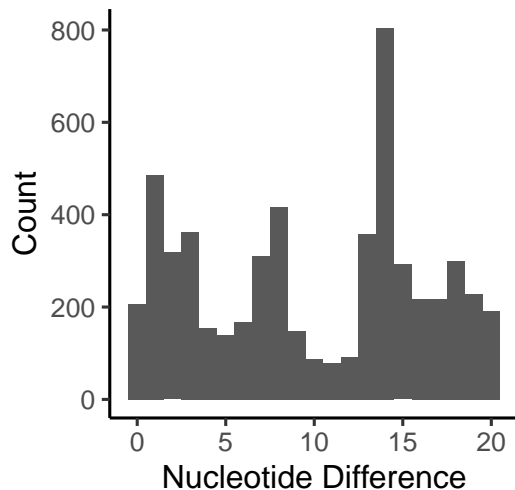


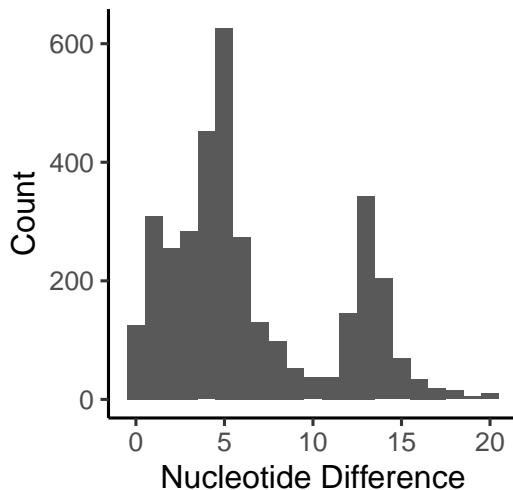
### IGHV1-2\*06

6635 sequences assigned  
207 (3.1%) exact matches, in which:  
129 unique CDR3  
7 unique J



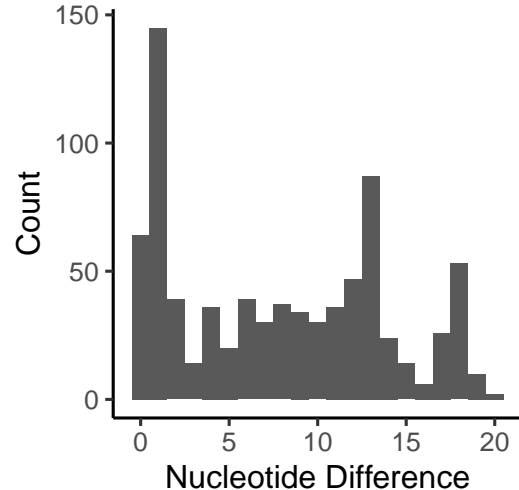
### IGHV1-18\*01

3729 sequences assigned  
125 (3.4%) exact matches, in which:  
78 unique CDR3  
6 unique J



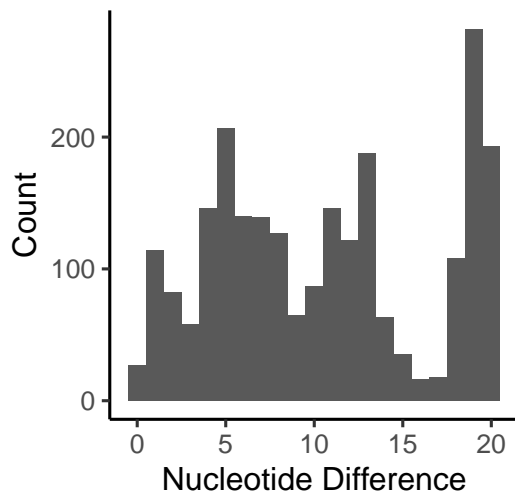
### IGHV1-46\*01

805 sequences assigned  
64 (8%) exact matches, in which:  
37 unique CDR3  
5 unique J



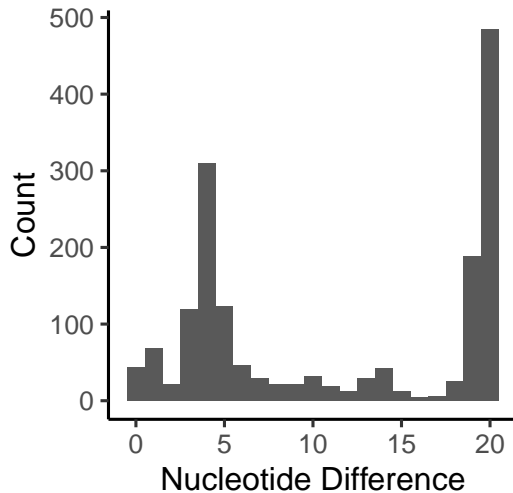
### IGHV1-3\*01\_05

3192 sequences assigned  
27 (0.8%) exact matches, in which:  
18 unique CDR3  
4 unique J



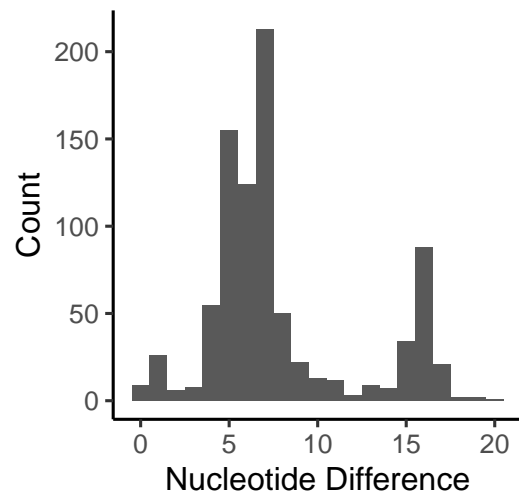
### IGHV1-18\*04

2755 sequences assigned  
44 (1.6%) exact matches, in which:  
33 unique CDR3  
5 unique J



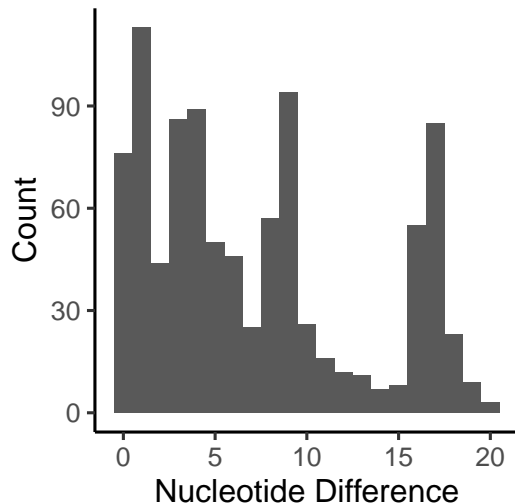
### IGHV1-46\*03

1147 sequences assigned  
9 (0.8%) exact matches, in which:  
7 unique CDR3  
4 unique J



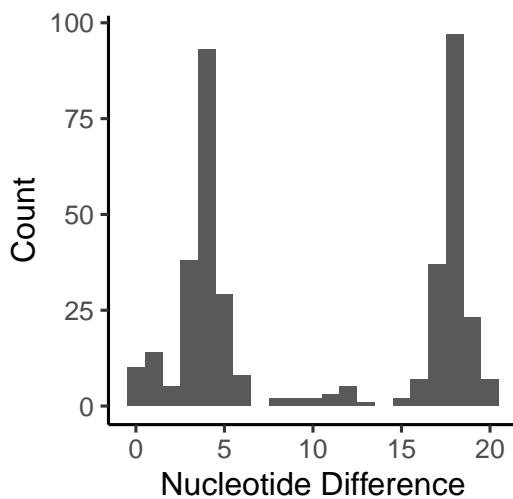
### IGHV1-8\*01

1073 sequences assigned  
76 (7.1%) exact matches, in which:  
53 unique CDR3  
6 unique J



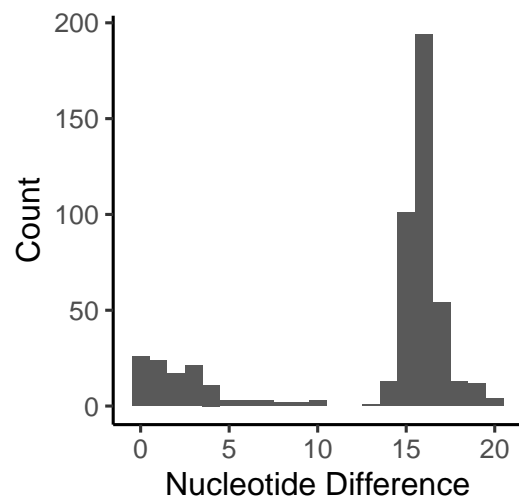
### IGHV1-24\*01

392 sequences assigned  
10 (2.6%) exact matches, in which:  
9 unique CDR3  
3 unique J



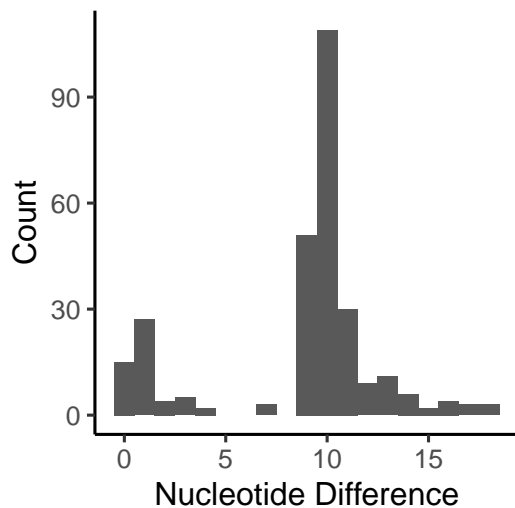
### IGHV1-58\*02

710 sequences assigned  
26 (3.7%) exact matches, in which:  
17 unique CDR3  
3 unique J



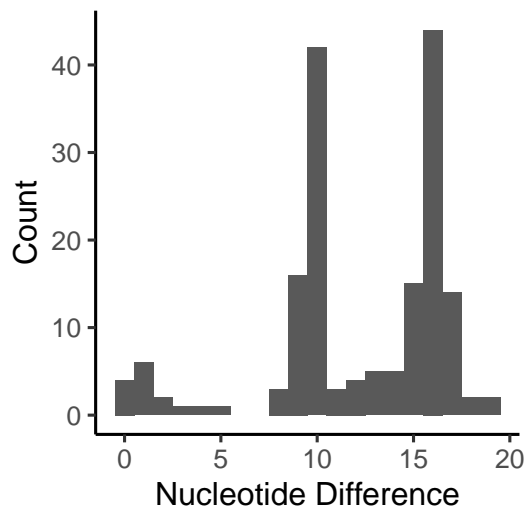
### IGHV1-58\*01\_03

285 sequences assigned  
15 (5.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



