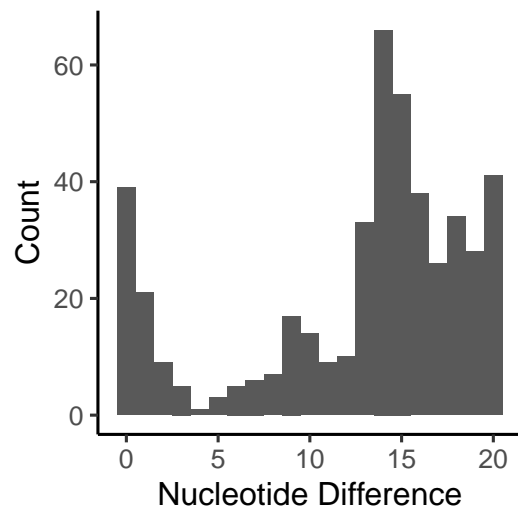


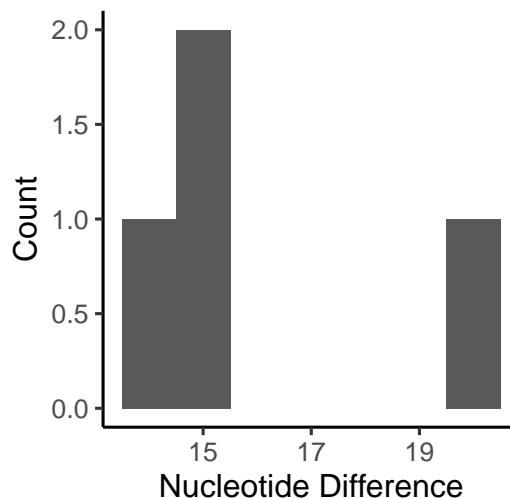
### IGHV1-2\*02

754 sequences assigned  
39 (5.2%) exact matches, in which:  
37 unique CDR3  
6 unique J



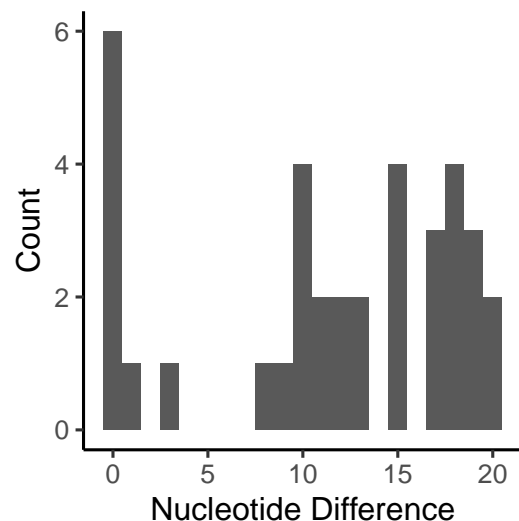
### IGHV1-3\*04

43 sequences assigned  
No exact matches.



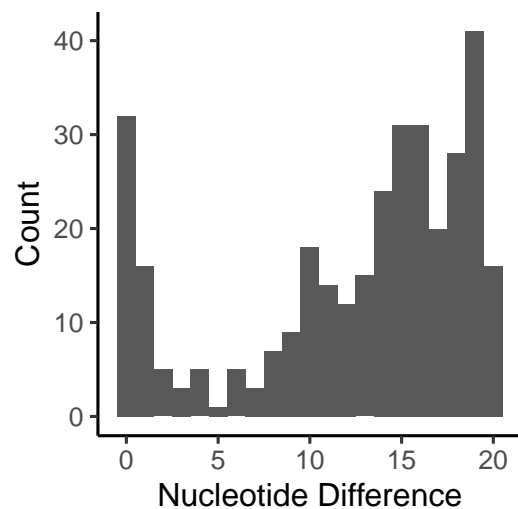
### IGHV1-24\*01

52 sequences assigned  
6 (11.5%) exact matches, in which:  
6 unique CDR3  
2 unique J



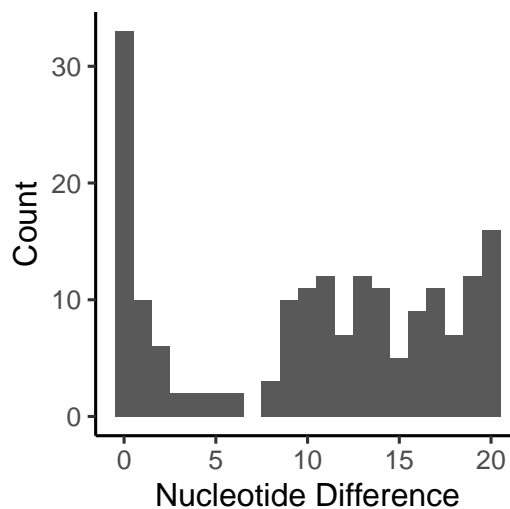
### IGHV1-2\*06

818 sequences assigned  
32 (3.9%) exact matches, in which:  
32 unique CDR3  
5 unique J



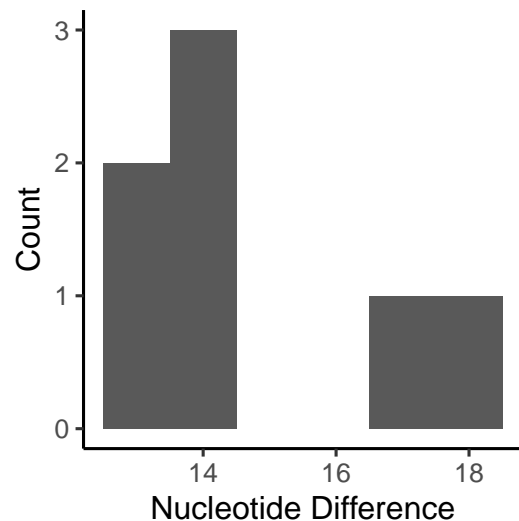
### IGHV1-8\*01

668 sequences assigned  
33 (4.9%) exact matches, in which:  
33 unique CDR3  
7 unique J



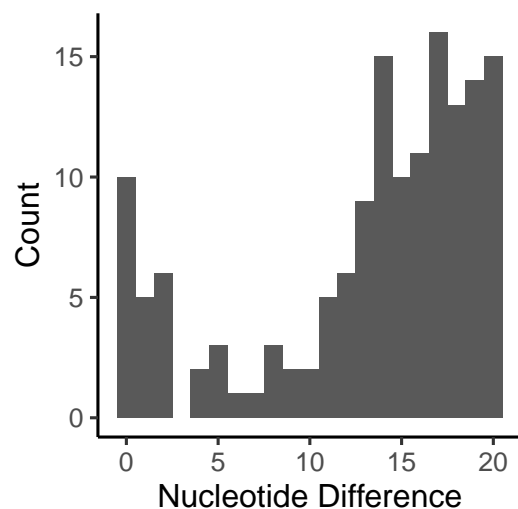
### IGHV1-45\*02

29 sequences assigned  
No exact matches.



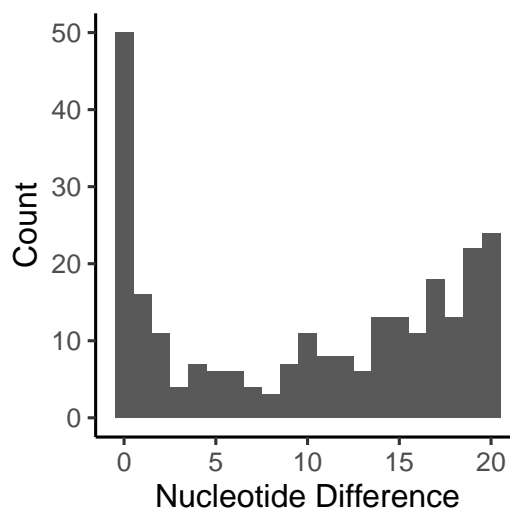
### IGHV1-3\*01

341 sequences assigned  
10 (2.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



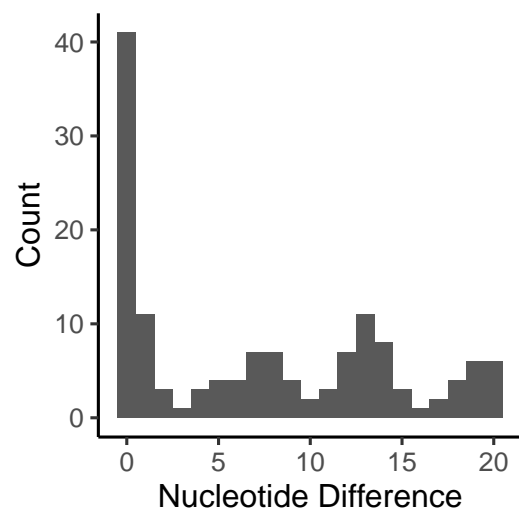
### IGHV1-18\*01

759 sequences assigned  
50 (6.6%) exact matches, in which:  
49 unique CDR3  
6 unique J



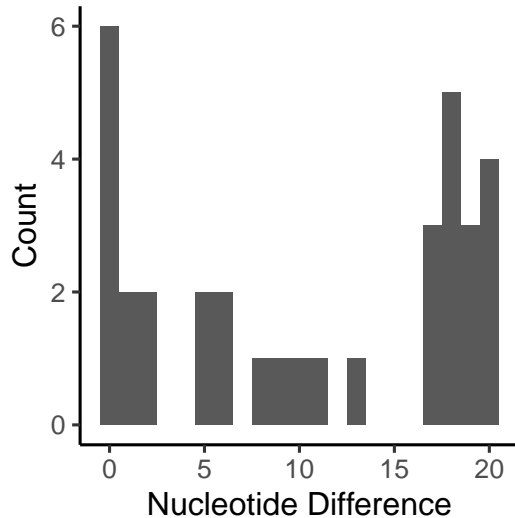
### IGHV1-46\*01

475 sequences assigned  
41 (8.6%) exact matches, in which:  
41 unique CDR3  
5 unique J



