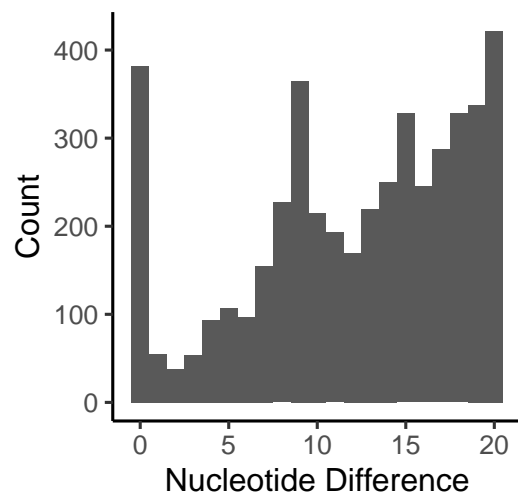


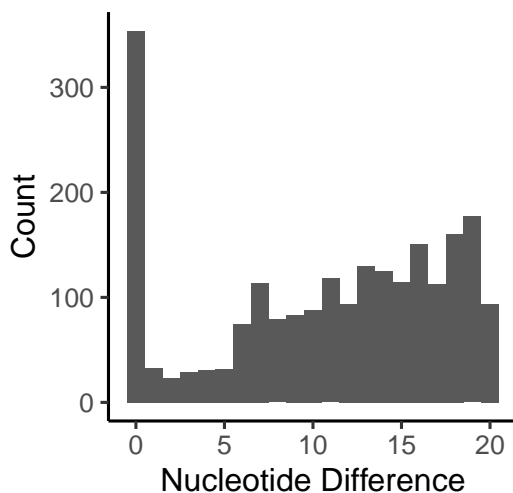
### IGHV1-2\*02

6889 sequences assigned  
382 (5.5%) exact matches, in which:  
353 unique CDR3  
6 unique J



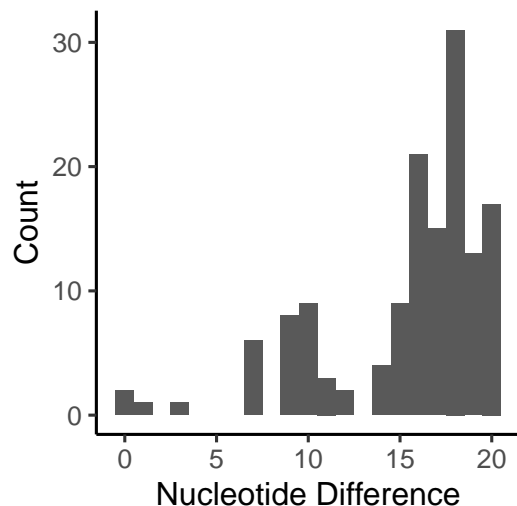
### IGHV1-8\*01

3326 sequences assigned  
354 (10.6%) exact matches, in which:  
332 unique CDR3  
7 unique J



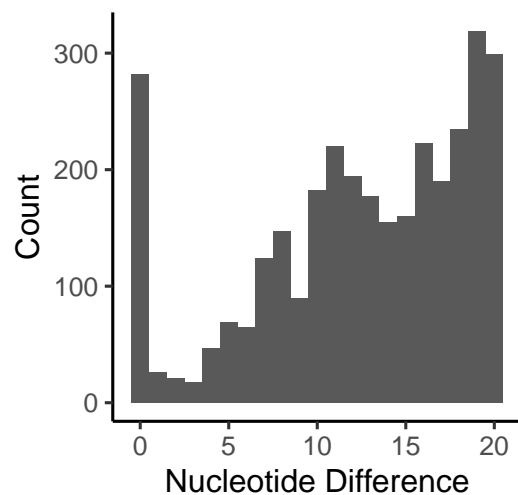
### IGHV1-45\*02

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



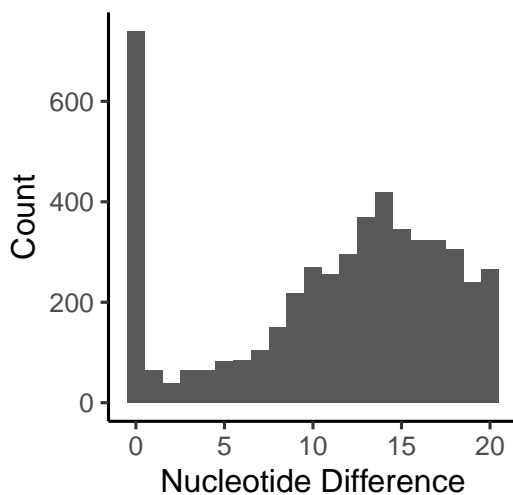
### IGHV1-2\*06

5372 sequences assigned  
282 (5.2%) exact matches, in which:  
267 unique CDR3  
6 unique J



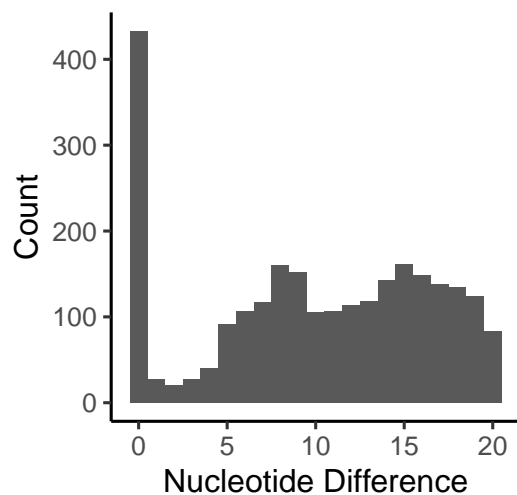
### IGHV1-18\*01

7570 sequences assigned  
740 (9.8%) exact matches, in which:  
690 unique CDR3  
6 unique J



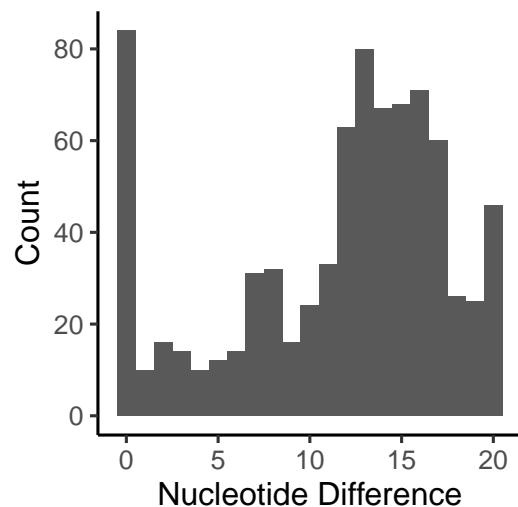
### IGHV1-46\*03

3883 sequences assigned  
433 (11.2%) exact matches, in which:  
396 unique CDR3  
6 unique J