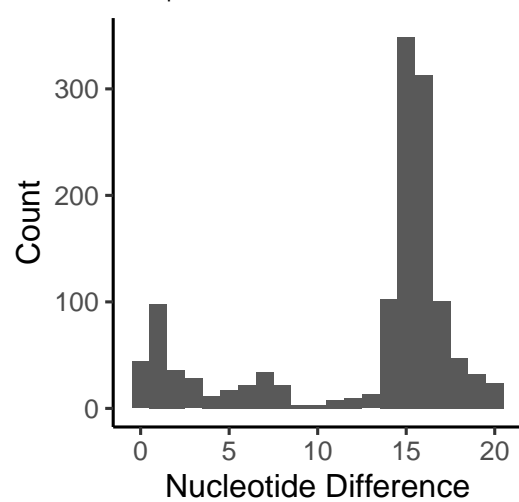
### IGHV1-69\*04\_09

178 sequences assigned  
4 (2.2%) exact matches, in which:  
4 unique CDR3  
2 unique J



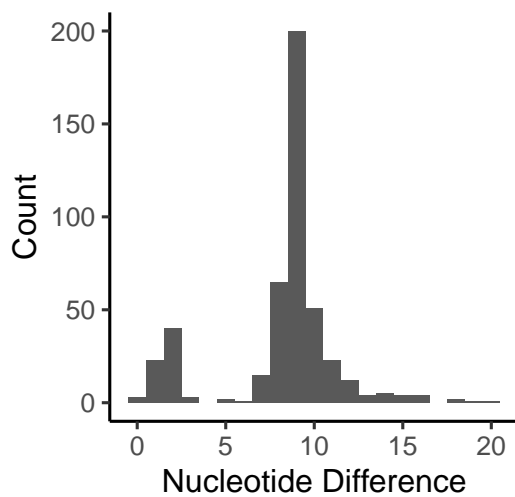
### IGHV2-5\*02

1706 sequences assigned  
44 (2.6%) exact matches, in which:  
25 unique CDR3  
5 unique J



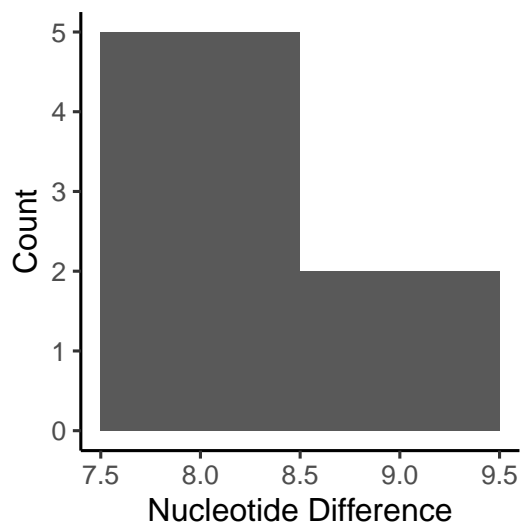
### IGHV1-69\*02

860 sequences assigned  
3 (0.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



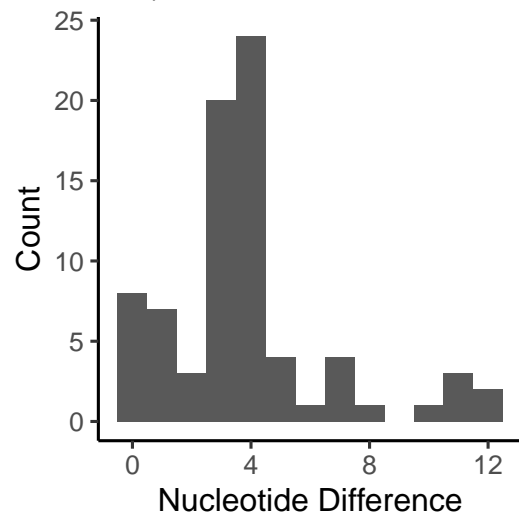
### IGHV1-NL1\*01

7 sequences assigned  
No exact matches.



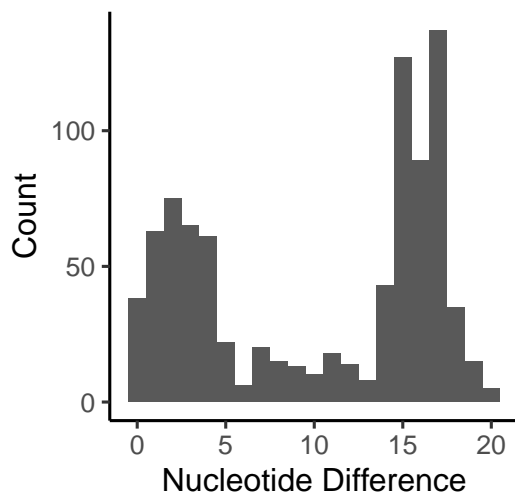
### IGHV2-26\*01

78 sequences assigned  
8 (10.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



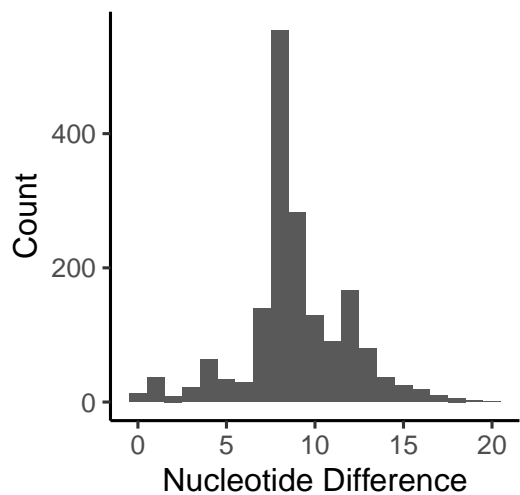
### IGHV1-69\*01\_12\_13

1102 sequences assigned  
38 (3.4%) exact matches, in which:  
33 unique CDR3  
5 unique J



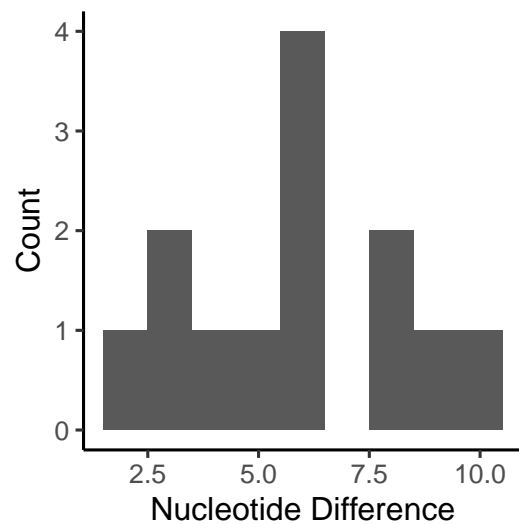
### IGHV2-5\*01

1946 sequences assigned  
13 (0.7%) exact matches, in which:  
9 unique CDR3  
2 unique J



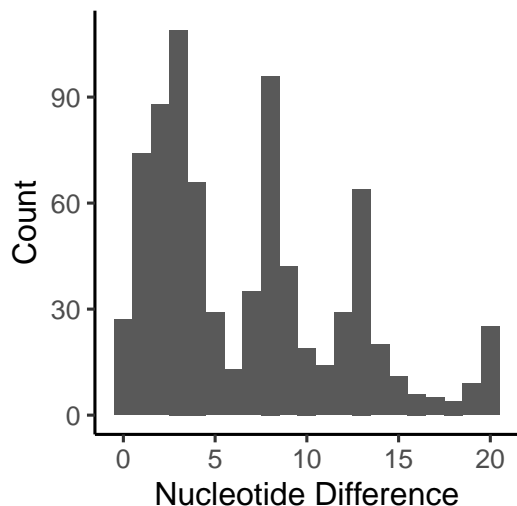
### IGHV2-70\*12

13 sequences assigned  
No exact matches.



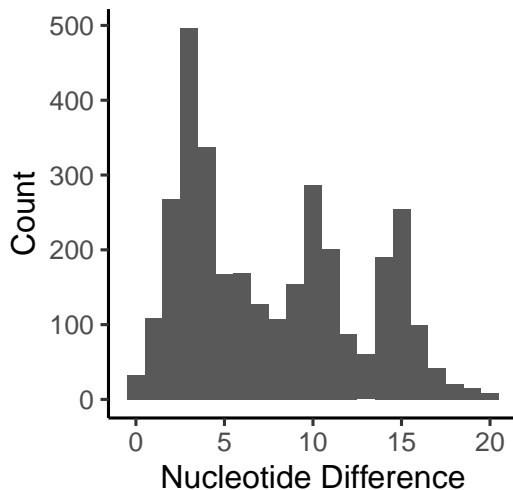
### IGHV2-70\*11\_15

800 sequences assigned  
27 (3.4%) exact matches, in which:  
16 unique CDR3  
3 unique J



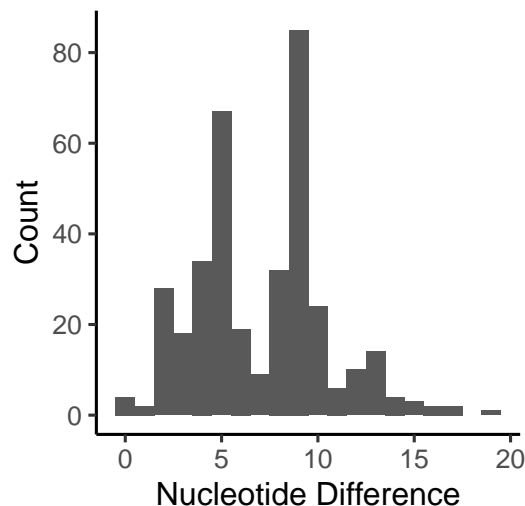
### IGHV3-9\*01

3290 sequences assigned  
33 (1%) exact matches, in which:  
20 unique CDR3  
5 unique J



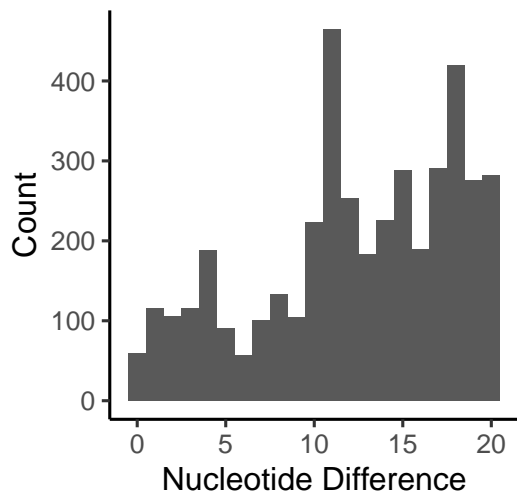
### IGHV3-13\*01

368 sequences assigned  
4 (1.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



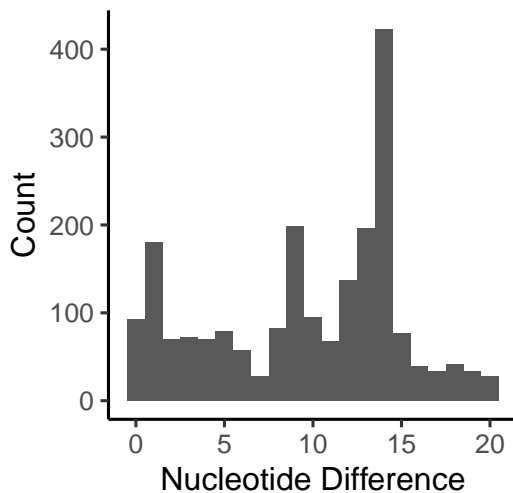
### IGHV3-7\*01

4752 sequences assigned  
59 (1.2%) exact matches, in which:  
37 unique CDR3  
6 unique J