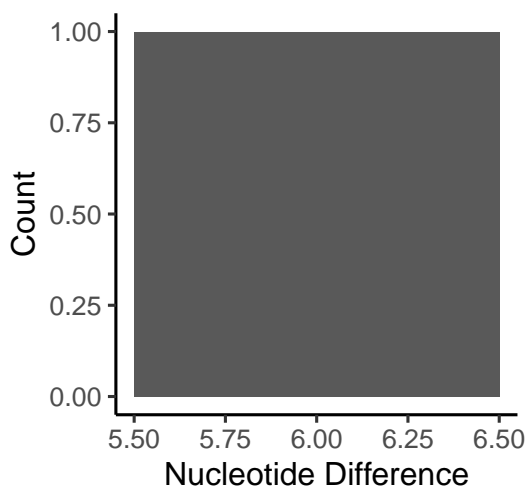
### IGHV1-58\*01

82 sequences assigned  
6 (7.3%) exact matches, in which:  
6 unique CDR3  
4 unique J



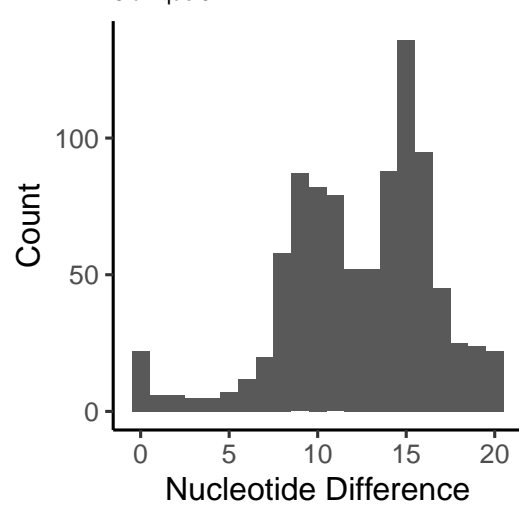
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



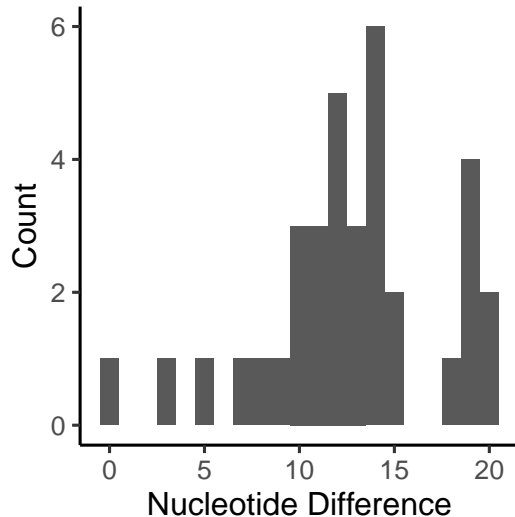
### IGHV2-26\*01

1037 sequences assigned  
22 (2.1%) exact matches, in which:  
22 unique CDR3  
6 unique J



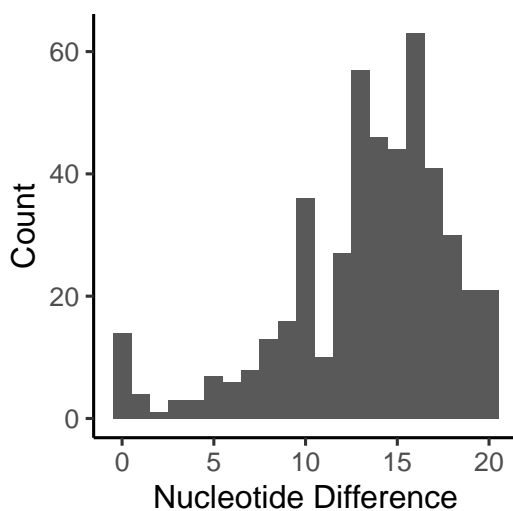
### IGHV1-69-2\*01

38 sequences assigned  
1 (2.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



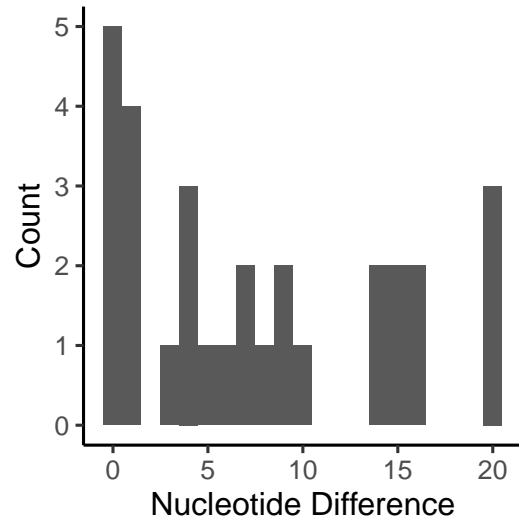
### IGHV2-5\*01

625 sequences assigned  
14 (2.2%) exact matches, in which:  
14 unique CDR3  
3 unique J



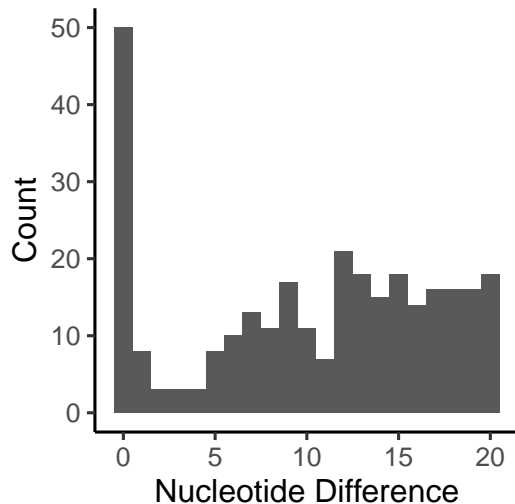
### IGHV2-70\*01

41 sequences assigned  
5 (12.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



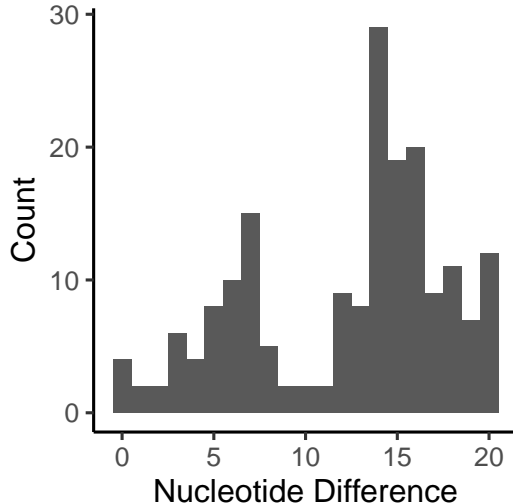
### IGHV1-69\*06

559 sequences assigned  
50 (8.9%) exact matches, in which:  
47 unique CDR3  
5 unique J



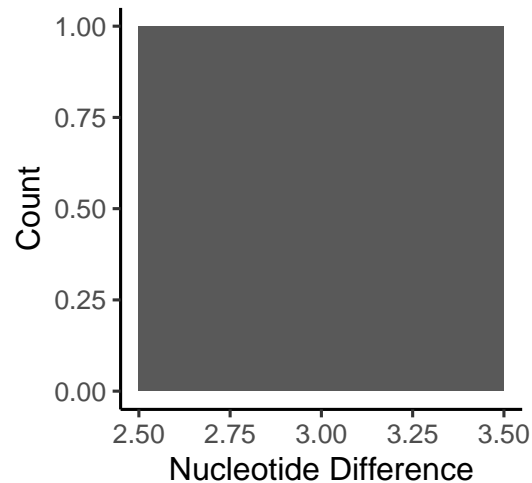
### IGHV2-5\*02

284 sequences assigned  
4 (1.4%) exact matches, in which:  
4 unique CDR3  
2 unique J



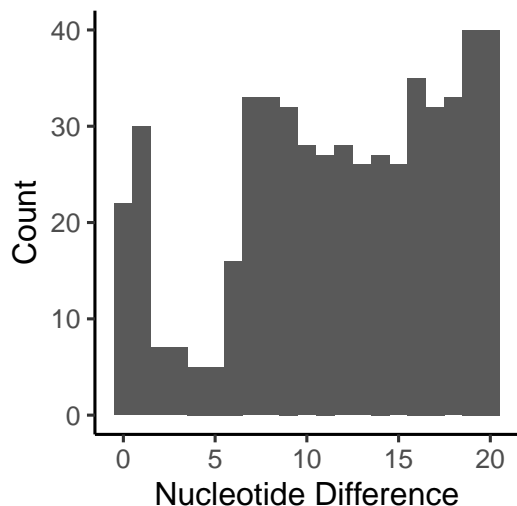
### IGHV2-70\*12

1 sequences assigned  
No exact matches.