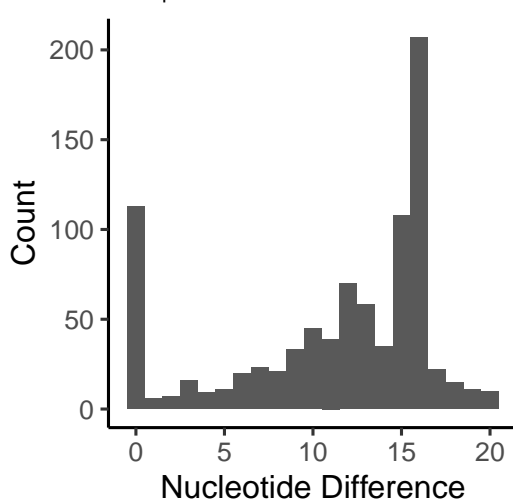
### IGHV1-3\*01

1257 sequences assigned  
84 (6.7%) exact matches, in which:  
81 unique CDR3  
6 unique J



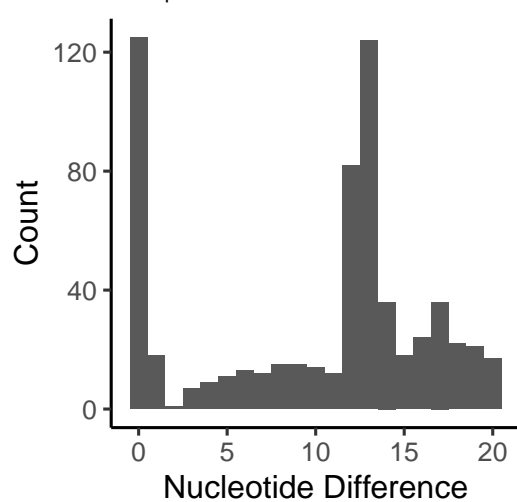
### IGHV1-24\*01

983 sequences assigned  
113 (11.5%) exact matches, in which:  
109 unique CDR3  
6 unique J



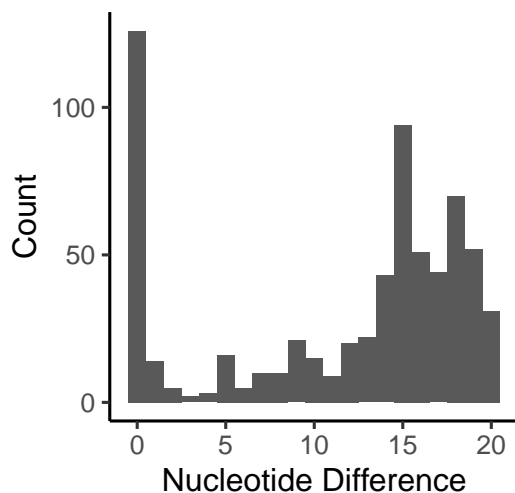
### IGHV1-58\*02

717 sequences assigned  
125 (17.4%) exact matches, in which:  
110 unique CDR3  
5 unique J



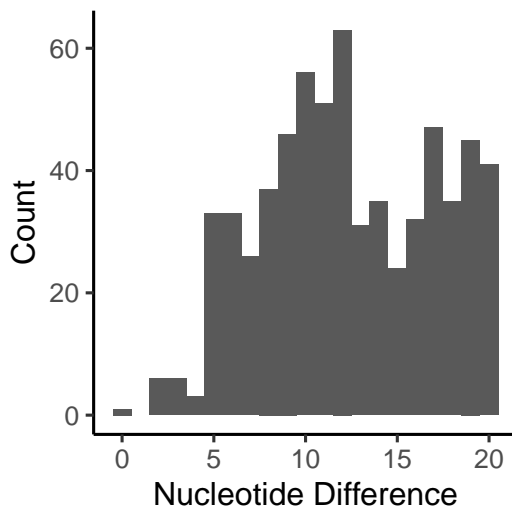
### IGHV1-69\*02

2214 sequences assigned  
126 (5.7%) exact matches, in which:  
122 unique CDR3  
5 unique J



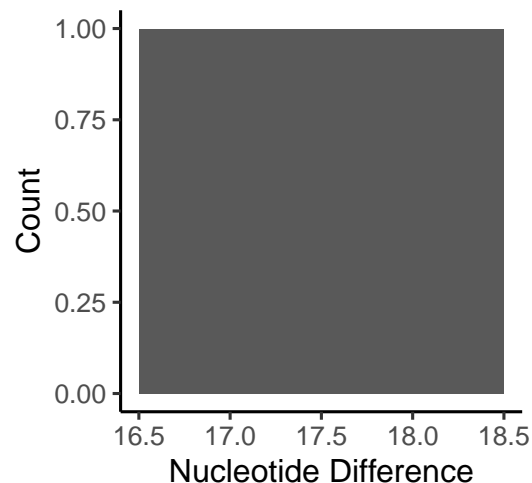
### IGHV2-5\*02

832 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



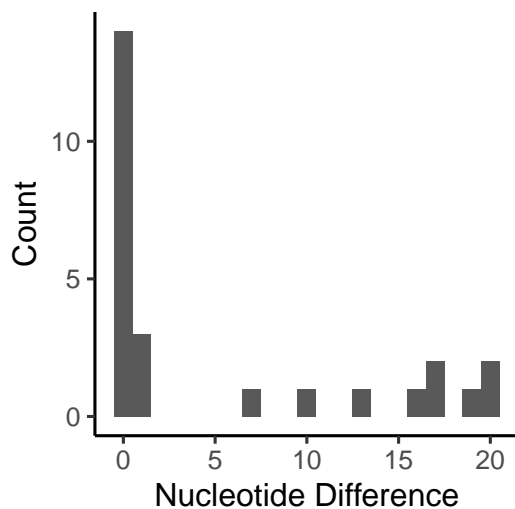
### IGHV2-70D\*04

5 sequences assigned  
No exact matches.



