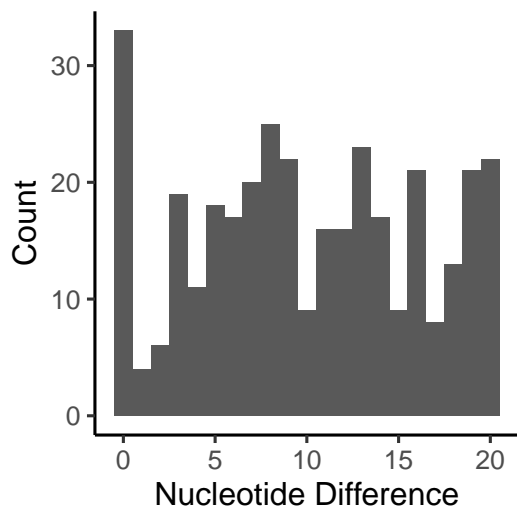
### IGHV4-34\*01\_02

1246 sequences assigned  
27 (2.2%) exact matches, in which:  
15 unique CDR3  
6 unique J



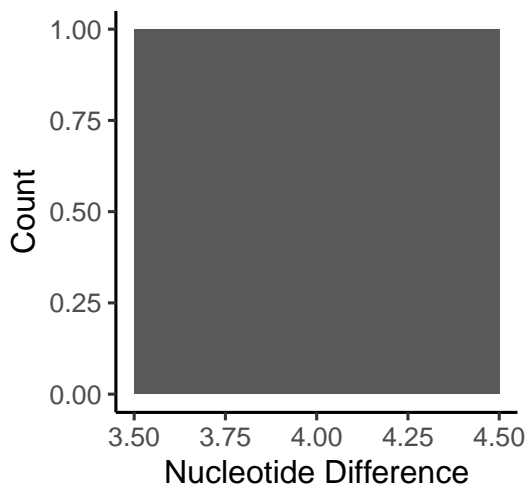
### IGHV4-4\*02\_03

575 sequences assigned  
33 (5.7%) exact matches, in which:  
21 unique CDR3  
5 unique J



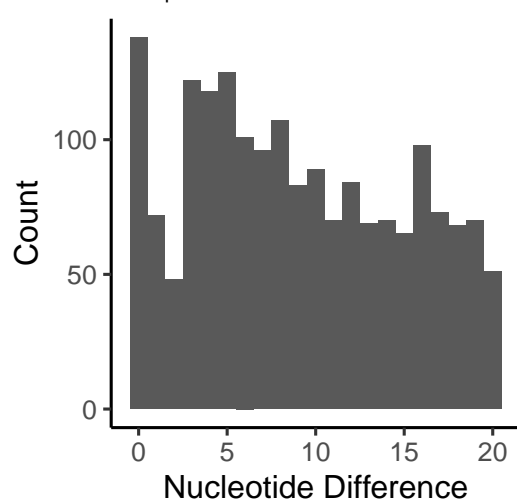
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



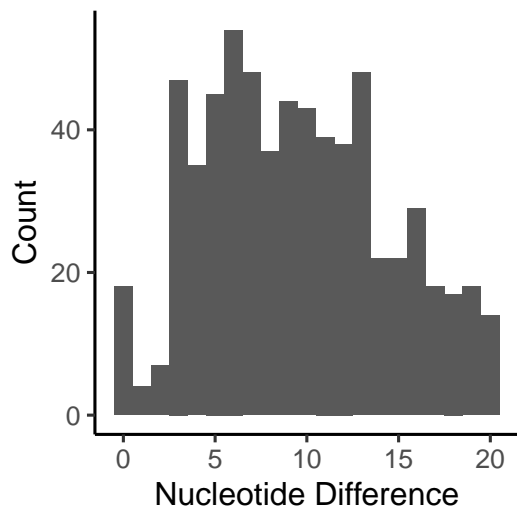
### IGHV4-39\*02\_C258G

2359 sequences assigned  
138 (5.8%) exact matches, in which:  
81 unique CDR3  
7 unique J