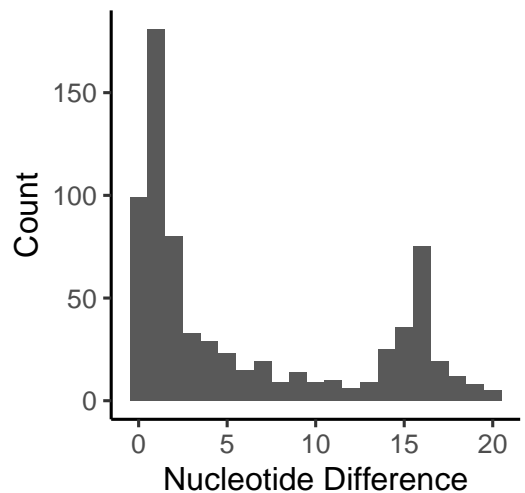
### IGHV3-11\*01

2432 sequences assigned  
93 (3.8%) exact matches, in which:  
51 unique CDR3  
6 unique J



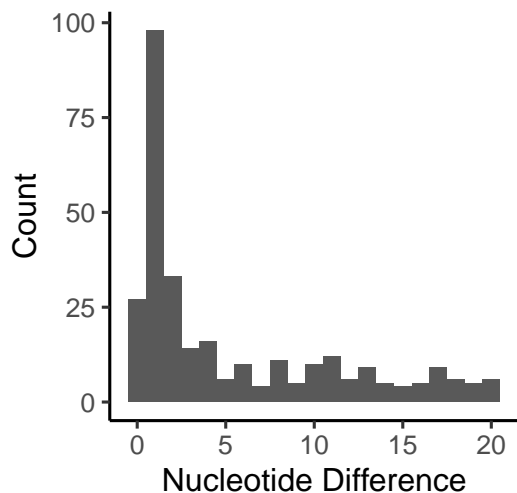
### IGHV3-15\*01\_02

851 sequences assigned  
99 (11.6%) exact matches, in which:  
56 unique CDR3  
6 unique J



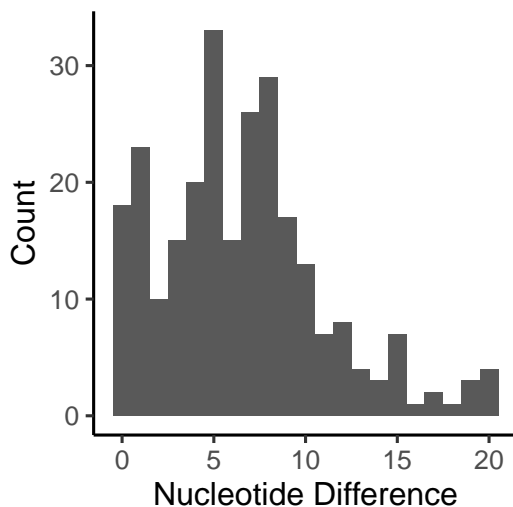
### IGHV3-7\*03

631 sequences assigned  
27 (4.3%) exact matches, in which:  
15 unique CDR3  
2 unique J



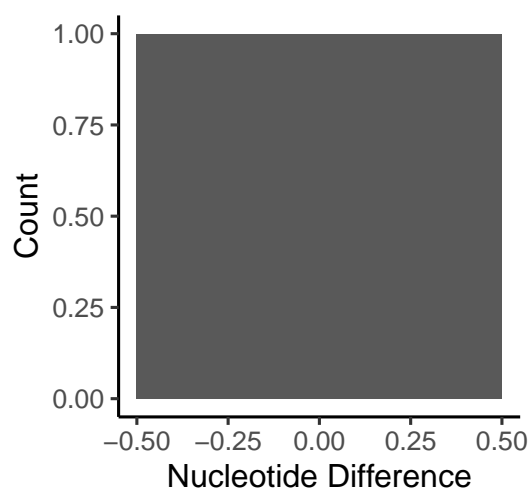
### IGHV3-11\*04

271 sequences assigned  
18 (6.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



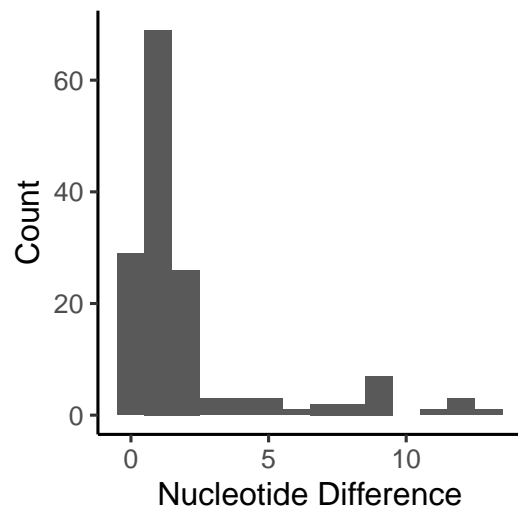
### IGHV3-19\*01

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



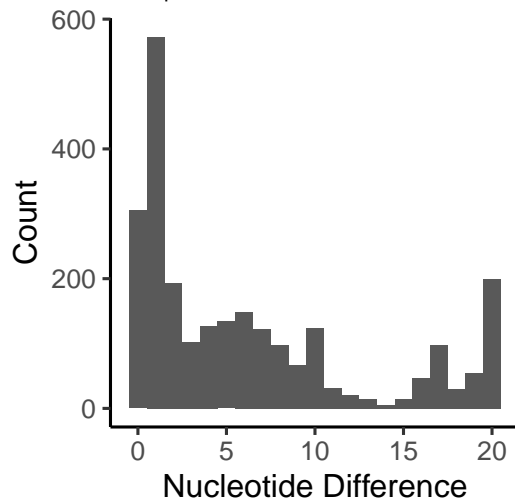
### IGHV3-20\*01\_02

150 sequences assigned  
29 (19.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



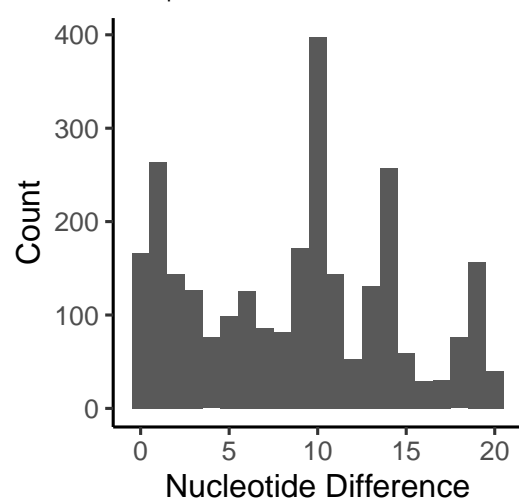
### IGHV3-21\*01\_02

3339 sequences assigned  
305 (9.1%) exact matches, in which:  
177 unique CDR3  
7 unique J



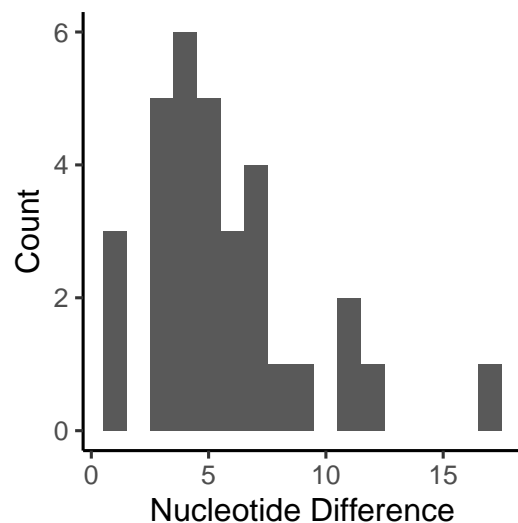
### IGHV3-30-3\*01

4225 sequences assigned  
166 (3.9%) exact matches, in which:  
100 unique CDR3  
6 unique J



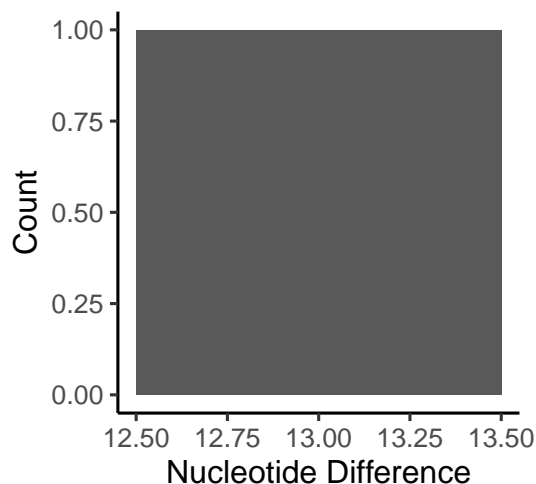
### IGHV3-20\*03\_04

33 sequences assigned  
No exact matches.



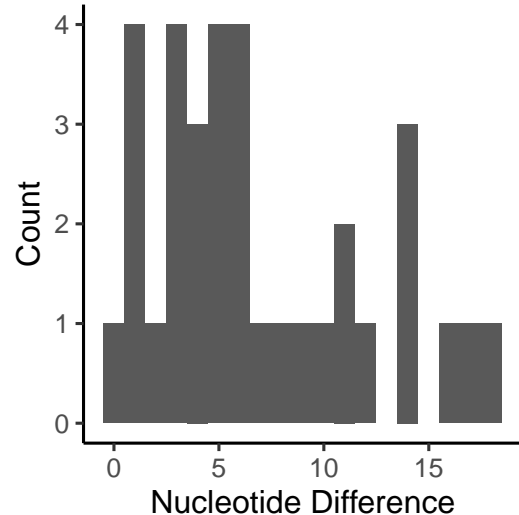
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



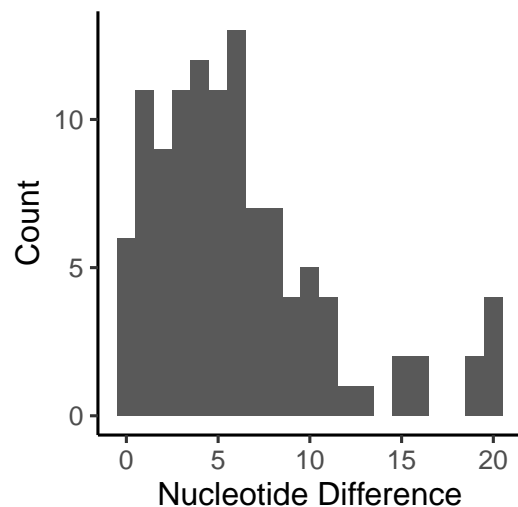
### IGHV3-30-3\*02

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



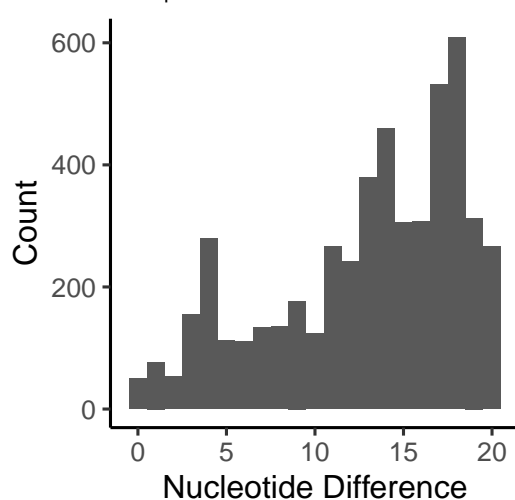
### IGHV3-21\*04

492 sequences assigned  
6 (1.2%) exact matches, in which:  
6 unique CDR3  
5 unique J