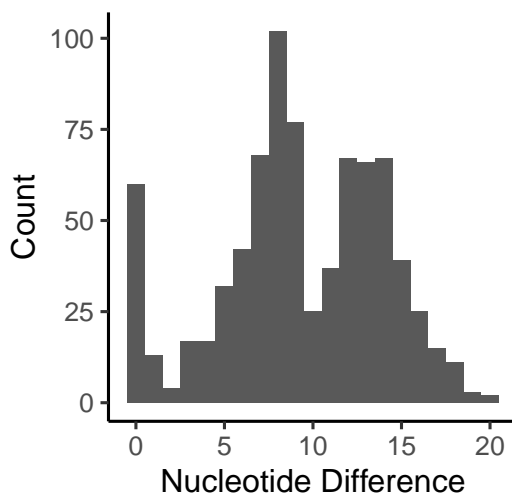
### IGHV1-69D\*01

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



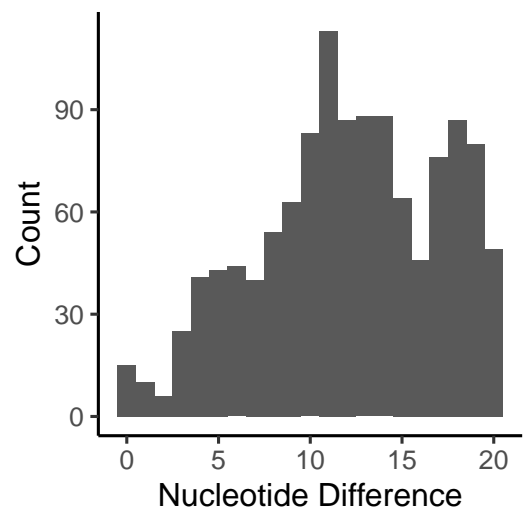
### IGHV2-26\*01

806 sequences assigned  
60 (7.4%) exact matches, in which:  
57 unique CDR3  
5 unique J



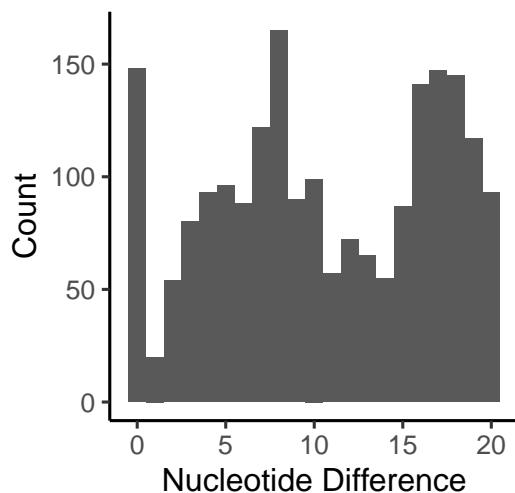
### IGHV3-7\*01

1525 sequences assigned  
15 (1%) exact matches, in which:  
12 unique CDR3  
3 unique J



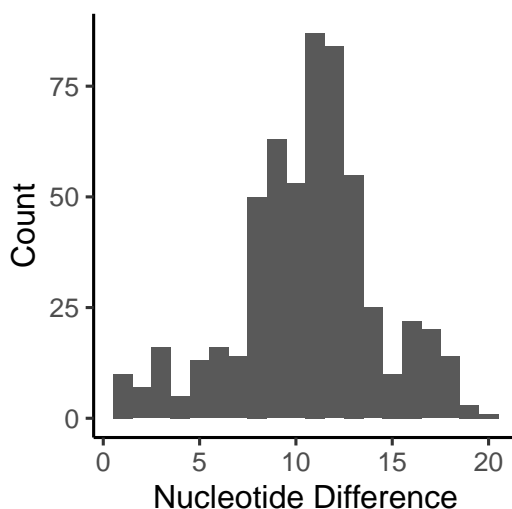
### IGHV2-5\*01

2334 sequences assigned  
148 (6.3%) exact matches, in which:  
127 unique CDR3  
5 unique J



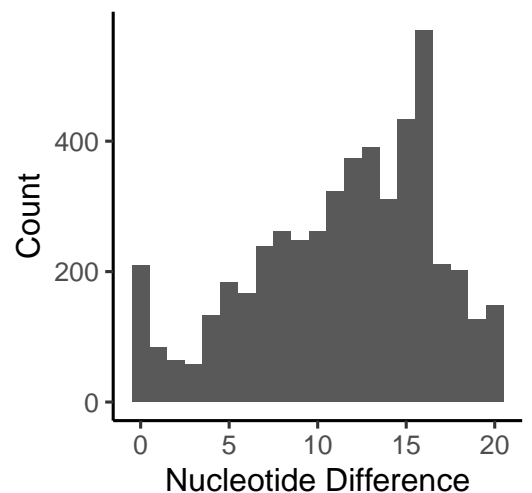
### IGHV2-70\*17

594 sequences assigned  
No exact matches.



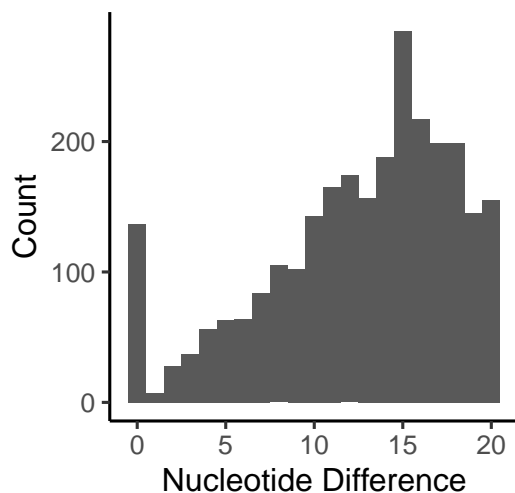
### IGHV3-9\*01

6125 sequences assigned  
210 (3.4%) exact matches, in which:  
181 unique CDR3  
6 unique J