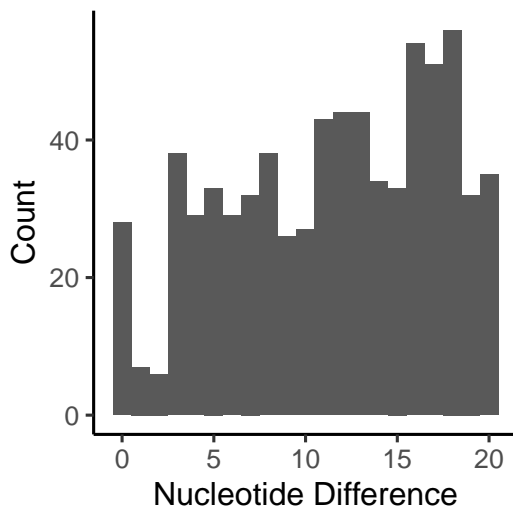
### IGHV4–59\*08

847 sequences assigned  
18 (2.1%) exact matches, in which:  
14 unique CDR3  
5 unique J



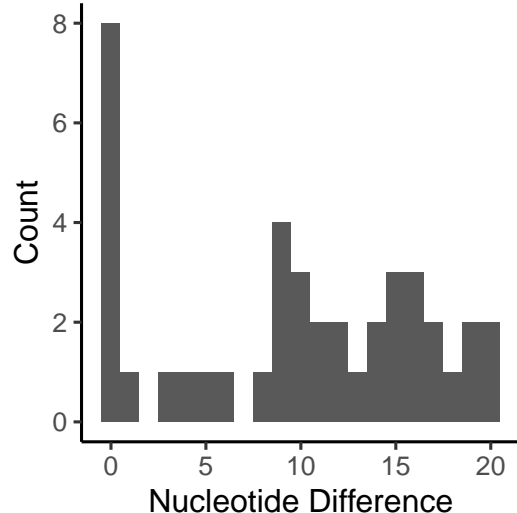
### IGHV4–61\*02

1092 sequences assigned  
28 (2.6%) exact matches, in which:  
20 unique CDR3  
5 unique J



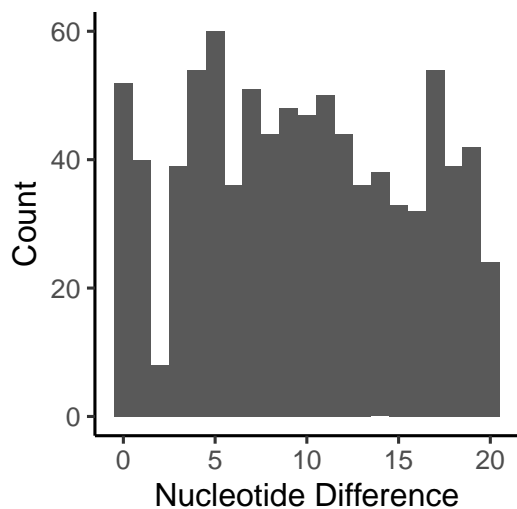
### IGHV5–10–1\*01\_03

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



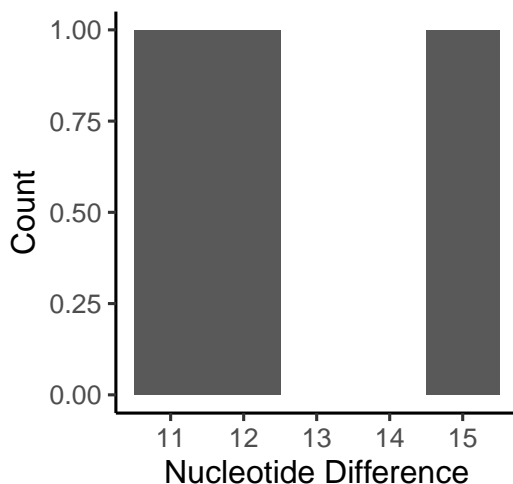
### IGHV4–59\*01\_07

1178 sequences assigned  
52 (4.4%) exact matches, in which:  
25 unique CDR3  
5 unique J