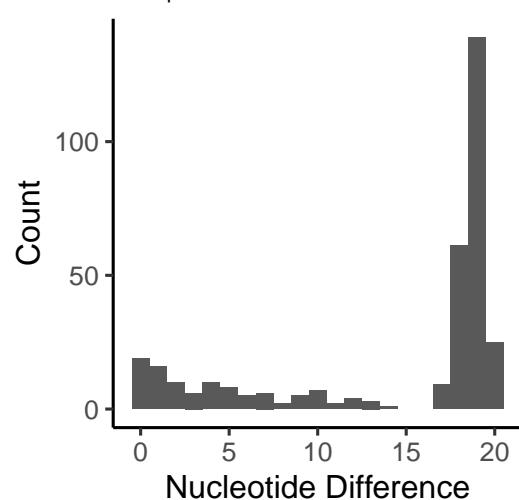
### IGHV3-23\*01\_04

6886 sequences assigned  
50 (0.7%) exact matches, in which:  
33 unique CDR3  
6 unique J



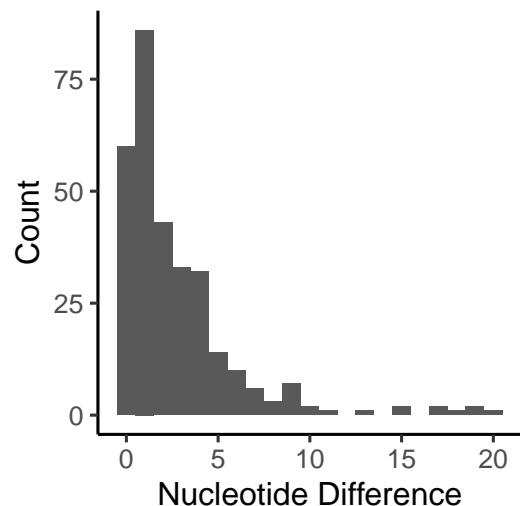
### IGHV3-30\*03

402 sequences assigned  
19 (4.7%) exact matches, in which:  
16 unique CDR3  
5 unique J



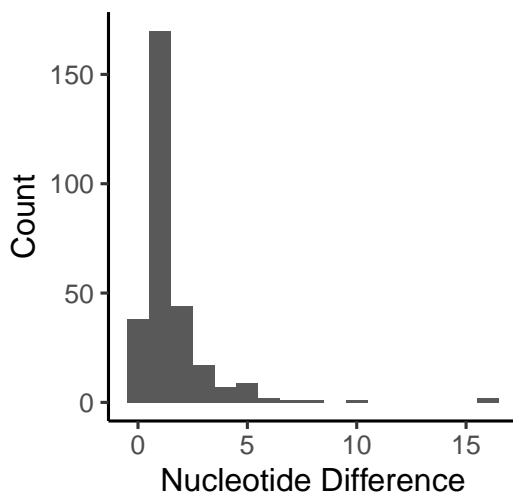
### IGHV3–33\*01

320 sequences assigned  
60 (18.8%) exact matches, in which:  
38 unique CDR3  
6 unique J



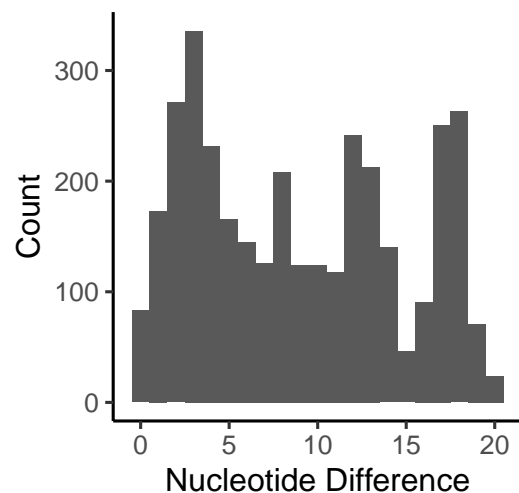
### IGHV3–43\*01

293 sequences assigned  
38 (13%) exact matches, in which:  
20 unique CDR3  
1 unique J



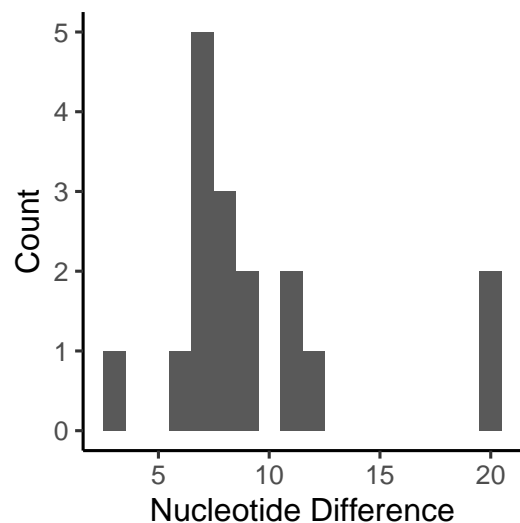
### IGHV3–48\*02

3974 sequences assigned  
83 (2.1%) exact matches, in which:  
44 unique CDR3  
5 unique J



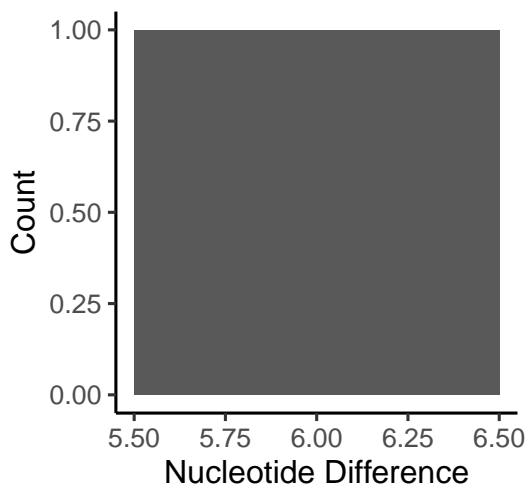
### IGHV3–33\*05

105 sequences assigned  
No exact matches.



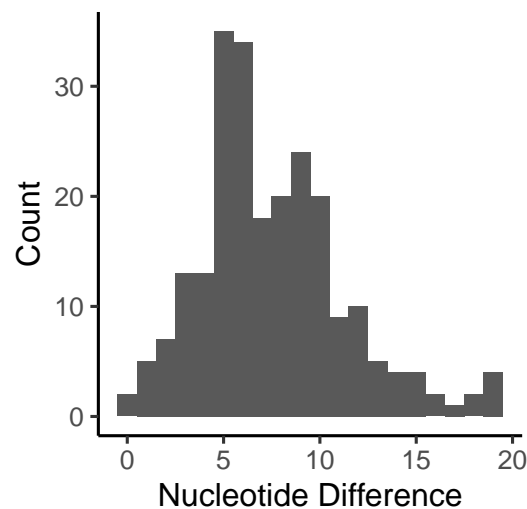
### IGHV3–43\*02

2 sequences assigned  
No exact matches.



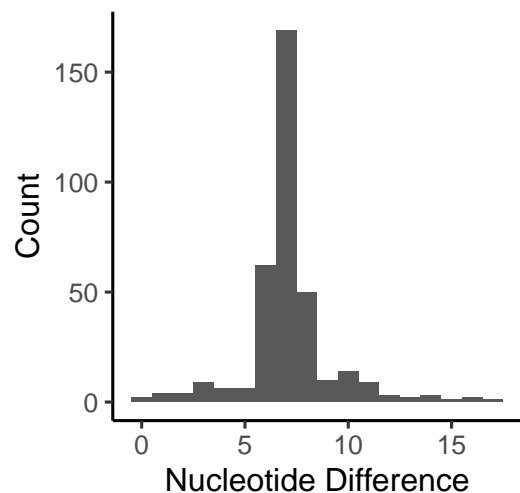
### IGHV3–48\*04

241 sequences assigned  
2 (0.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



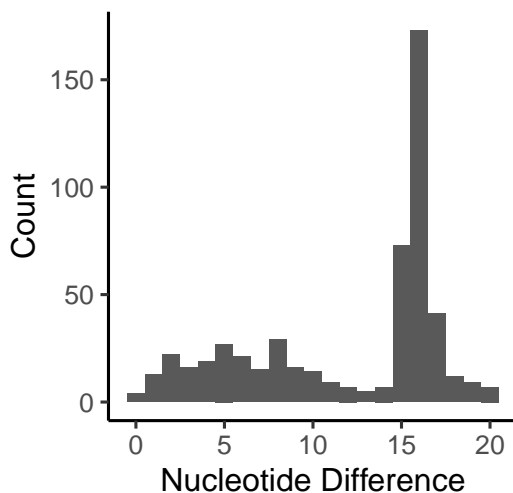
### IGHV3–33\*06

359 sequences assigned  
2 (0.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



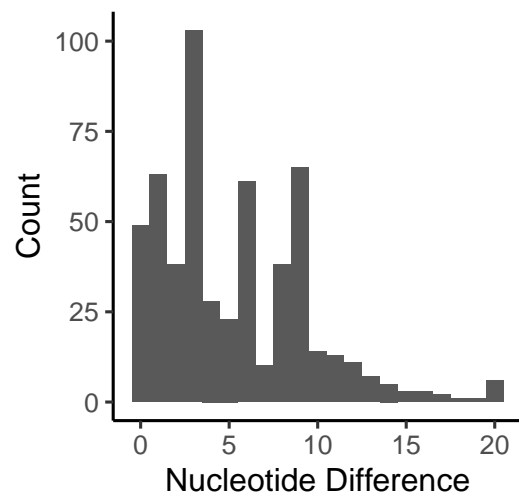
### IGHV3–48\*01

902 sequences assigned  
4 (0.4%) exact matches, in which:  
4 unique CDR3  
2 unique J



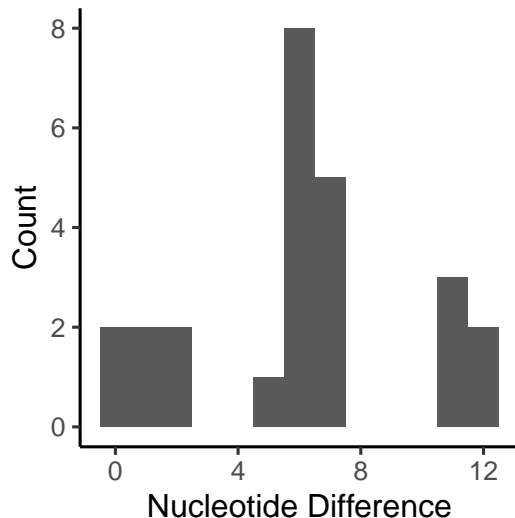
### IGHV3–49\*04

551 sequences assigned  
49 (8.9%) exact matches, in which:  
26 unique CDR3  
4 unique J