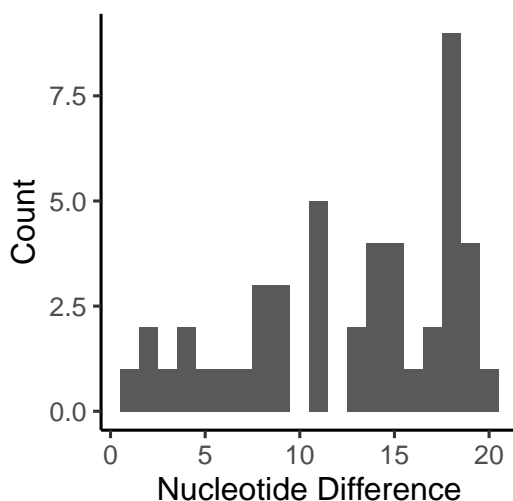
### IGHV3-11\*01

3798 sequences assigned  
137 (3.6%) exact matches, in which:  
124 unique CDR3  
6 unique J



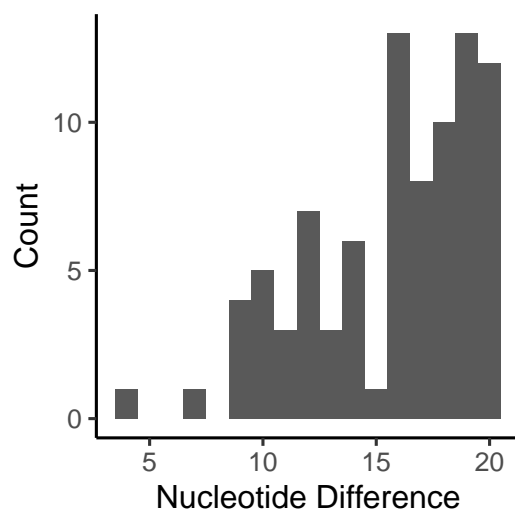
### IGHV3-20\*01

65 sequences assigned  
No exact matches.



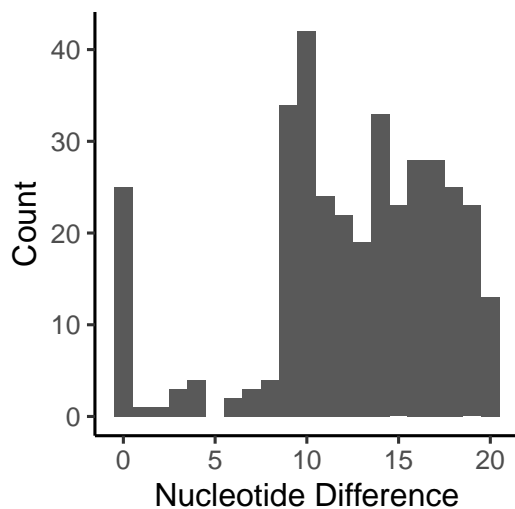
### IGHV3-30-5\*01

257 sequences assigned  
No exact matches.



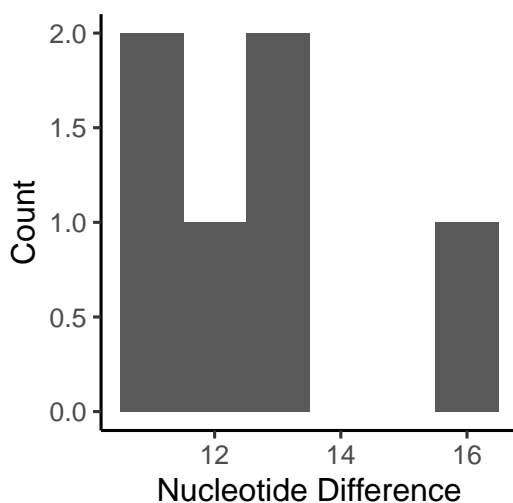
### IGHV3-13\*01

469 sequences assigned  
25 (5.3%) exact matches, in which:  
24 unique CDR3  
5 unique J



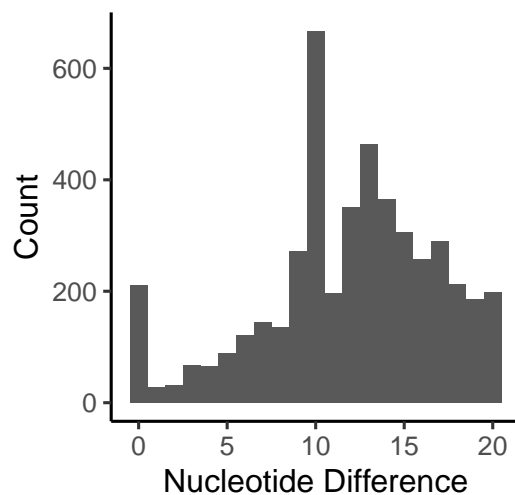
### IGHV3-20\*04

8 sequences assigned  
No exact matches.



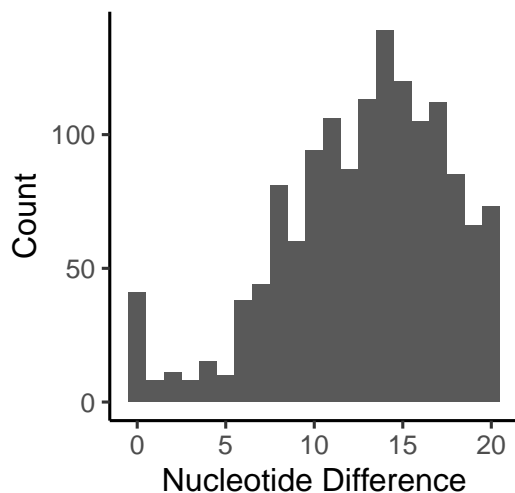
### IGHV3-33\*01

5868 sequences assigned  
211 (3.6%) exact matches, in which:  
190 unique CDR3  
6 unique J



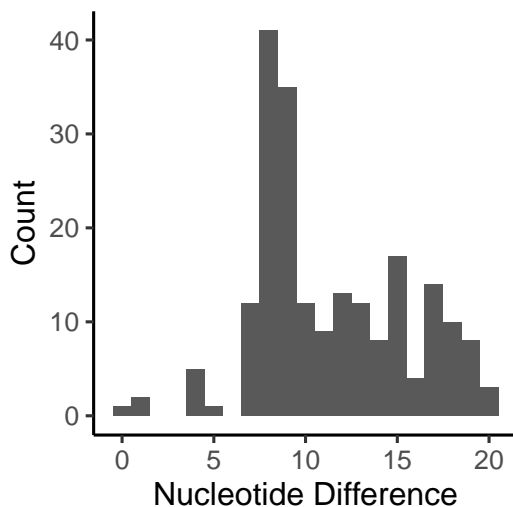
### IGHV3-15\*01

1918 sequences assigned  
41 (2.1%) exact matches, in which:  
36 unique CDR3  
4 unique J