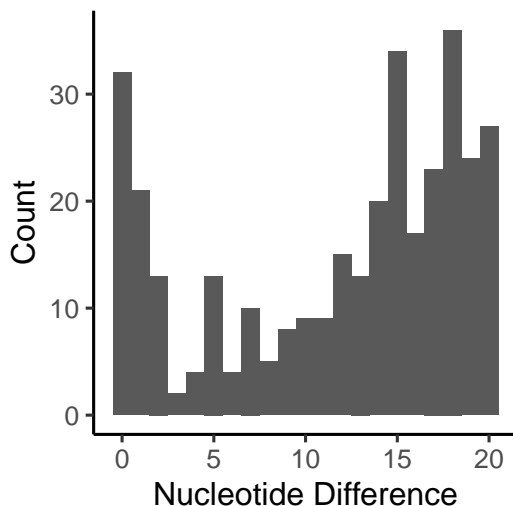
### IGHV3-7\*01

820 sequences assigned  
22 (2.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



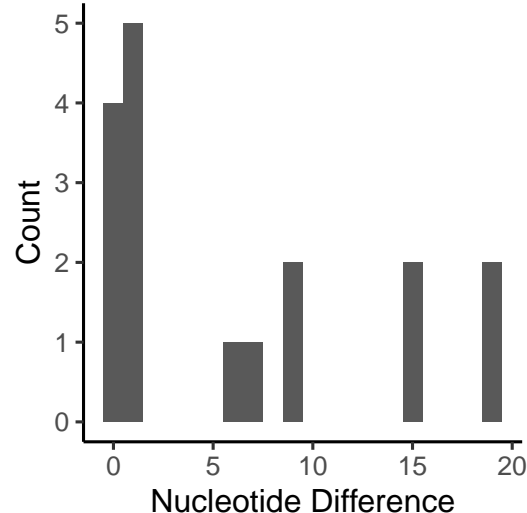
### IGHV3-11\*01

837 sequences assigned  
32 (3.8%) exact matches, in which:  
32 unique CDR3  
6 unique J



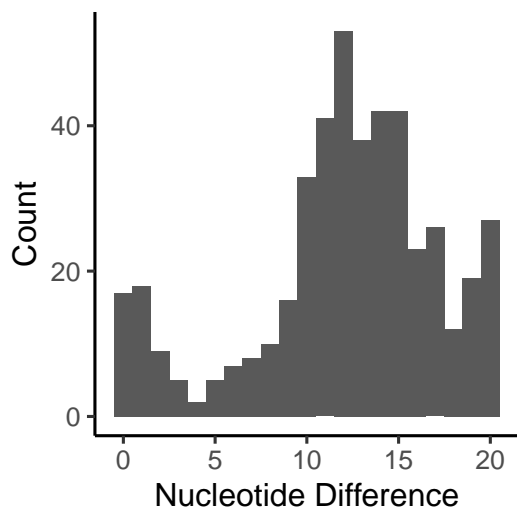
### IGHV3-20\*01

27 sequences assigned  
4 (14.8%) exact matches, in which:  
4 unique CDR3  
3 unique J



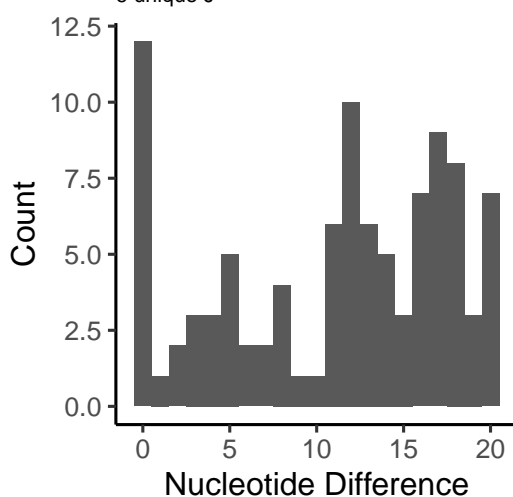
### IGHV3-7\*03

1060 sequences assigned  
17 (1.6%) exact matches, in which:  
17 unique CDR3  
6 unique J



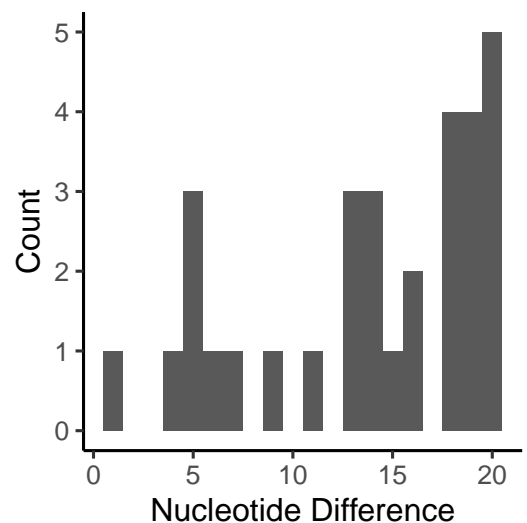
### IGHV3-13\*01

559 sequences assigned  
12 (2.1%) exact matches, in which:  
12 unique CDR3  
6 unique J



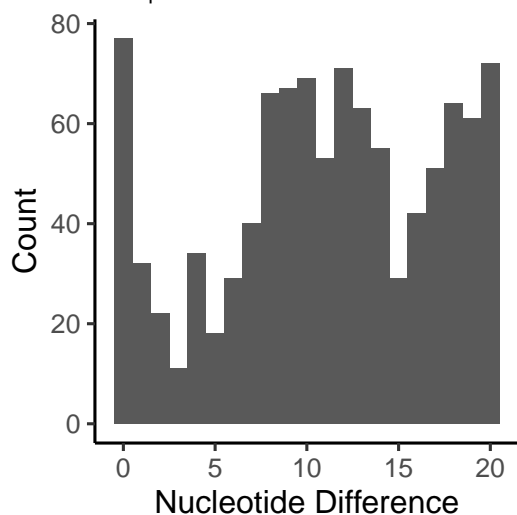
### IGHV3-20\*04

58 sequences assigned  
No exact matches.



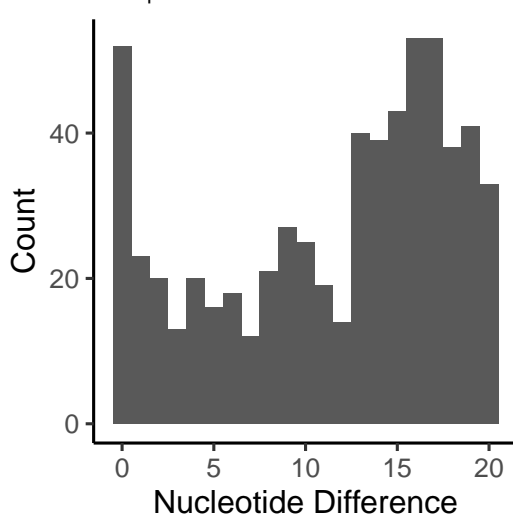
### IGHV3-9\*01

2881 sequences assigned  
77 (2.7%) exact matches, in which:  
73 unique CDR3  
6 unique J



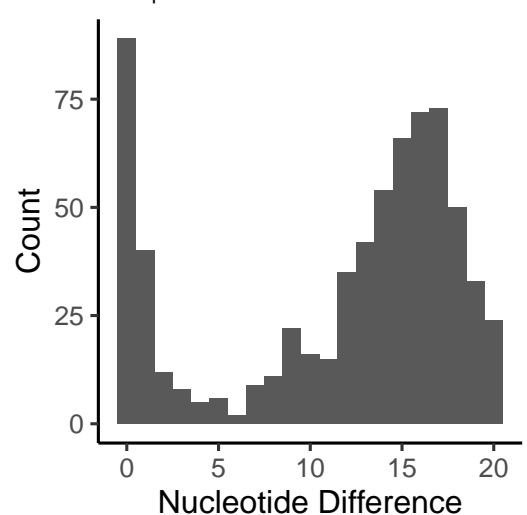
### IGHV3-15\*01

1304 sequences assigned  
52 (4%) exact matches, in which:  
48 unique CDR3  
5 unique J



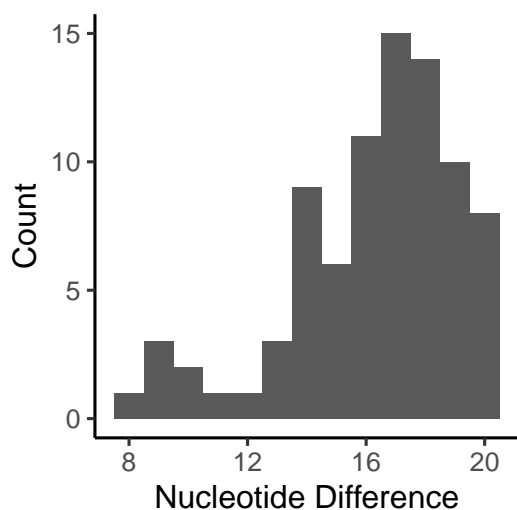
### IGHV3-21\*01

1241 sequences assigned  
89 (7.2%) exact matches, in which:  
89 unique CDR3  
6 unique J



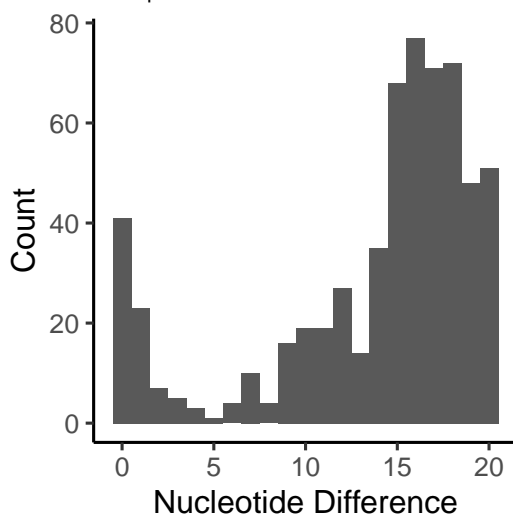
### IGHV3-21\*02

199 sequences assigned  
No exact matches.