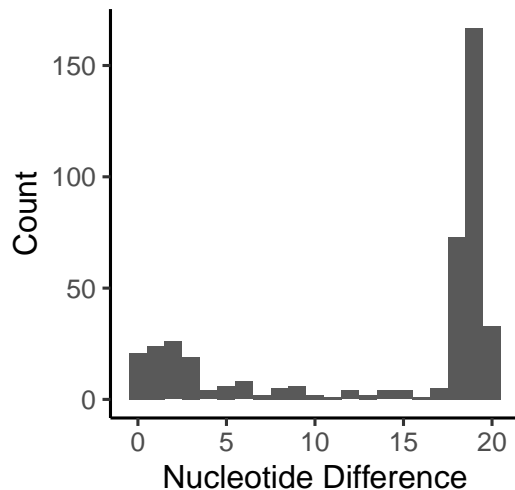
### IGHV3-49\*03\_05

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



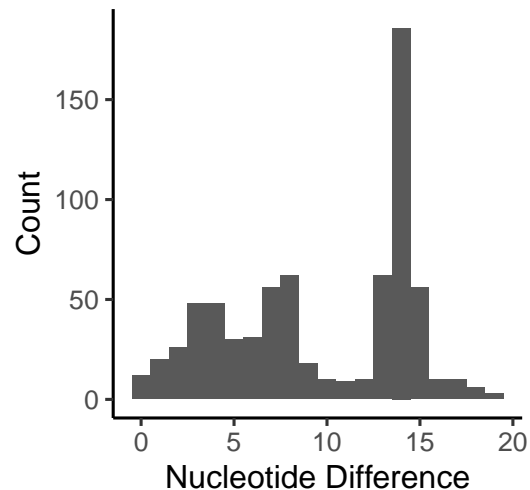
### IGHV3-53\*01\_02

455 sequences assigned  
21 (4.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



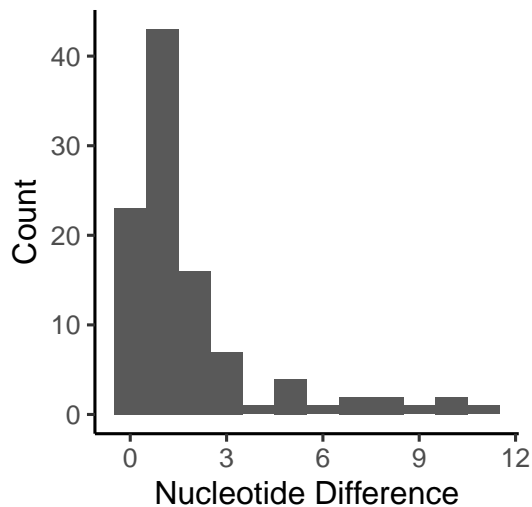
### IGHV3-66\*01

1750 sequences assigned  
12 (0.7%) exact matches, in which:  
8 unique CDR3  
3 unique J



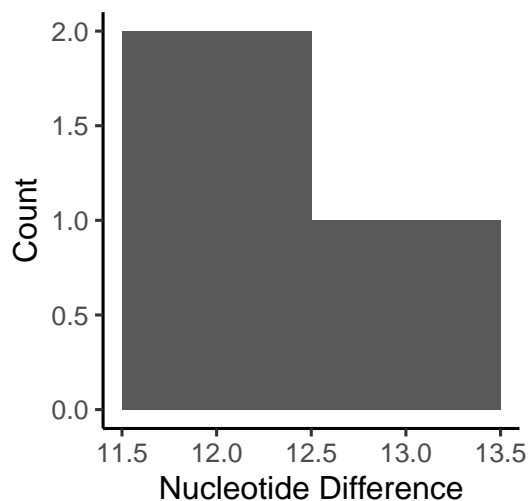
### IGHV3-53\*04

103 sequences assigned  
23 (22.3%) exact matches, in which:  
16 unique CDR3  
3 unique J



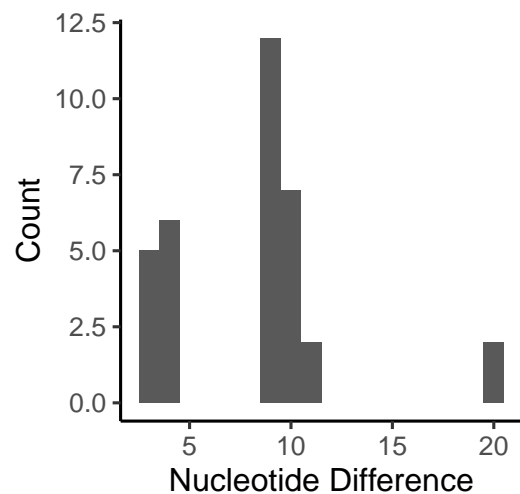
### IGHV3-62\*04

3 sequences assigned  
No exact matches.



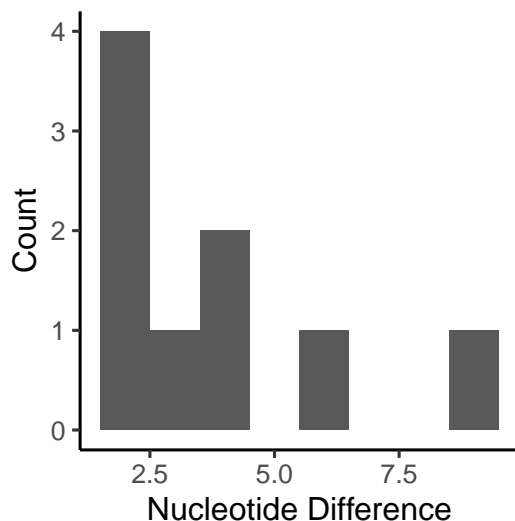
### IGHV3-69-1\*01

35 sequences assigned  
No exact matches.



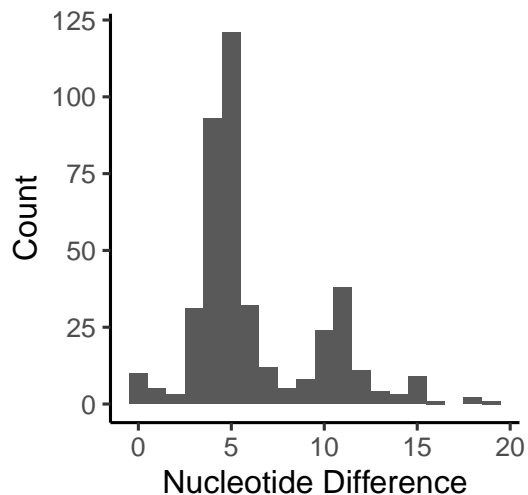
### IGHV3-53\*05

11 sequences assigned  
No exact matches.



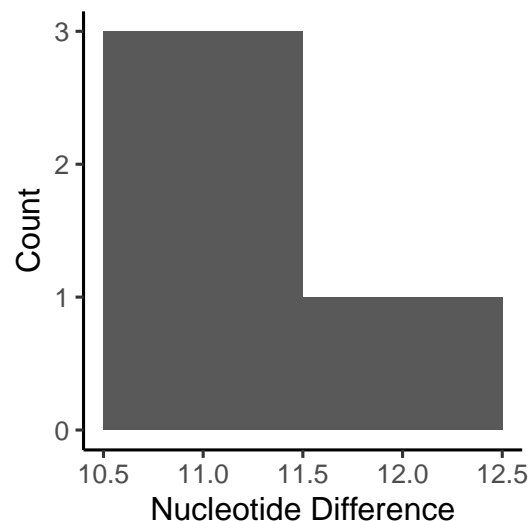
### IGHV3-64\*01

413 sequences assigned  
10 (2.4%) exact matches, in which:  
5 unique CDR3  
2 unique J



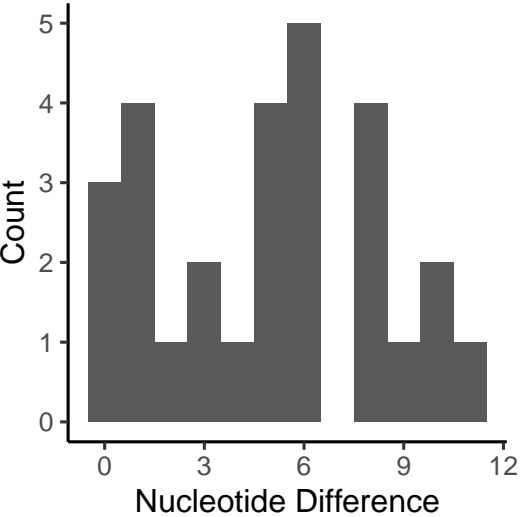
### IGHV3-71\*03

4 sequences assigned  
No exact matches.



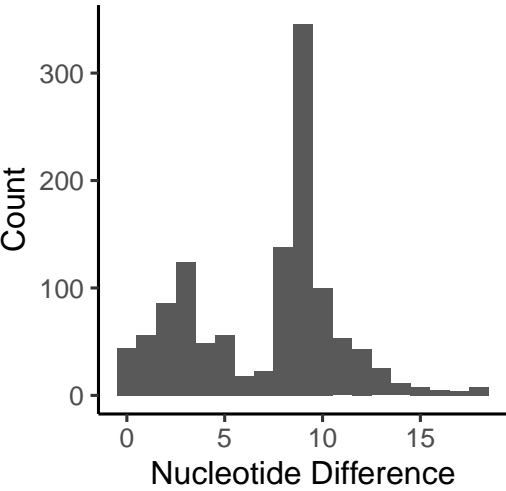
IGHV3-72\*01

94 sequences assigned  
3 (3.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



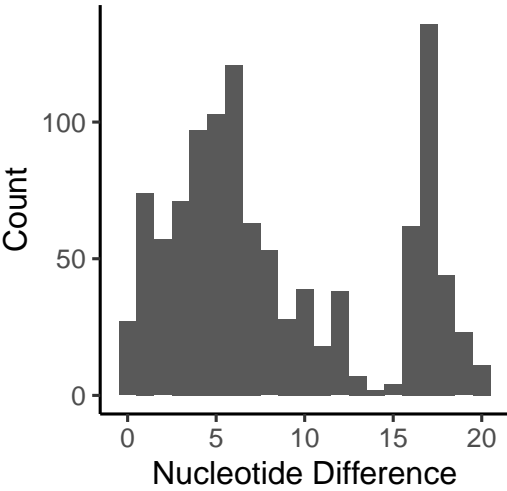
IGHV3-74\*01\_02

1214 sequences assigned  
44 (3.6%) exact matches, in which:  
27 unique CDR3  
5 unique J