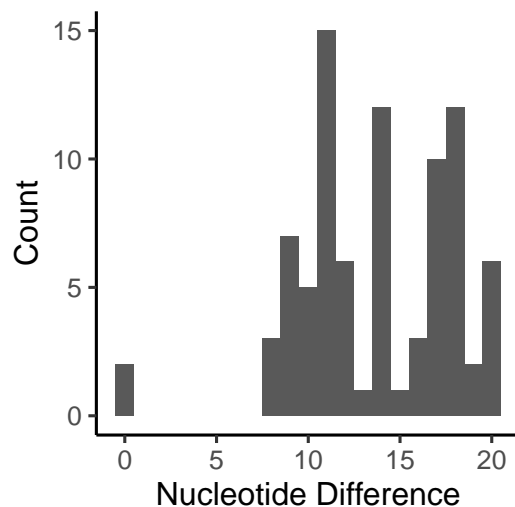
### IGHV3-21\*06

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



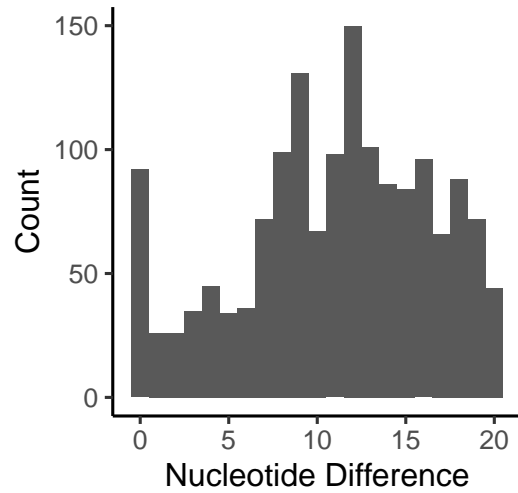
### IGHV3-43\*01

105 sequences assigned  
2 (1.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



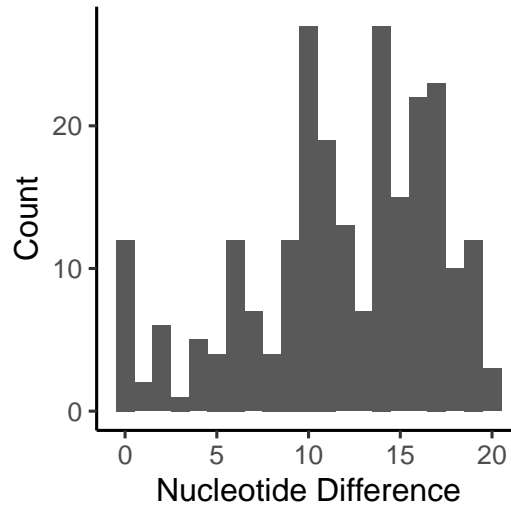
### IGHV3-48\*01

2022 sequences assigned  
92 (4.5%) exact matches, in which:  
72 unique CDR3  
5 unique J



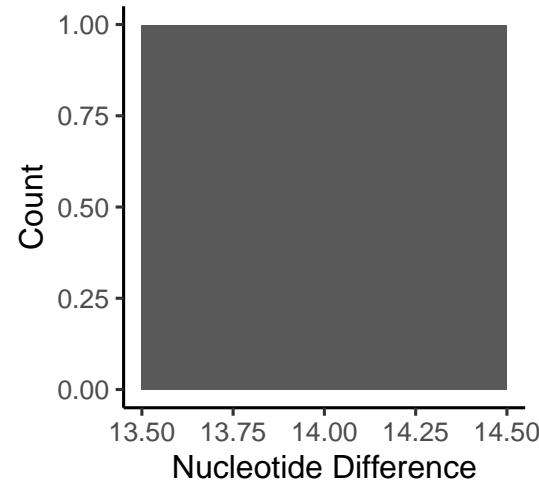
### IGHV3-64\*01

293 sequences assigned  
12 (4.1%) exact matches, in which:  
11 unique CDR3  
4 unique J



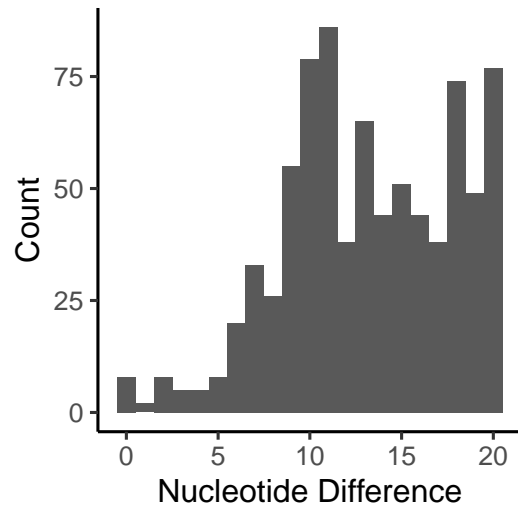
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



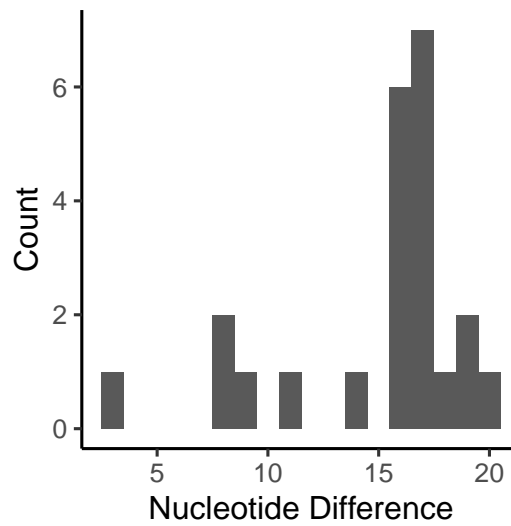
### IGHV3-49\*03

1411 sequences assigned  
8 (0.6%) exact matches, in which:  
7 unique CDR3  
2 unique J



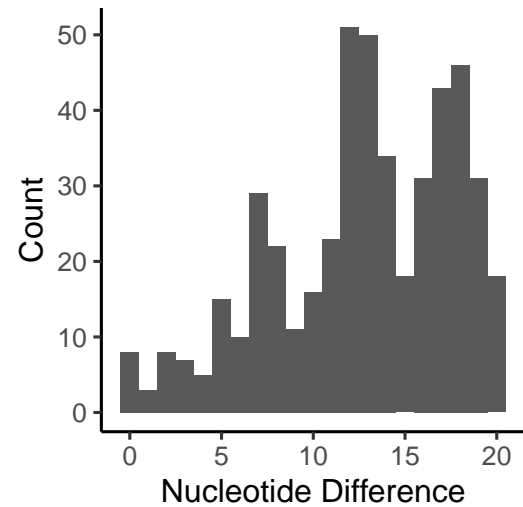
### IGHV3-64\*07

79 sequences assigned  
No exact matches.