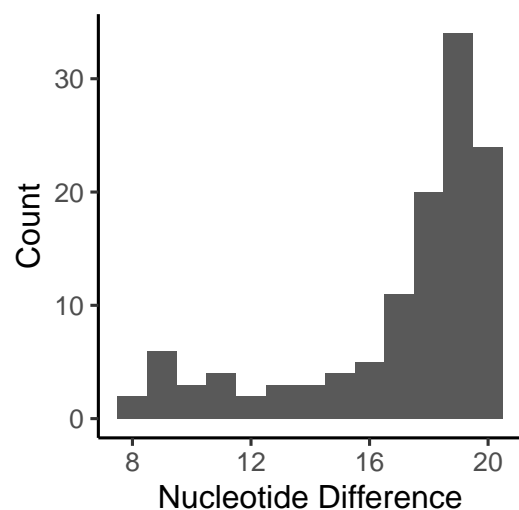
### IGHV3-23\*04

1209 sequences assigned  
41 (3.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



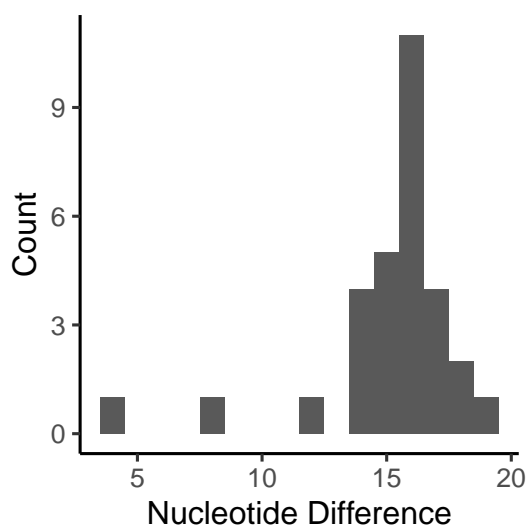
### IGHV3-30\*03

770 sequences assigned  
No exact matches.



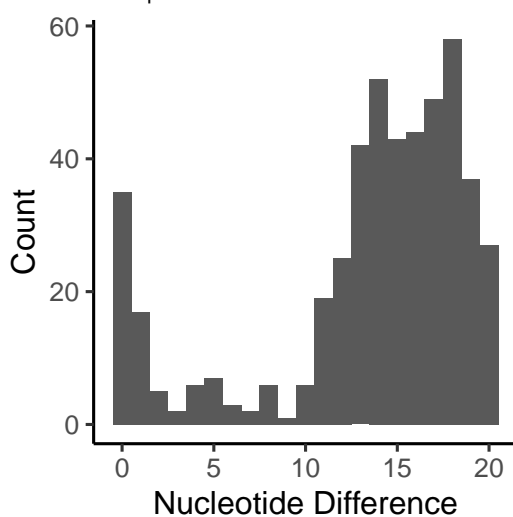
### IGHV3-21\*04

31 sequences assigned  
No exact matches.



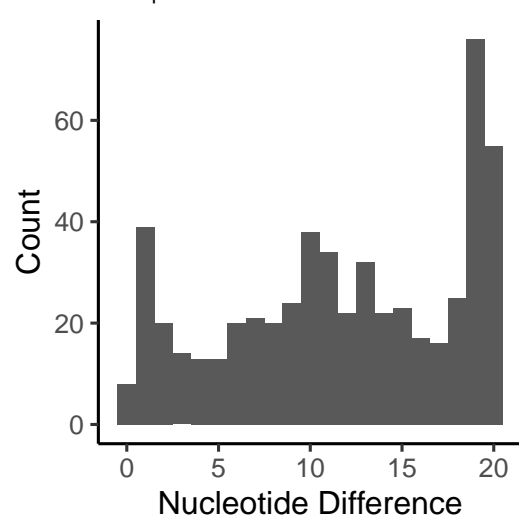
### IGHV3-30-3\*01

1062 sequences assigned  
35 (3.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



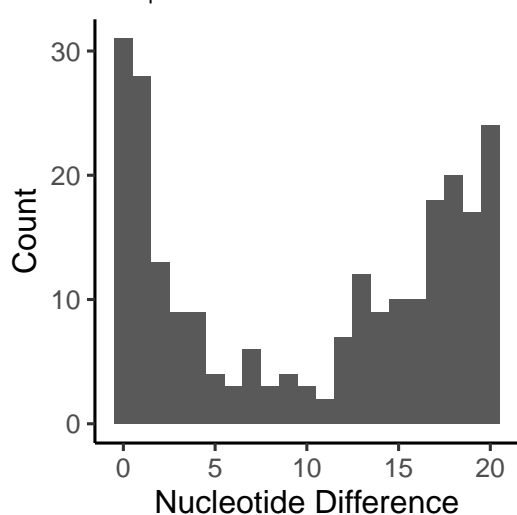
### IGHV3-33\*01

1301 sequences assigned  
8 (0.6%) exact matches, in which:  
8 unique CDR3  
4 unique J



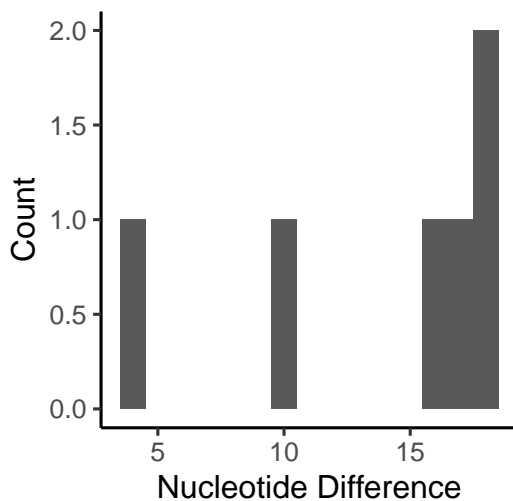
### IGHV3-23\*03

421 sequences assigned  
31 (7.4%) exact matches, in which:  
26 unique CDR3  
6 unique J



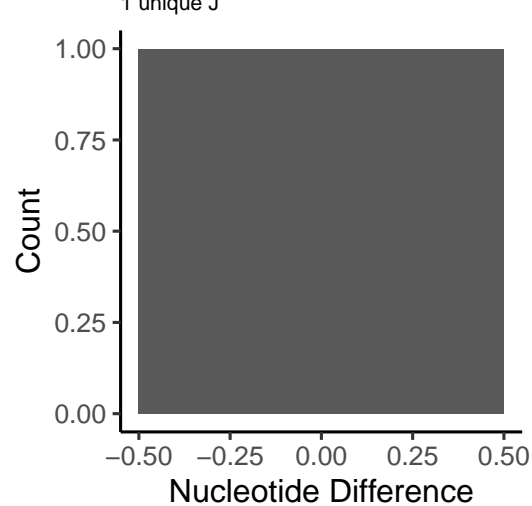
### IGHV3-30-3\*02

33 sequences assigned  
No exact matches.



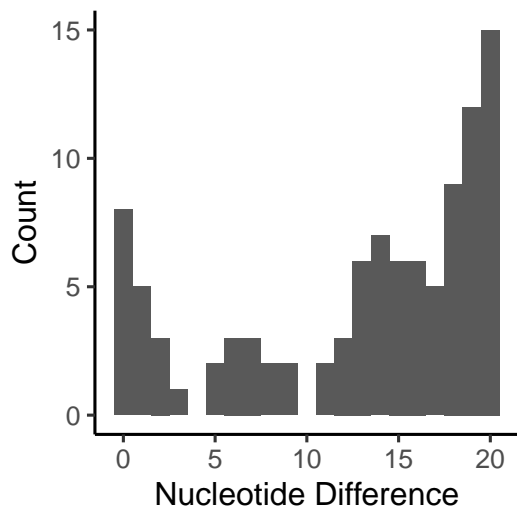
### IGHV3-35\*01

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



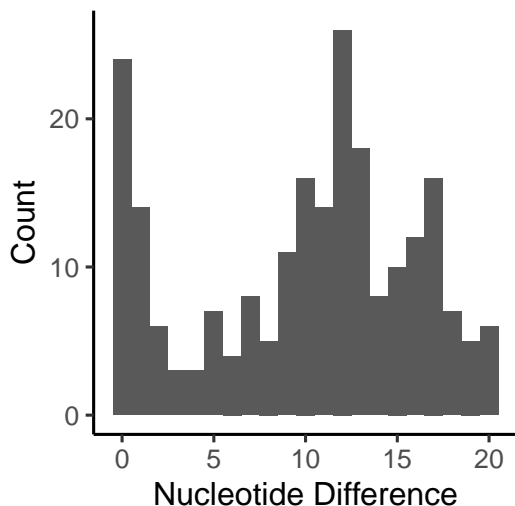
### IGHV3-43\*02

261 sequences assigned  
8 (3.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



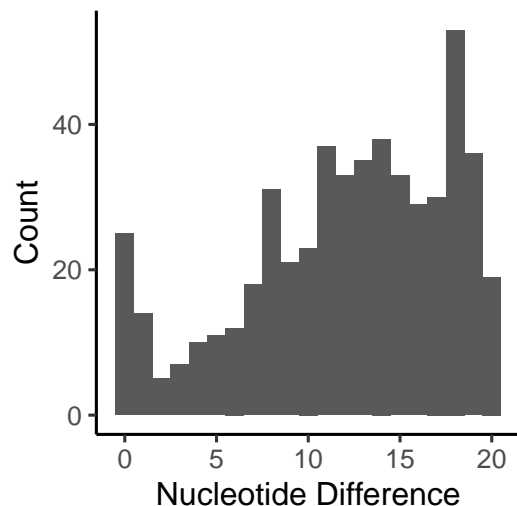
### IGHV3-48\*02

347 sequences assigned  
24 (6.9%) exact matches, in which:  
20 unique CDR3  
5 unique J