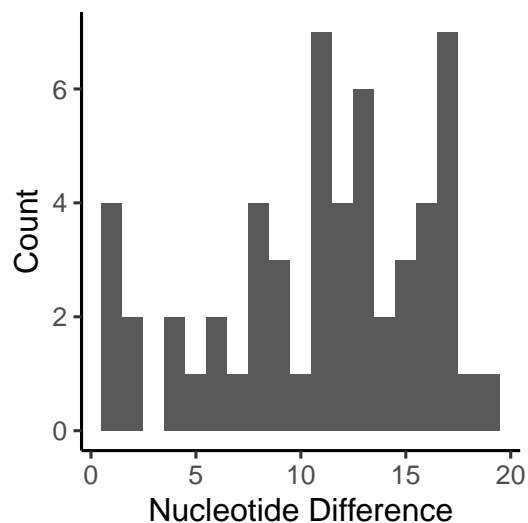
### IGHV4/OR15–8\*01

6 sequences assigned  
No exact matches.



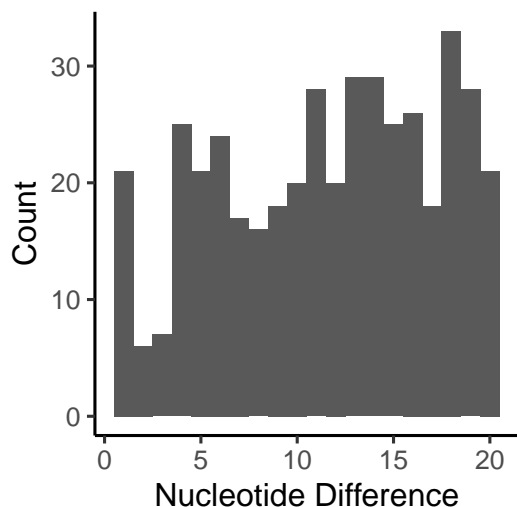
### IGHV5–51\*07

65 sequences assigned  
No exact matches.



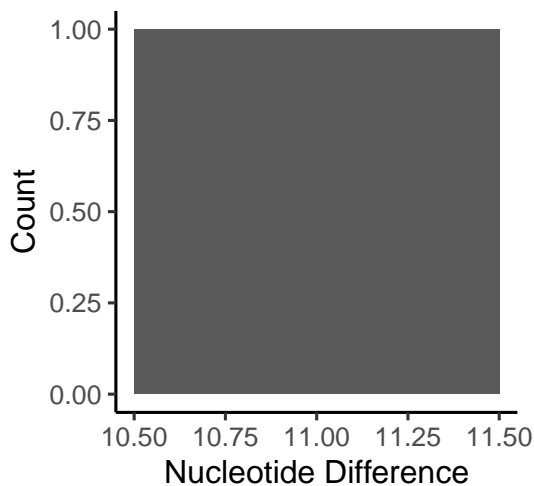
### IGHV4–59\*11

633 sequences assigned  
No exact matches.



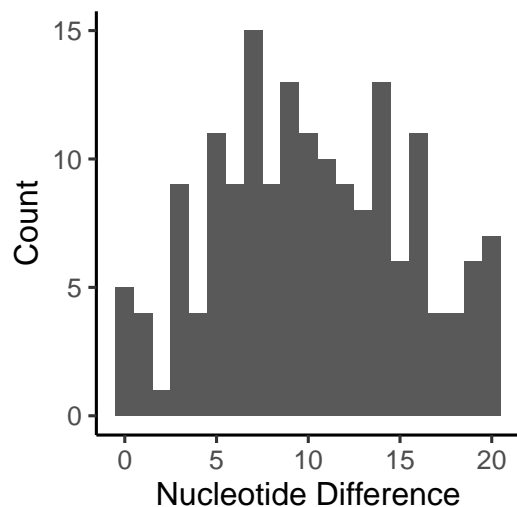
### IGHV4/OR15–8\*02

11 sequences assigned  
No exact matches.