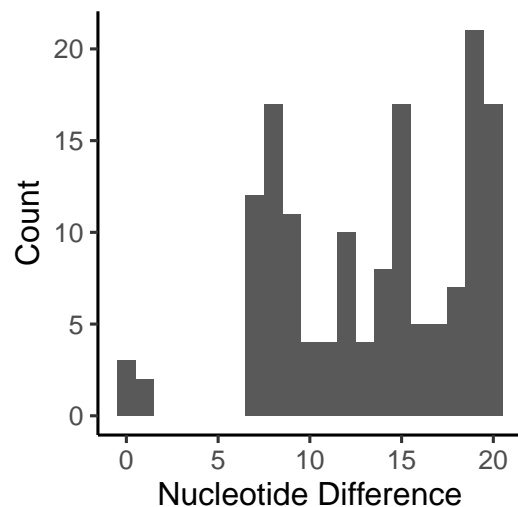
### IGHV3-72\*01

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



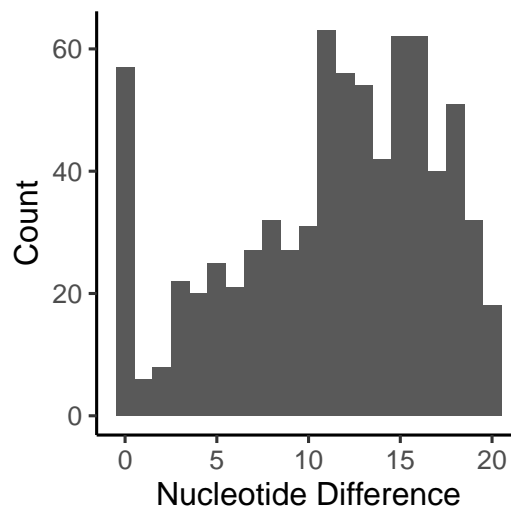
### IGHV3-53\*04

265 sequences assigned  
3 (1.1%) exact matches, in which:  
3 unique CDR3  
1 unique J



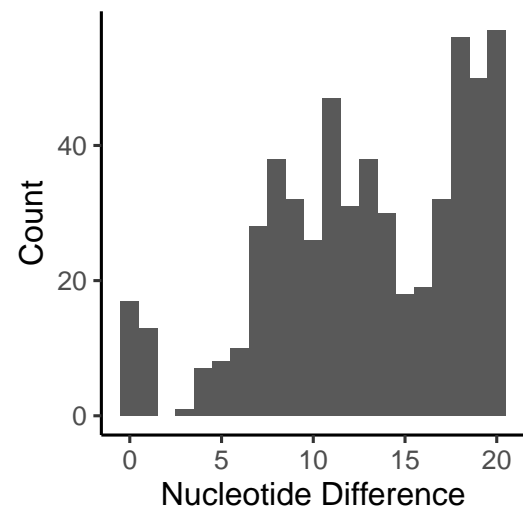
### IGHV3-66\*01

2123 sequences assigned  
57 (2.7%) exact matches, in which:  
52 unique CDR3  
4 unique J



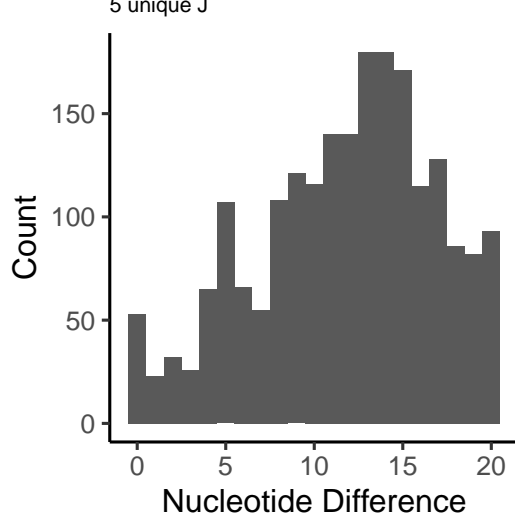
### IGHV3-73\*01

963 sequences assigned  
17 (1.8%) exact matches, in which:  
16 unique CDR3  
4 unique J



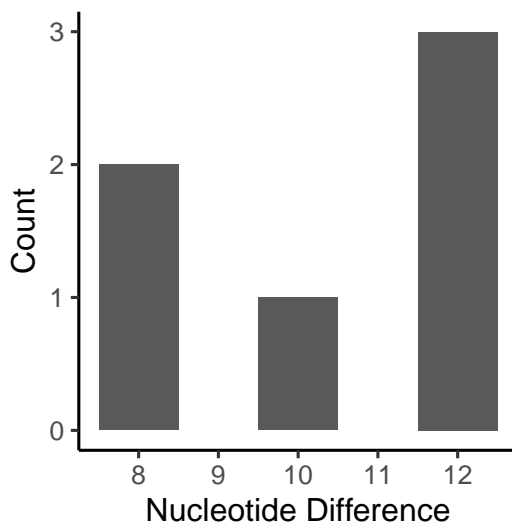
### IGHV3-74\*01

2761 sequences assigned  
53 (1.9%) exact matches, in which:  
36 unique CDR3  
5 unique J



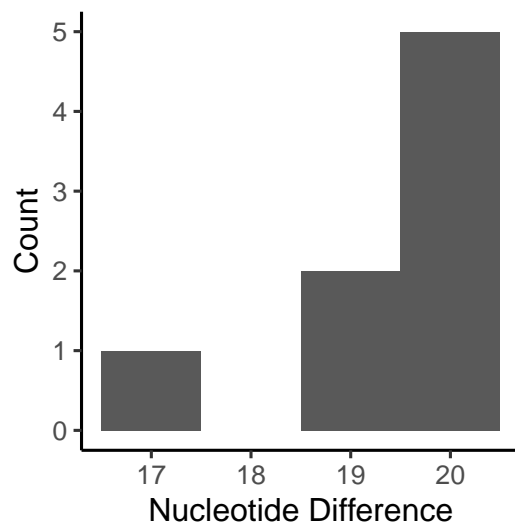
### IGHV4-28\*05

6 sequences assigned  
No exact matches.