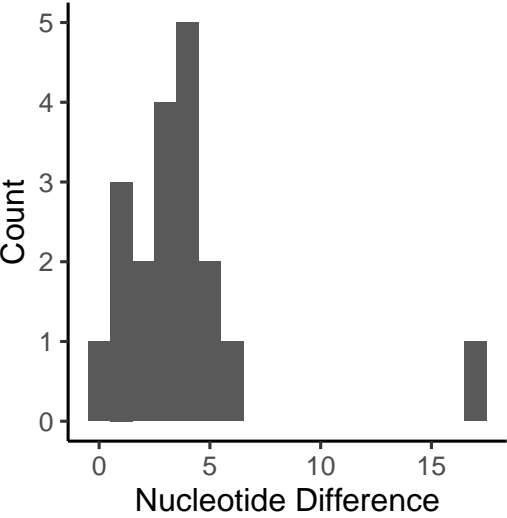
IGHV4-4\*07

1142 sequences assigned  
27 (2.4%) exact matches, in which:  
22 unique CDR3  
3 unique J



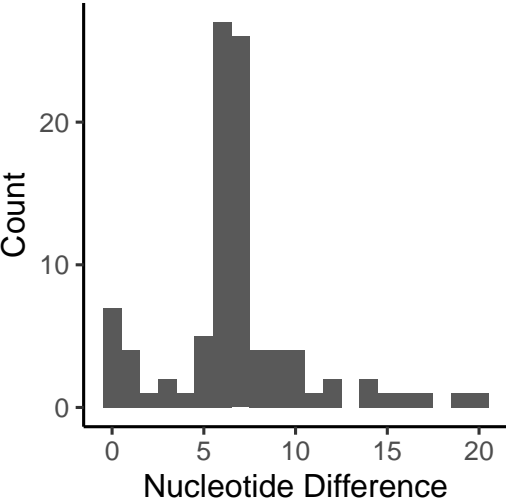
IGHV3-73\*01\_02

146 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



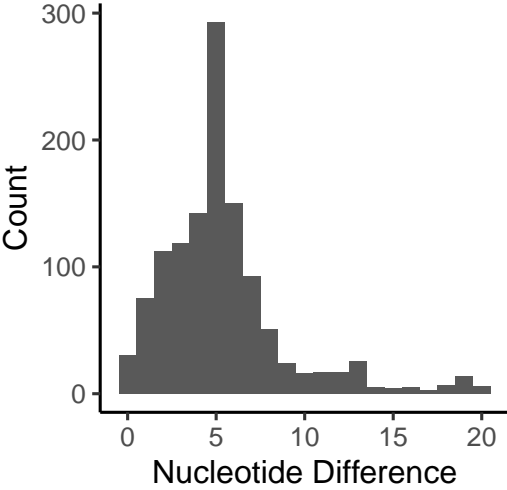
IGHV3-43D\*03

196 sequences assigned  
7 (3.6%) exact matches, in which:  
5 unique CDR3  
2 unique J



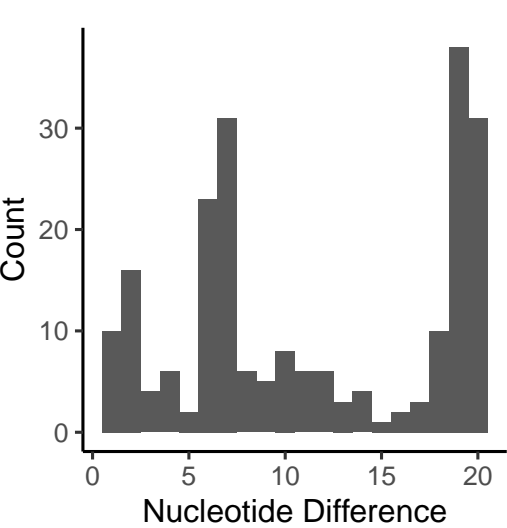
IGHV4-4\*02\_03

1270 sequences assigned  
30 (2.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



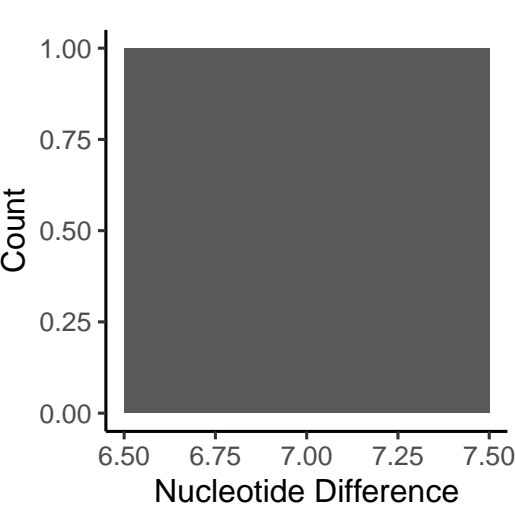
IGHV3-74\*03

1152 sequences assigned  
No exact matches.



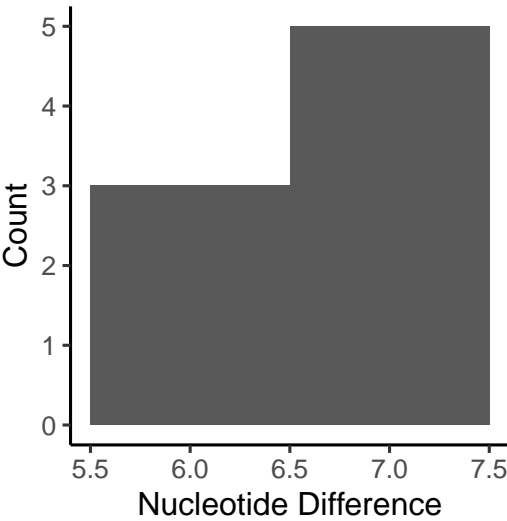
IGHV3-NL1\*01

2 sequences assigned  
No exact matches.



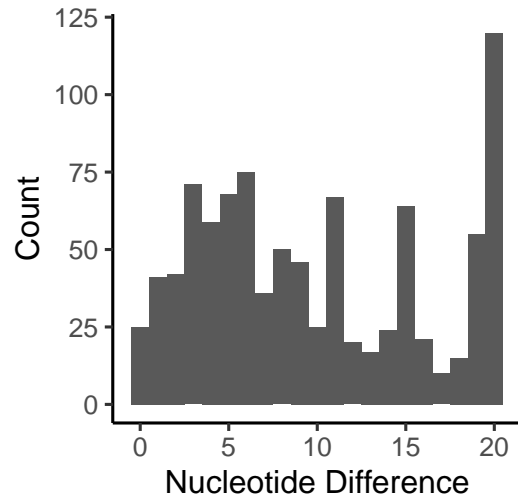
IGHV4-28\*03

8 sequences assigned  
No exact matches.



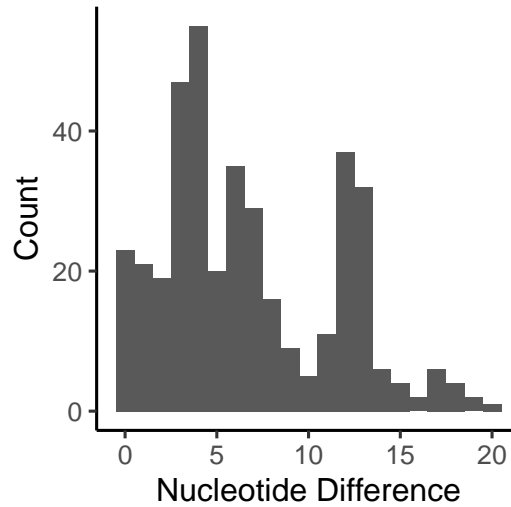
### IGHV4-30-4\*01

1237 sequences assigned  
25 (2%) exact matches, in which:  
19 unique CDR3  
5 unique J



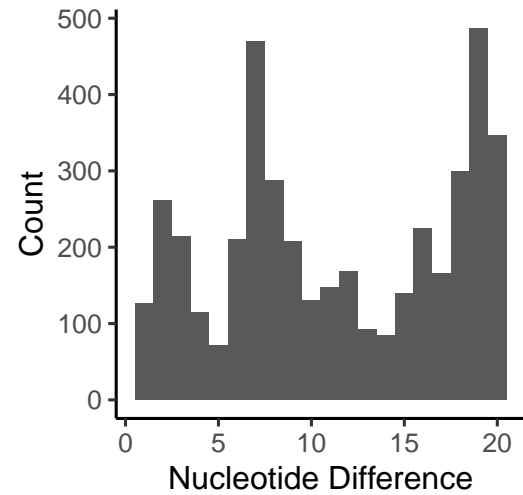
### IGHV4-31\*02

416 sequences assigned  
23 (5.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



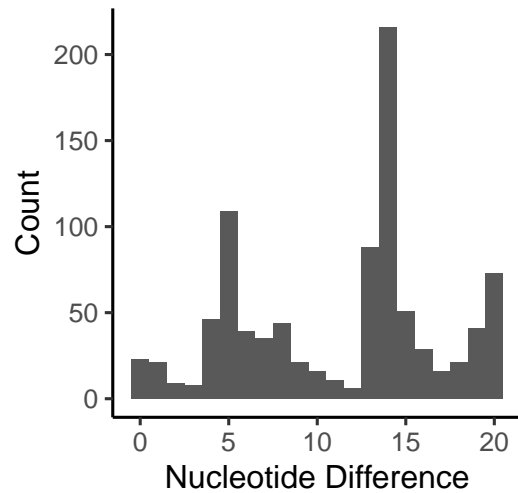
### IGHV4-39\*02

5209 sequences assigned  
No exact matches.



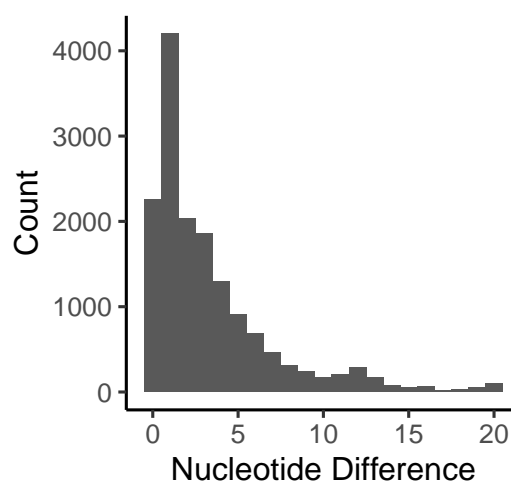
### IGHV4-30-2\*01

1130 sequences assigned  
23 (2%) exact matches, in which:  
17 unique CDR3  
3 unique J



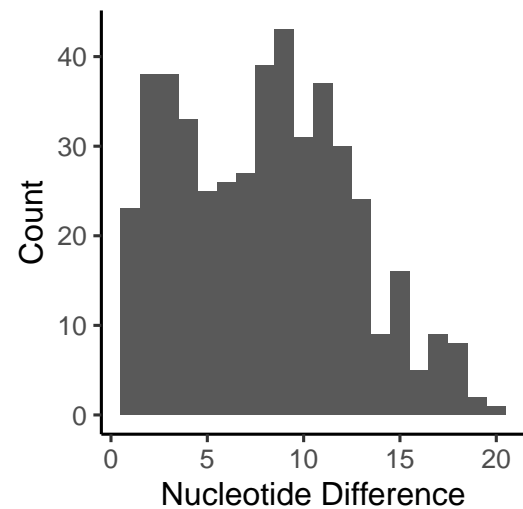
### IGHV4-34\*01\_02

15862 sequences assigned  
2261 (14.3%) exact matches, in which:  
1395 unique CDR3  
7 unique J



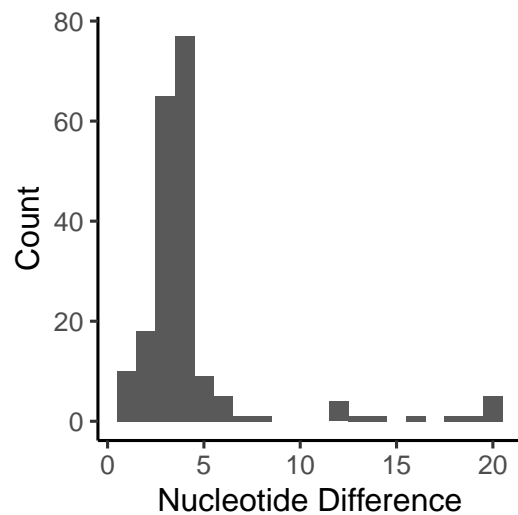
### IGHV4-39\*07

478 sequences assigned  
No exact matches.