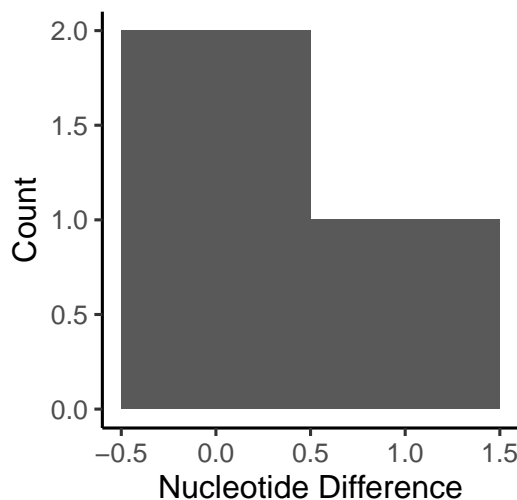
### IGHV3-53\*01

948 sequences assigned  
25 (2.6%) exact matches, in which:  
25 unique CDR3  
6 unique J



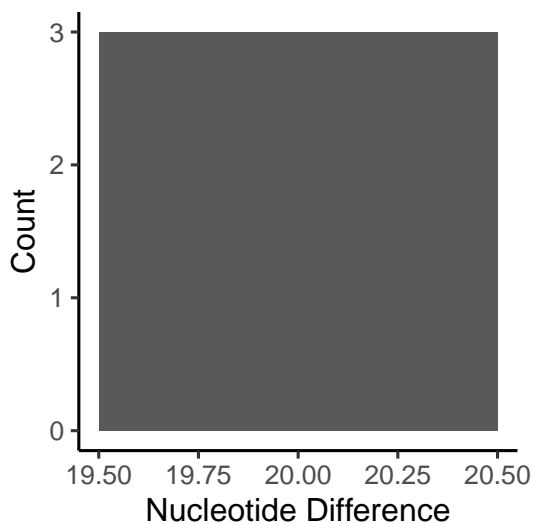
### IGHV3-47\*02

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



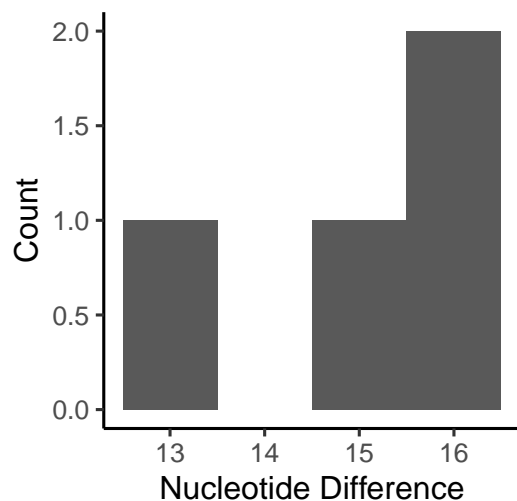
### IGHV3-48\*04

11 sequences assigned  
No exact matches.



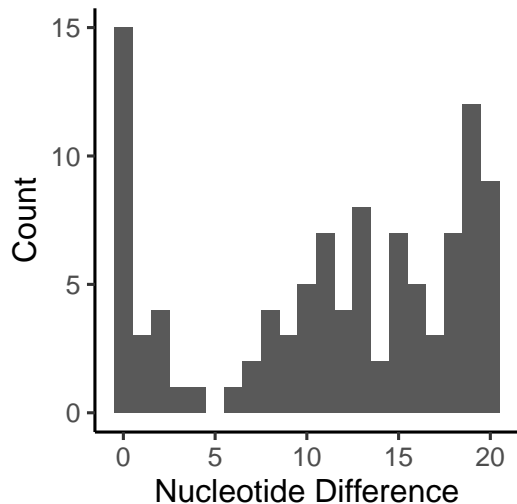
### IGHV3-64\*02

5 sequences assigned  
No exact matches.



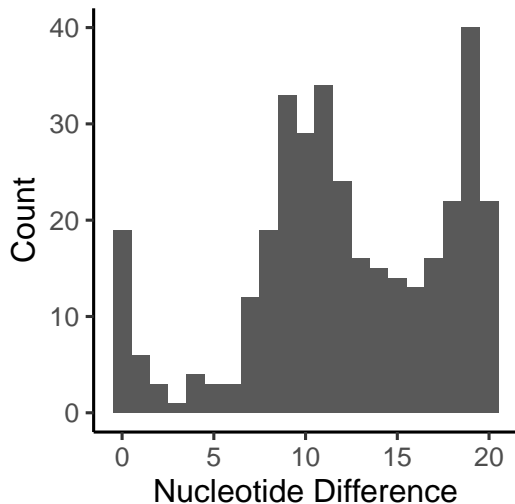
### IGHV3-48\*01

121 sequences assigned  
15 (12.4%) exact matches, in which:  
15 unique CDR3  
5 unique J



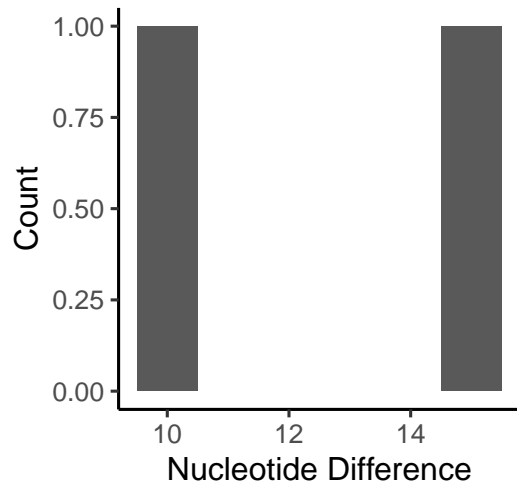
### IGHV3-49\*05

957 sequences assigned  
19 (2%) exact matches, in which:  
18 unique CDR3  
6 unique J



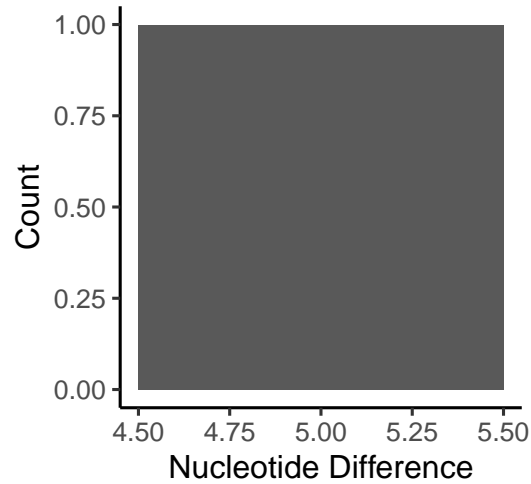
### IGHV3-64\*04

2 sequences assigned  
No exact matches.



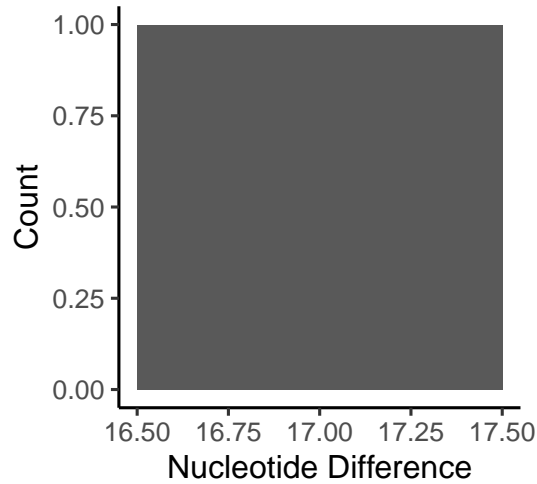
### IGHV3-66\*01

28 sequences assigned  
No exact matches.



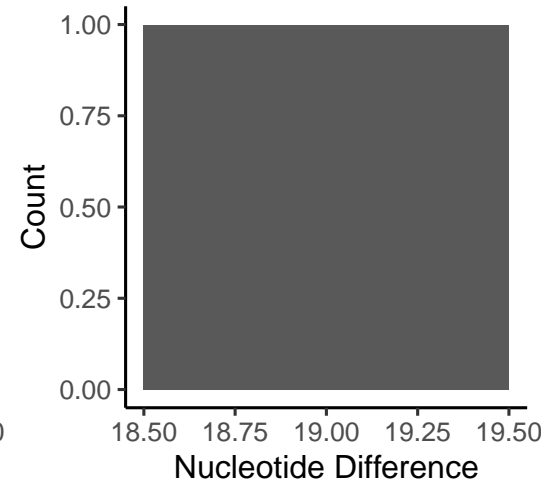
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



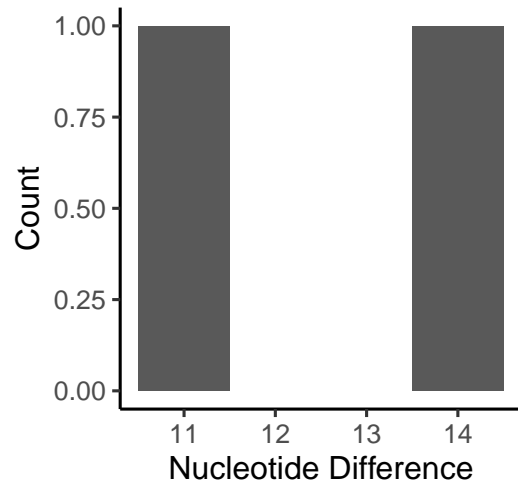
### IGHV3-71\*02

1 sequences assigned  
No exact matches.