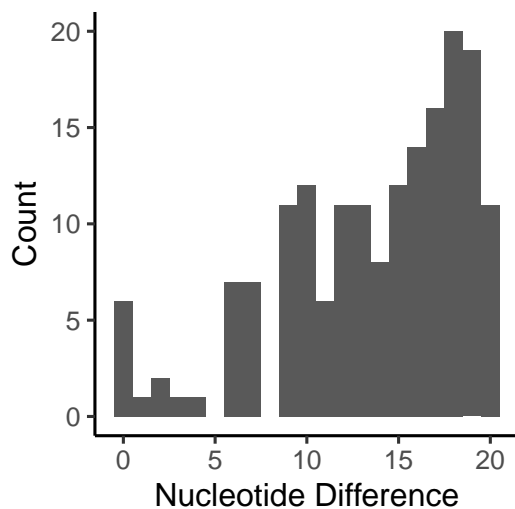
### IGHV4-38-2\*02

9 sequences assigned  
No exact matches.



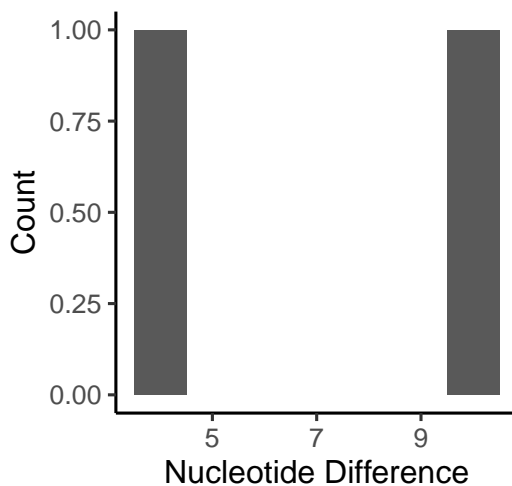
### IGHV4-4\*02

326 sequences assigned  
6 (1.8%) exact matches, in which:  
4 unique CDR3  
3 unique J



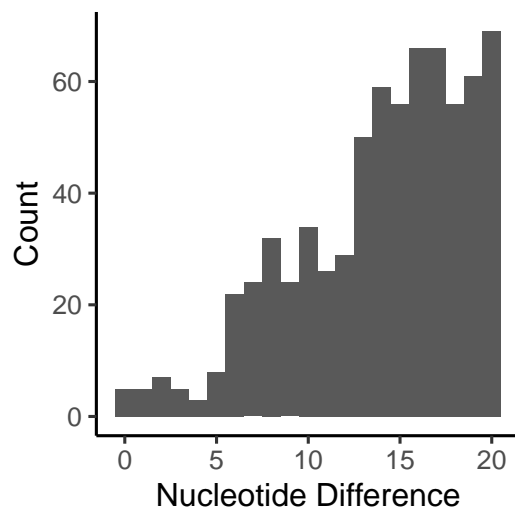
### IGHV4-30-4\*01

2 sequences assigned  
No exact matches.



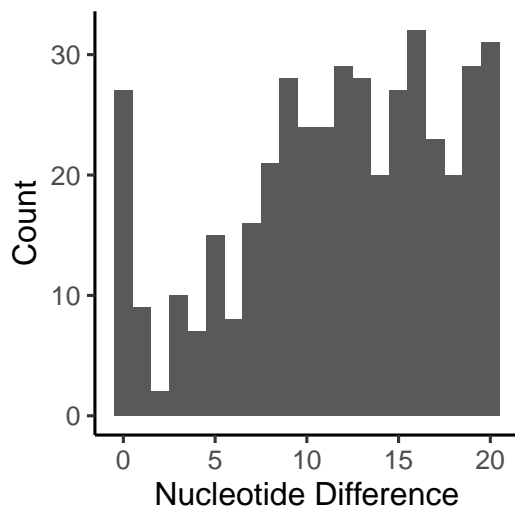
### IGHV4-39\*01

1591 sequences assigned  
5 (0.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



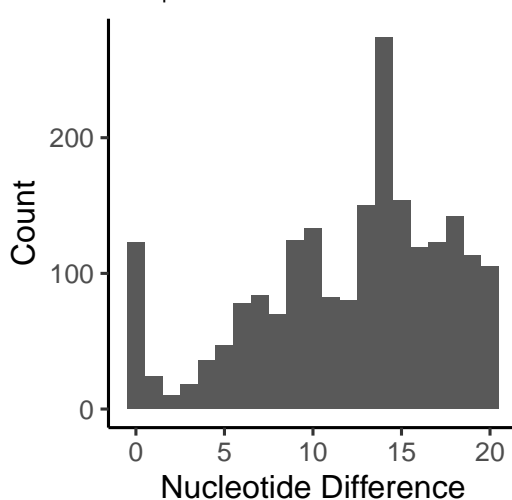
### IGHV4-4\*07

635 sequences assigned  
27 (4.3%) exact matches, in which:  
27 unique CDR3  
6 unique J



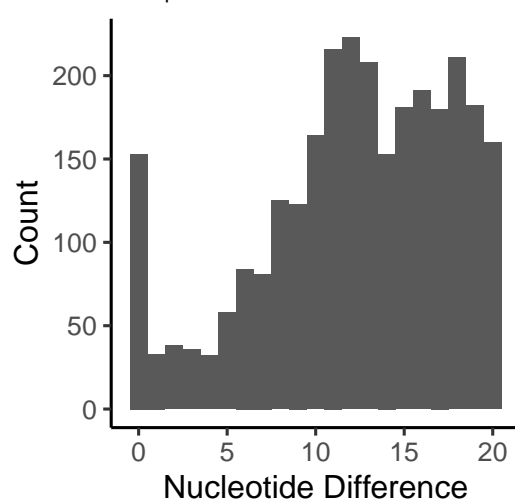
### IGHV4-31\*03

2775 sequences assigned  
123 (4.4%) exact matches, in which:  
107 unique CDR3  
5 unique J