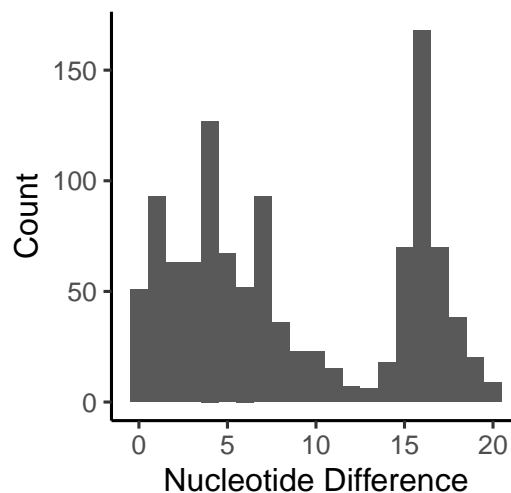
### IGHV4-30-2\*03

201 sequences assigned  
No exact matches.



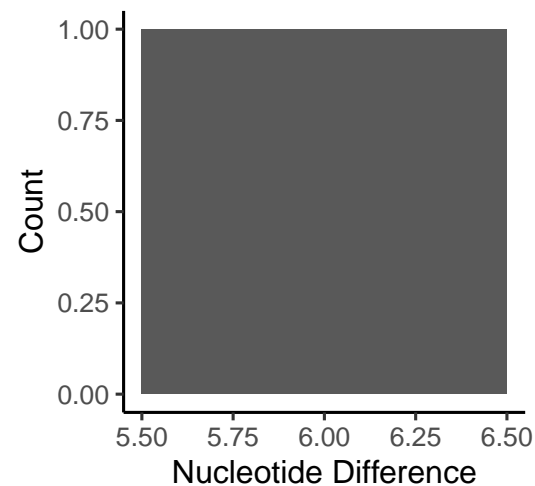
### IGHV4-38-2\*02

2503 sequences assigned  
51 (2%) exact matches, in which:  
35 unique CDR3  
4 unique J



### IGHV4-55\*09

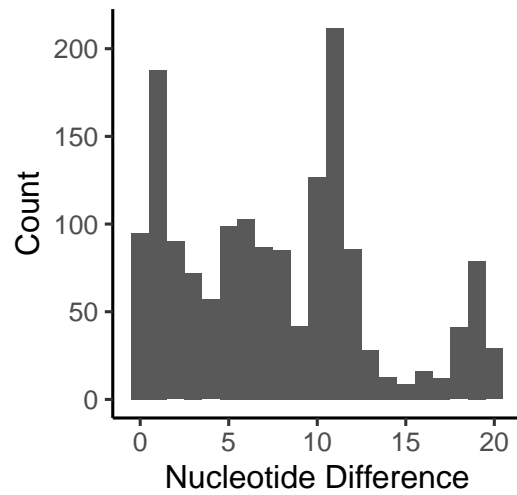
1 sequences assigned  
No exact matches.





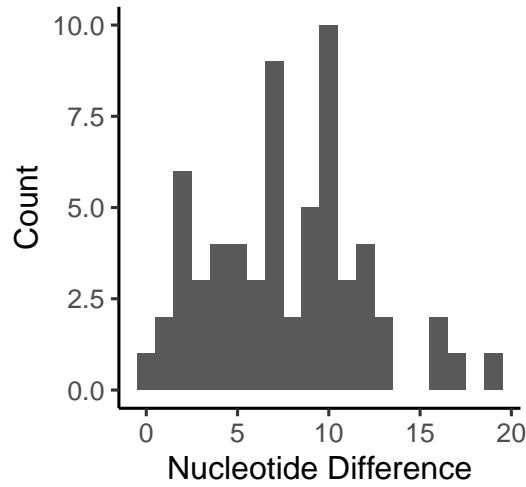
### IGHV4–59\*08

1832 sequences assigned  
95 (5.2%) exact matches, in which:  
72 unique CDR3  
5 unique J



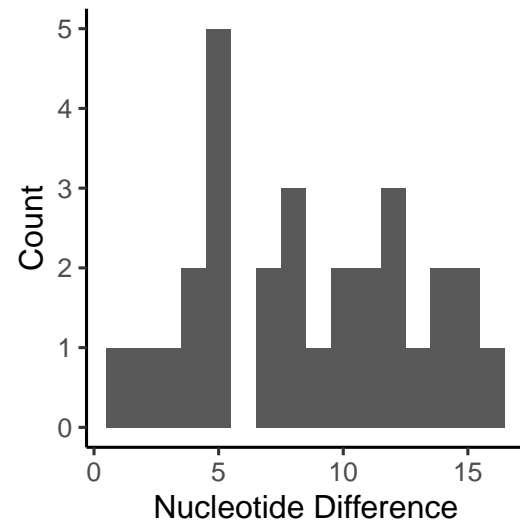
### IGHV4–61\*01

188 sequences assigned  
1 (0.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



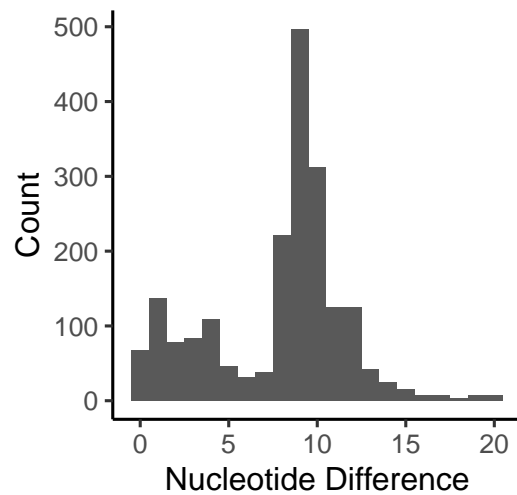
### IGHV4–61\*08

38 sequences assigned  
No exact matches.



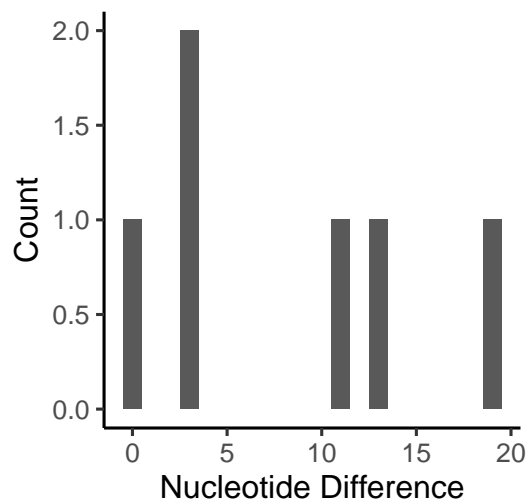
### IGHV4–59\*01\_07

2586 sequences assigned  
67 (2.6%) exact matches, in which:  
49 unique CDR3  
7 unique J



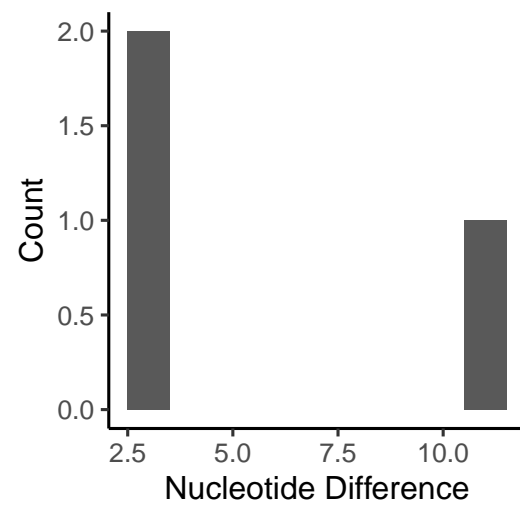
### IGHV4–61\*02

10 sequences assigned  
1 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



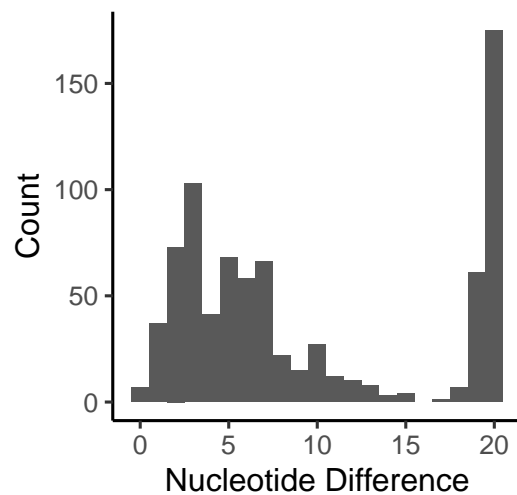
### IGHV4/OR15–8\*01

3 sequences assigned  
No exact matches.



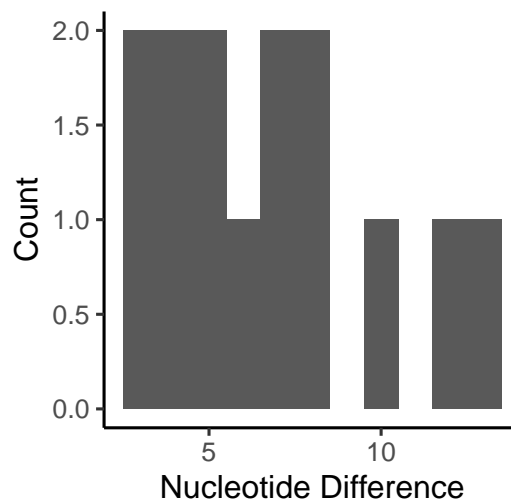
### IGHV4–59\*12

1020 sequences assigned  
7 (0.7%) exact matches, in which:  
6 unique CDR3  
4 unique J



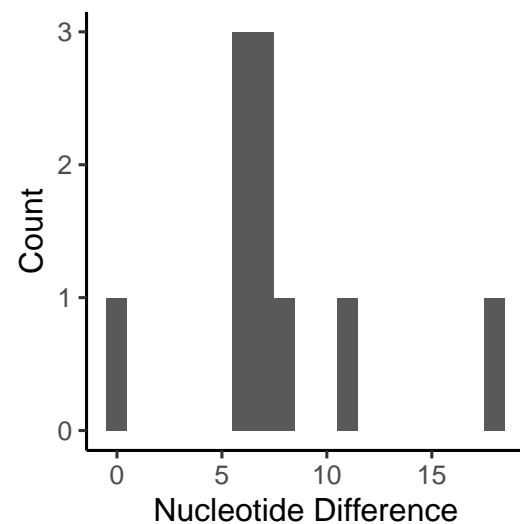
### IGHV4–61\*05

14 sequences assigned  
No exact matches.