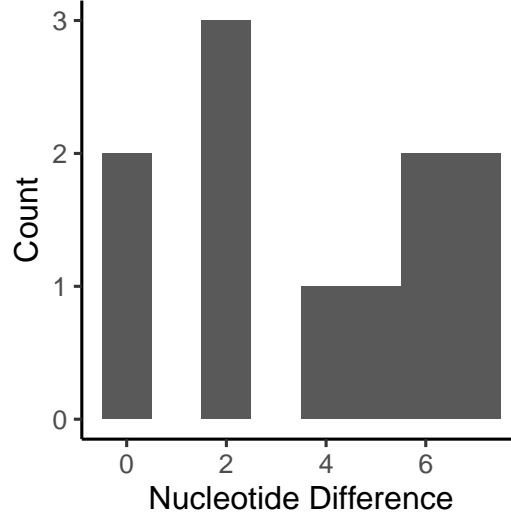
### IGHV3-66\*03

2 sequences assigned  
No exact matches.



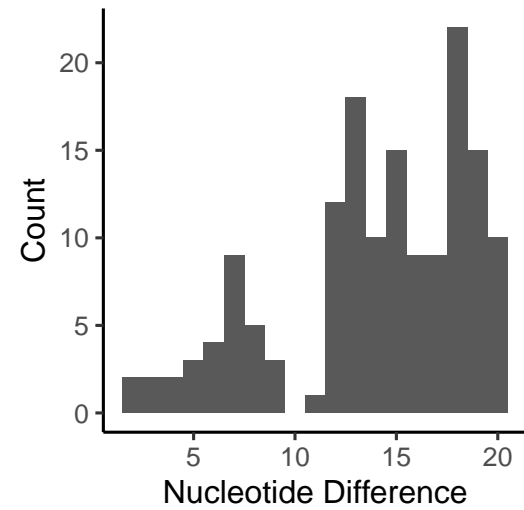
### IGHV3-69-1\*02

12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



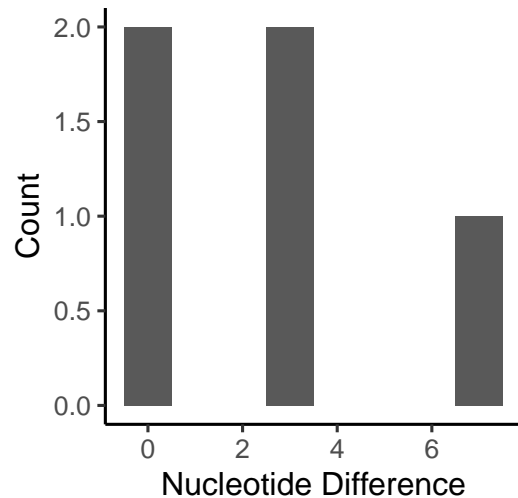
### IGHV3-72\*01

189 sequences assigned  
No exact matches.



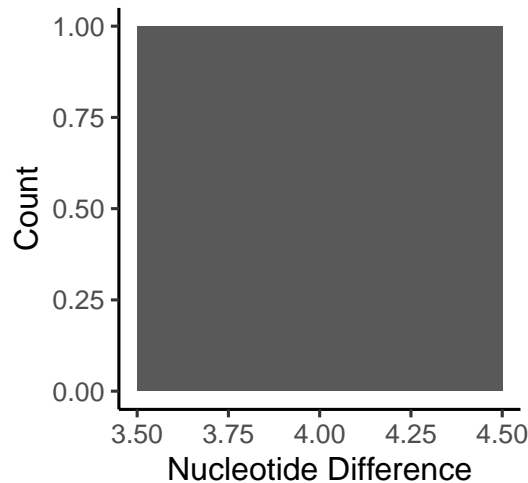
### IGHV3-66\*04

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
1 unique J



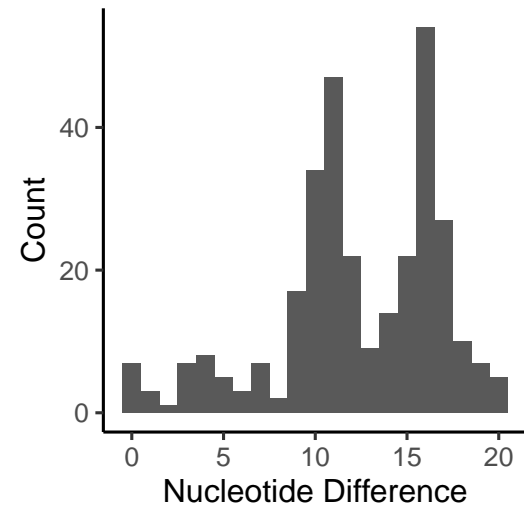
### IGHV3-71\*01

1 sequences assigned  
No exact matches.



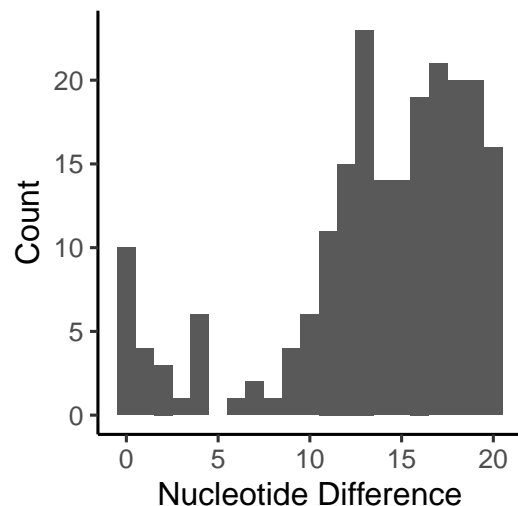
### IGHV3-73\*02

411 sequences assigned  
7 (1.7%) exact matches, in which:  
7 unique CDR3  
4 unique J



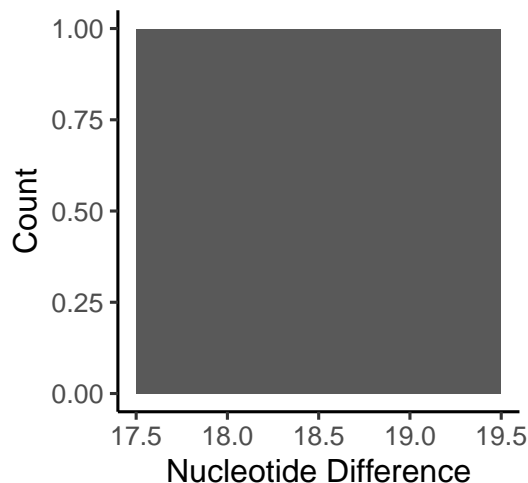
### IGHV3-74\*01

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



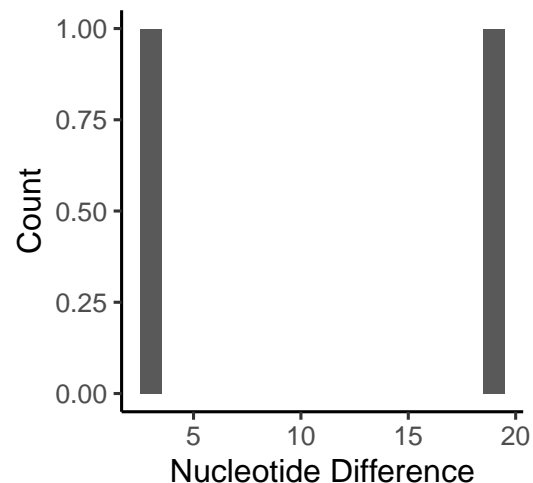
### IGHV4-28\*01

4 sequences assigned  
No exact matches.



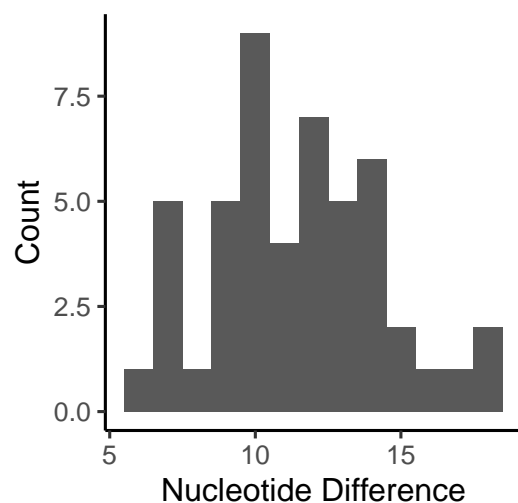
### IGHV4-30-2\*03

3 sequences assigned  
No exact matches.



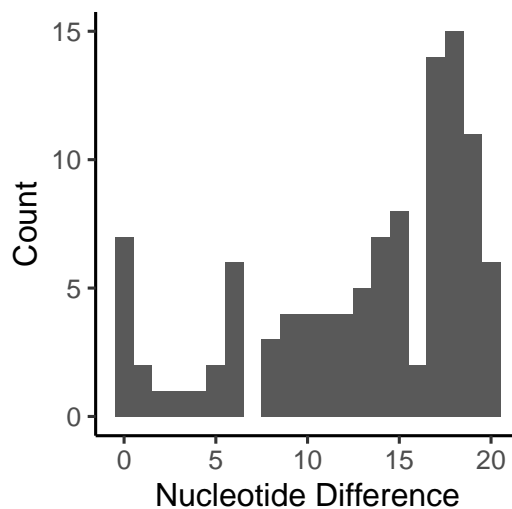
### IGHV3-74\*03

113 sequences assigned  
No exact matches.