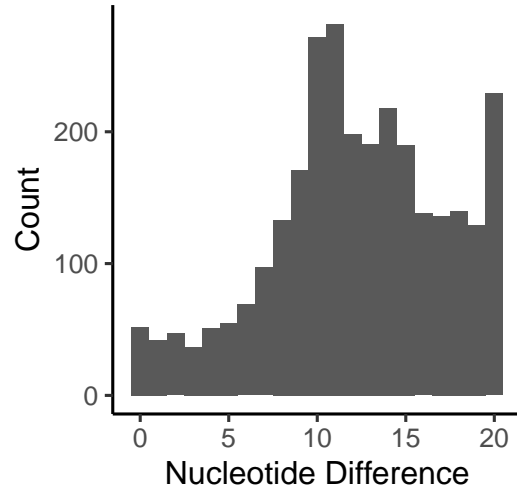
### IGHV4-59\*01

4050 sequences assigned  
153 (3.8%) exact matches, in which:  
132 unique CDR3  
5 unique J



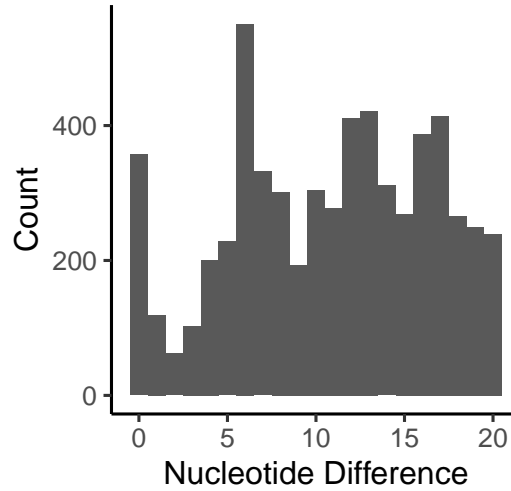
### IGHV4–59\*08

4094 sequences assigned  
52 (1.3%) exact matches, in which:  
39 unique CDR3  
5 unique J



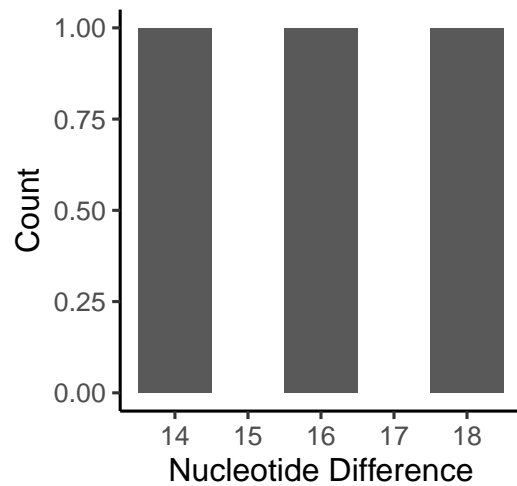
### IGHV5–51\*03

7322 sequences assigned  
357 (4.9%) exact matches, in which:  
297 unique CDR3  
6 unique J



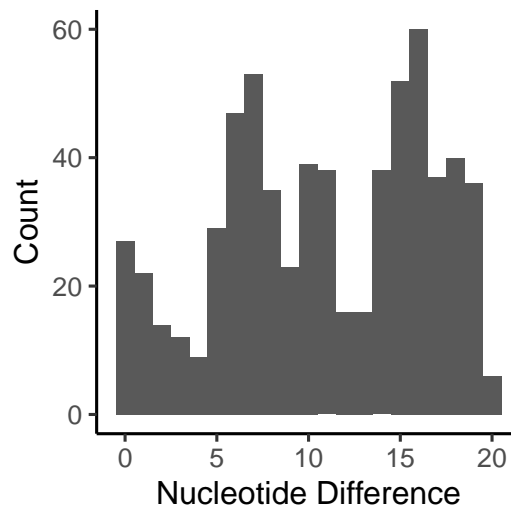
### IGHV4–61\*02

3 sequences assigned  
No exact matches.



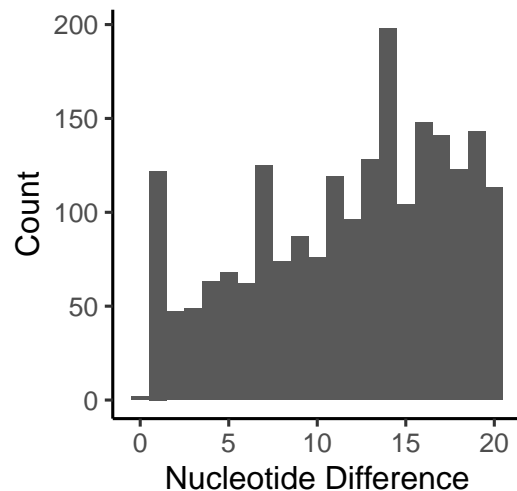
### IGHV6–1\*01

708 sequences assigned  
27 (3.8%) exact matches, in which:  
15 unique CDR3  
4 unique J



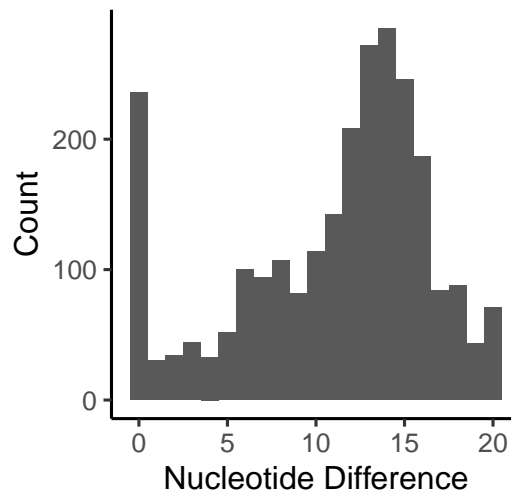
### IGHV5–51\*01

2732 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



### IGHV7–4–1\*02

3230 sequences assigned  
236 (7.3%) exact matches, in which:  
211 unique CDR3  
5 unique J



Allele Usage