### IGHV5–51\*01\_03

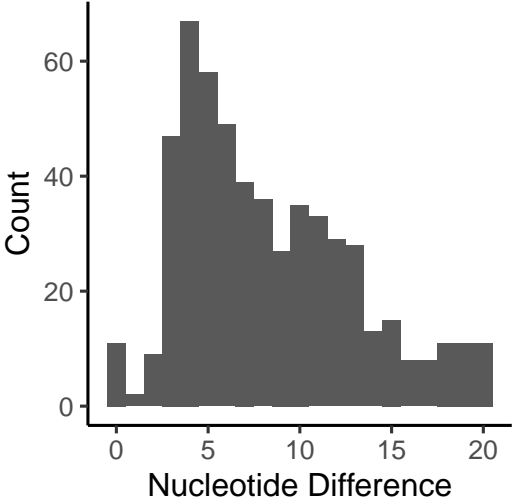
208 sequences assigned  
5 (2.4%) exact matches, in which:  
5 unique CDR3  
3 unique J





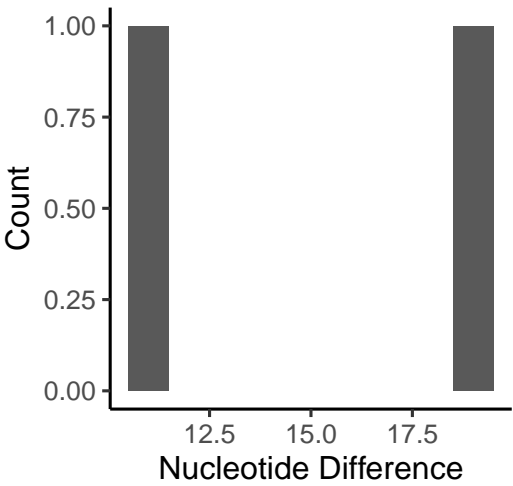
# IGHV6-1\*01\_02

582 sequences assigned  
11 (1.9%) exact matches, in which:  
11 unique CDR3  
4 unique J