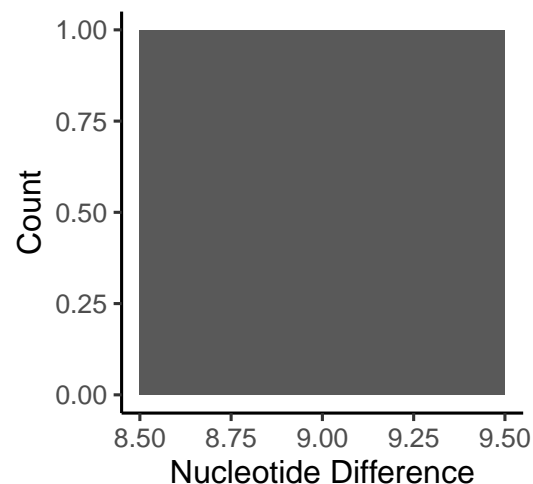
### IGHV4-30-4\*01

435 sequences assigned  
7 (1.6%) exact matches, in which:  
7 unique CDR3  
4 unique J



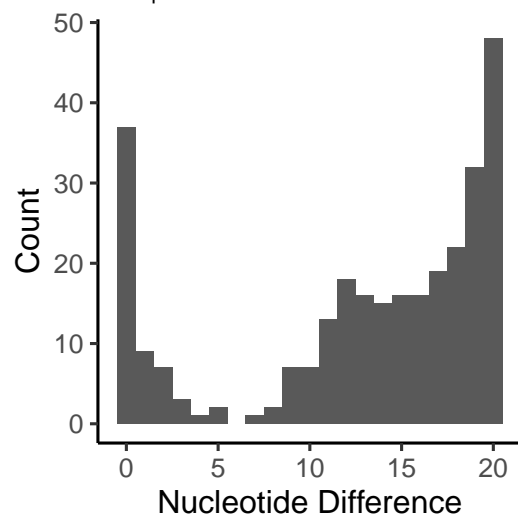
### IGHV4-30-2\*05

1 sequences assigned  
No exact matches.



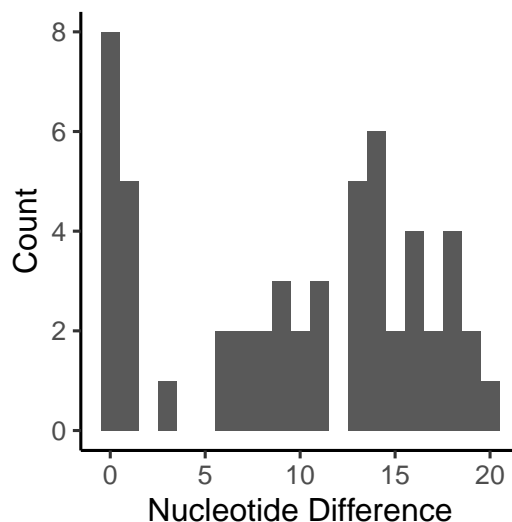
### IGHV4-4\*07

653 sequences assigned  
37 (5.7%) exact matches, in which:  
36 unique CDR3  
6 unique J



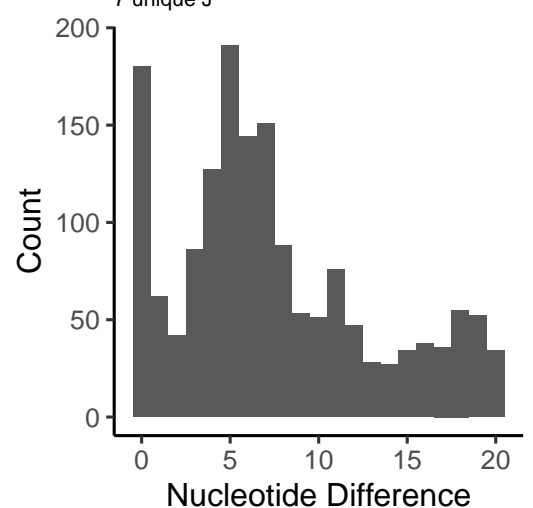
### IGHV4-30-2\*01

254 sequences assigned  
8 (3.1%) exact matches, in which:  
8 unique CDR3  
4 unique J



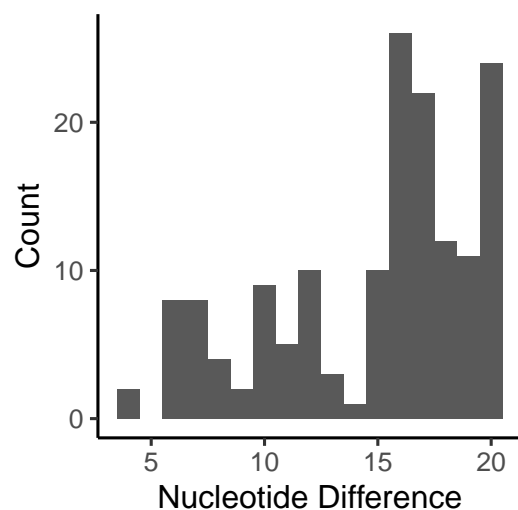
### IGHV4-34\*01

2150 sequences assigned  
180 (8.4%) exact matches, in which:  
177 unique CDR3  
7 unique J



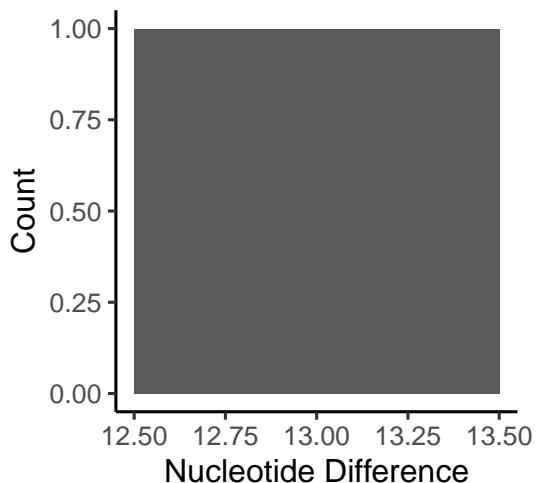
### IGHV4-34\*02

775 sequences assigned  
No exact matches.



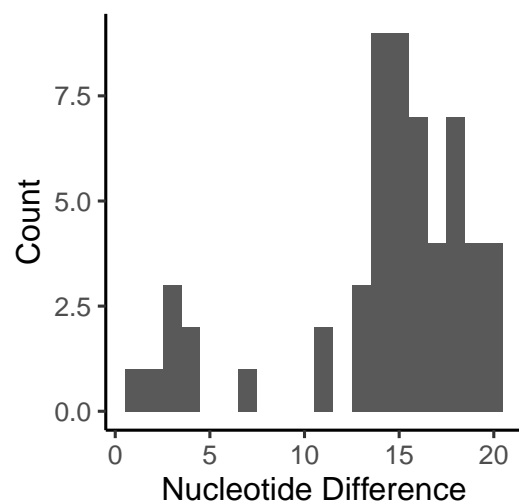
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



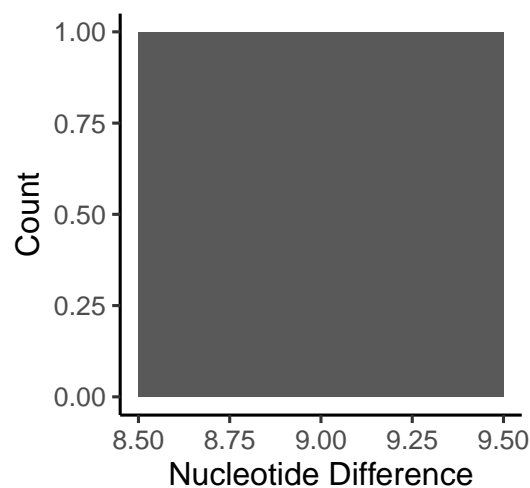
### IGHV4-59\*12

121 sequences assigned  
No exact matches.



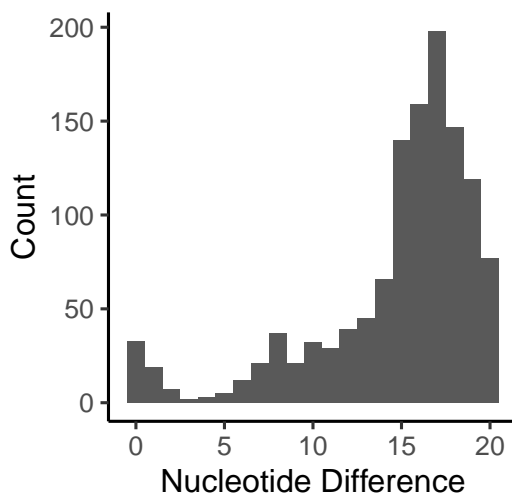
### IGHV4-38-2\*02

10 sequences assigned  
No exact matches.