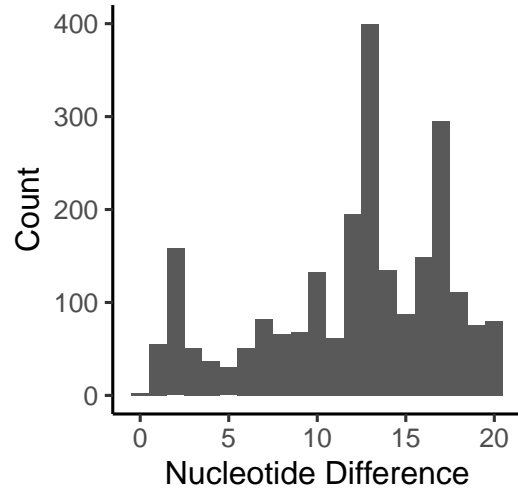
### IGHV5–10–1\*01\_03

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



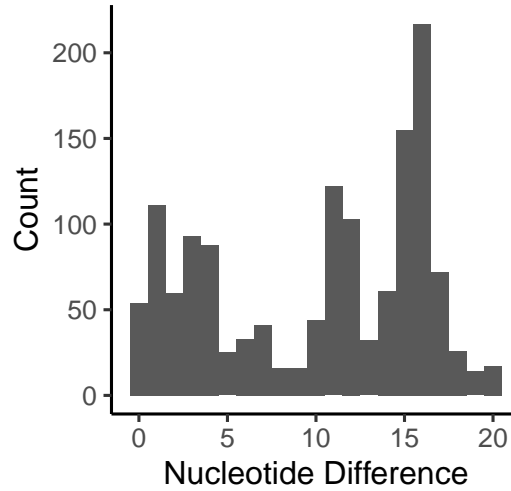
## IGHV5-51\*07

2416 sequences assigned  
3 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



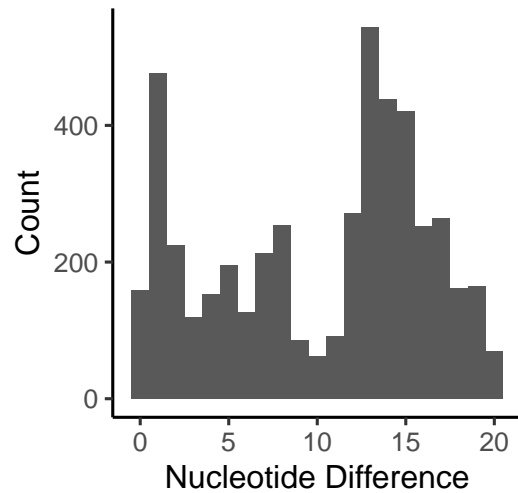
## IGHV7-4-1\*02

1581 sequences assigned  
54 (3.4%) exact matches, in which:  
36 unique CDR3  
4 unique J



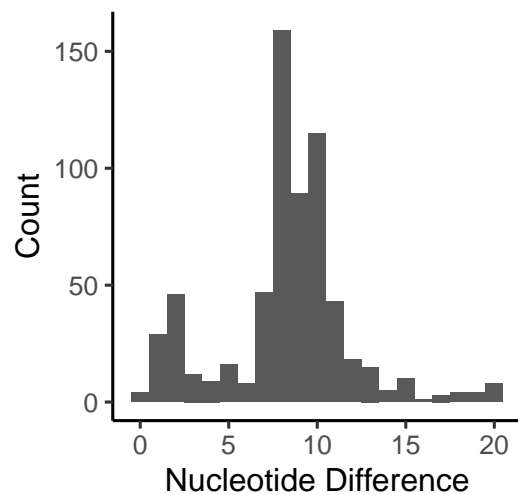
## IGHV5-51\*01\_03

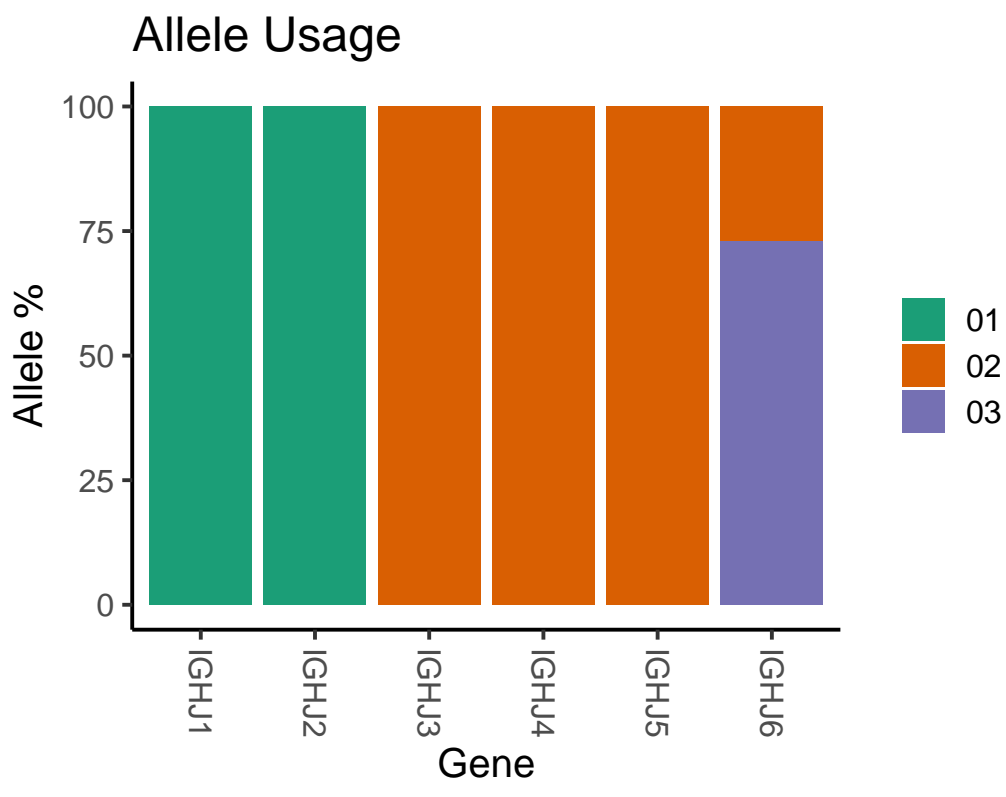
5569 sequences assigned  
159 (2.9%) exact matches, in which:  
76 unique CDR3  
5 unique J



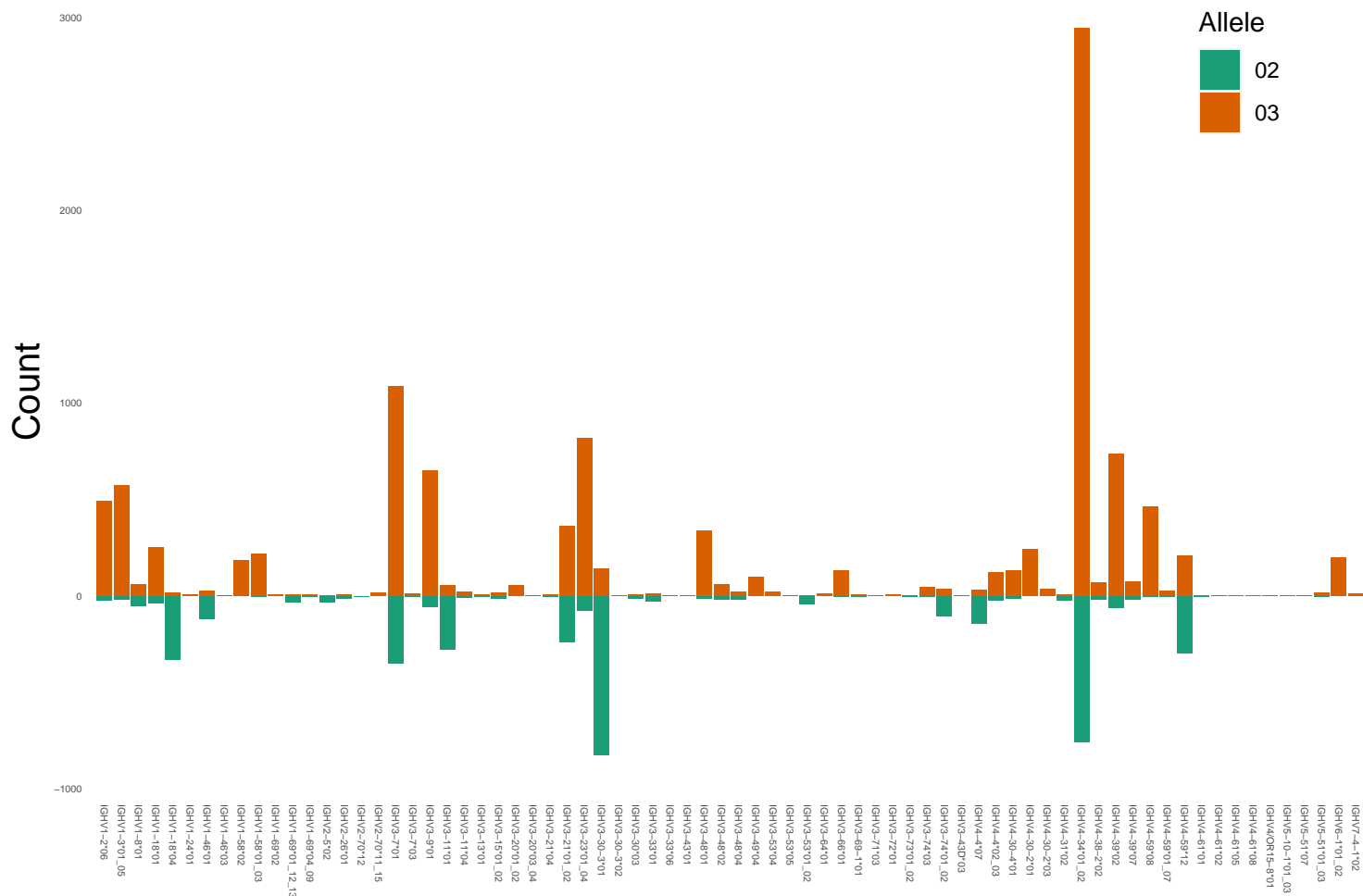
## IGHV6-1\*01\_02

845 sequences assigned  
4 (0.5%) exact matches, in which:  
3 unique CDR3  
2 unique J





### Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.