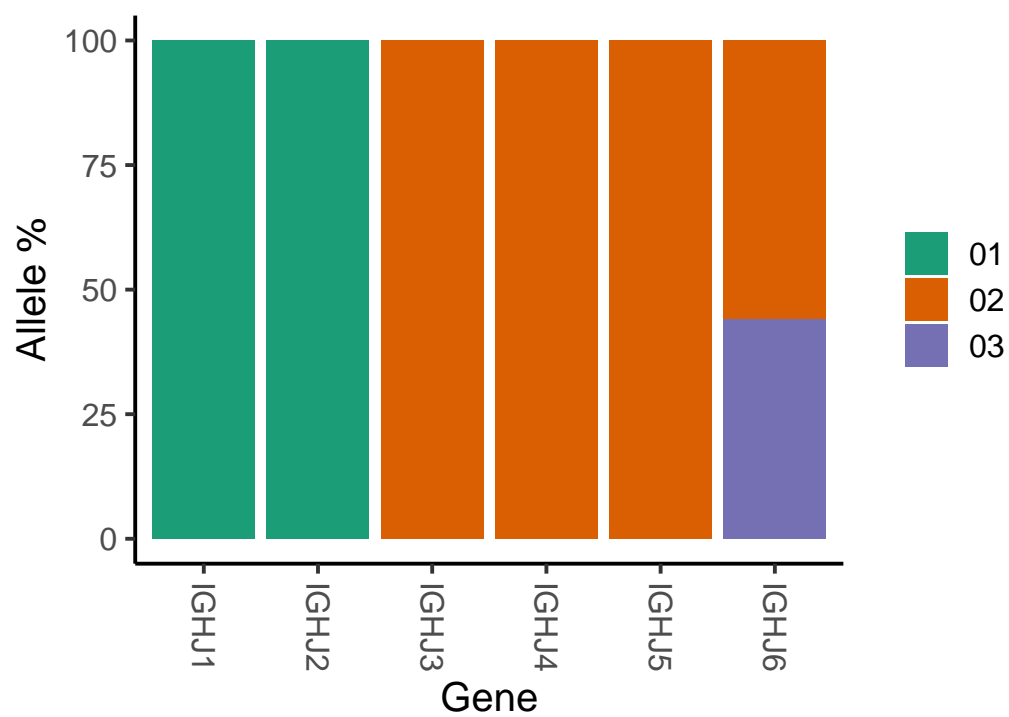


# IGHV7-4-1\*01

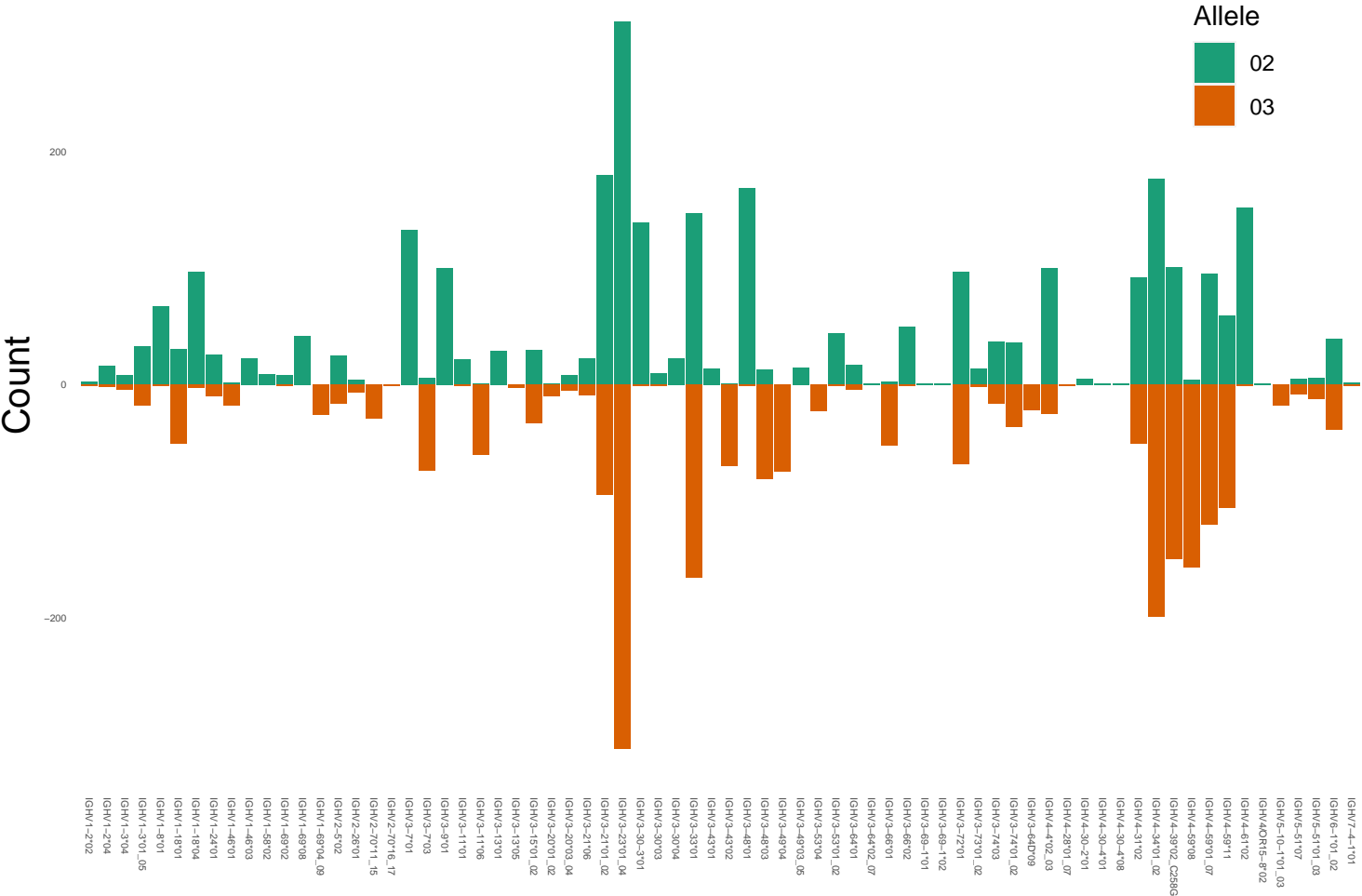
3 sequences assigned  
No exact matches.



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.