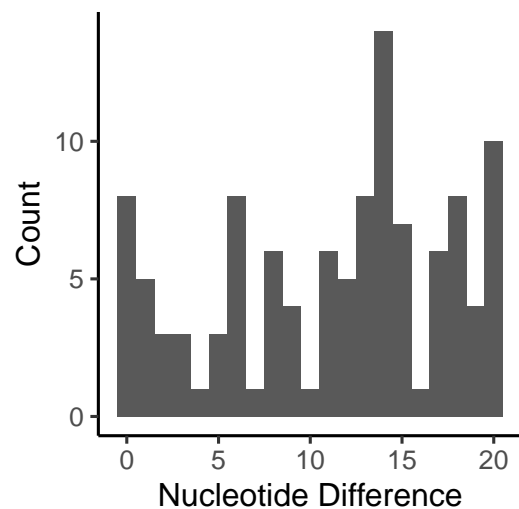
### IGHV4-59\*01

1806 sequences assigned  
33 (1.8%) exact matches, in which:  
31 unique CDR3  
6 unique J



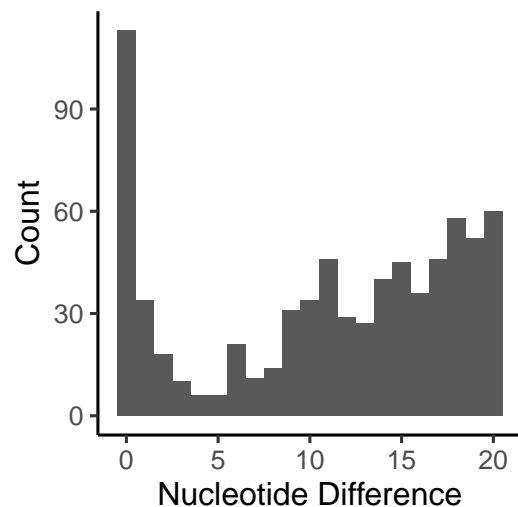
### IGHV4-61\*01

281 sequences assigned  
8 (2.8%) exact matches, in which:  
8 unique CDR3  
4 unique J



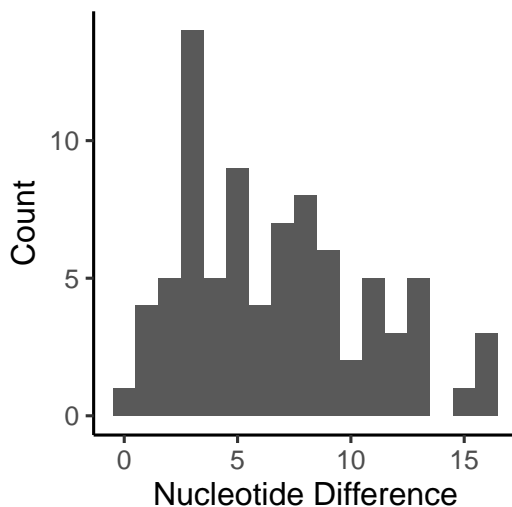
### IGHV4-39\*01

2038 sequences assigned  
113 (5.5%) exact matches, in which:  
109 unique CDR3  
7 unique J



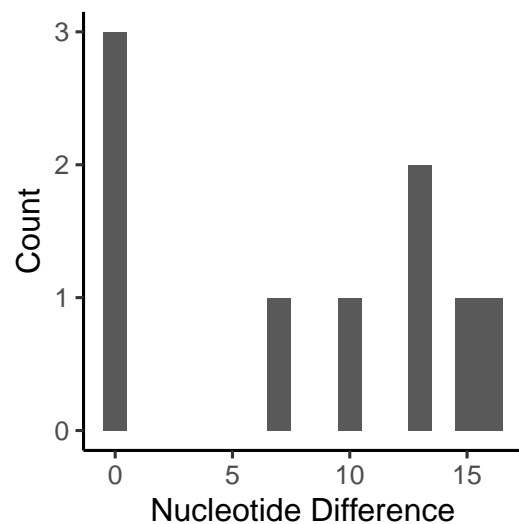
### IGHV4-59\*09

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



### IGHV4-61\*07

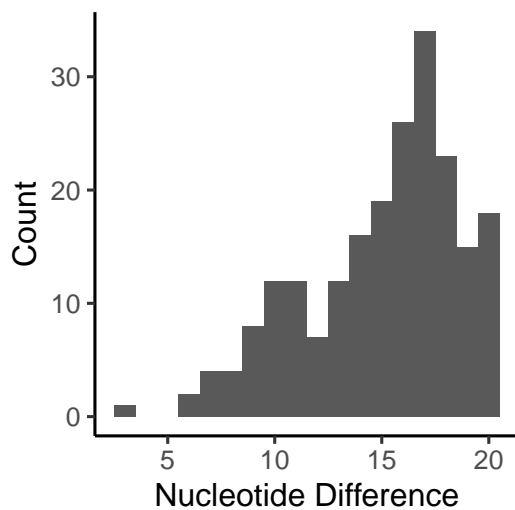
15 sequences assigned  
3 (20%) exact matches, in which:  
3 unique CDR3  
2 unique J





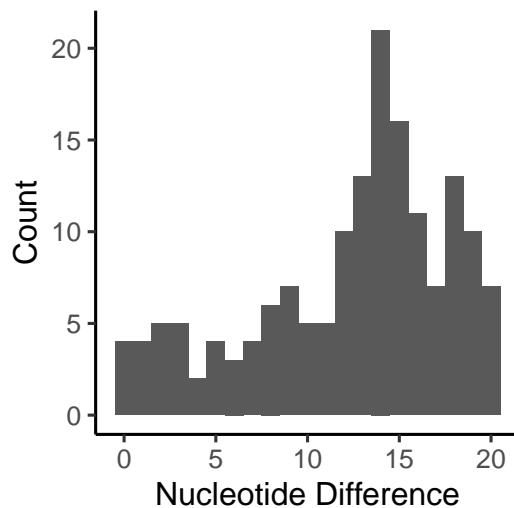
## IGHV4-61\*08

249 sequences assigned  
No exact matches.



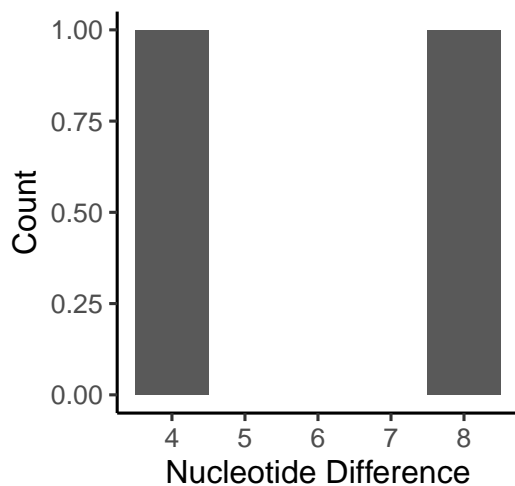
## IGHV6-1\*01

241 sequences assigned  
4 (1.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



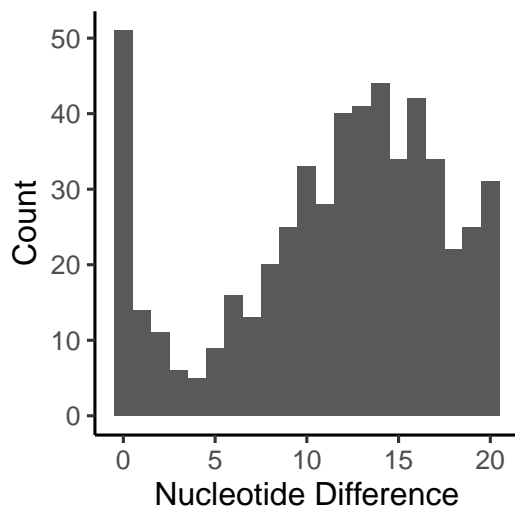
## IGHV5-10-1\*03

2 sequences assigned  
No exact matches.

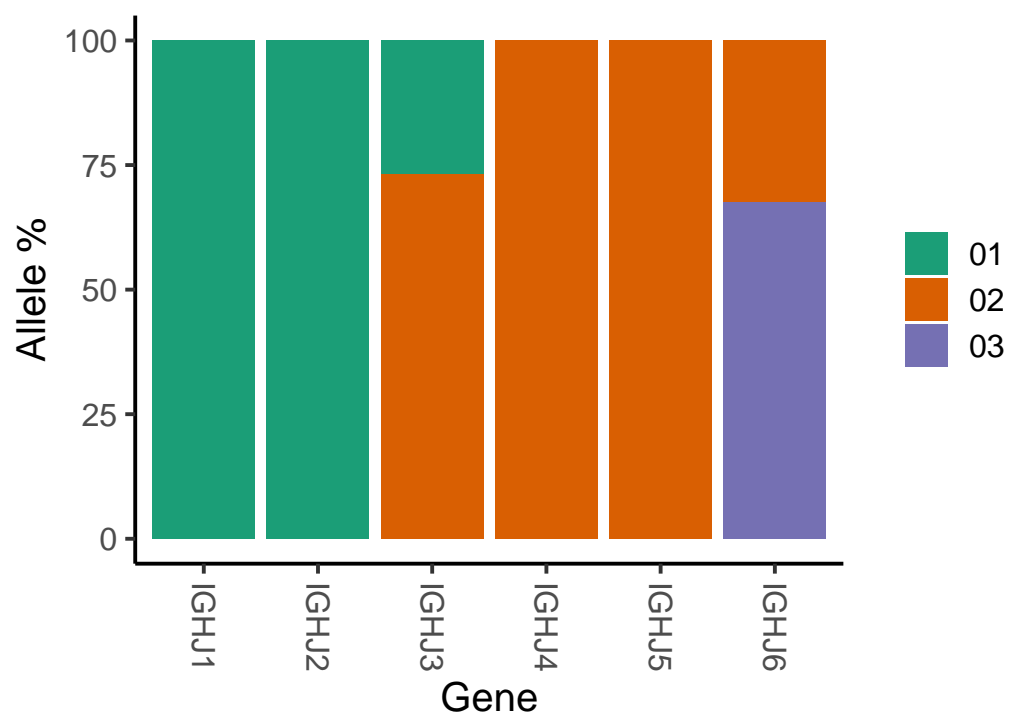


## IGHV5-51\*01

895 sequences assigned  
51 (5.7%) exact matches, in which:  
50 unique CDR3  
6 unique J



Allele Usage



## Sequence Count by IGHJ3 allele usage



01
02

02

500

250

[illegible]

Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.