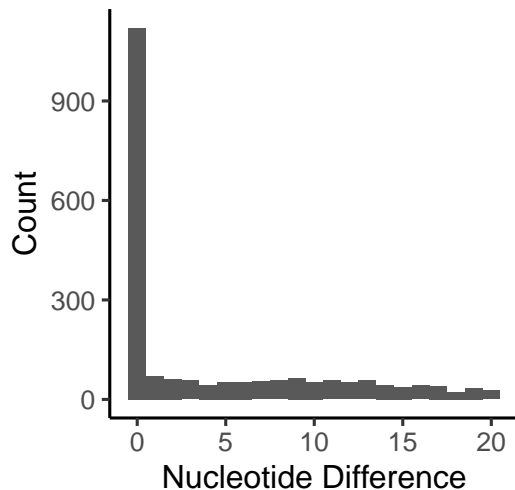


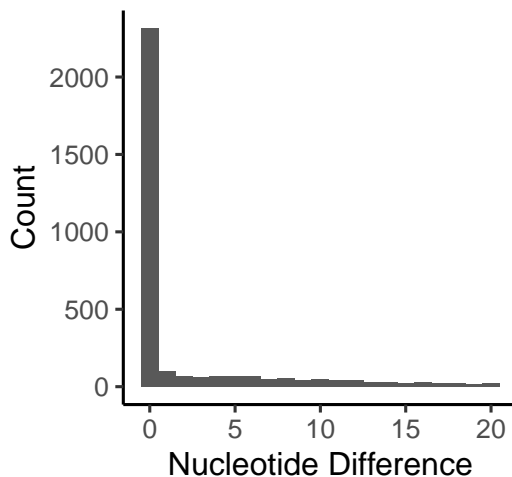
### IGHV1-2\*02

2261 sequences assigned  
1121 (49.6%) exact matches, in which:  
1114 unique CDR3  
6 unique J



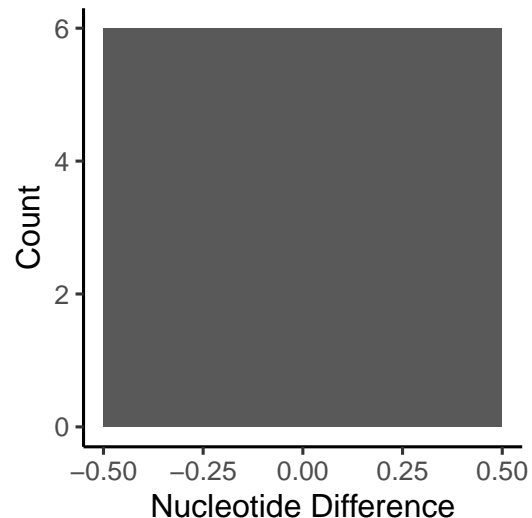
### IGHV1-8\*01

3328 sequences assigned  
2314 (69.5%) exact matches, in which:  
2294 unique CDR3  
6 unique J



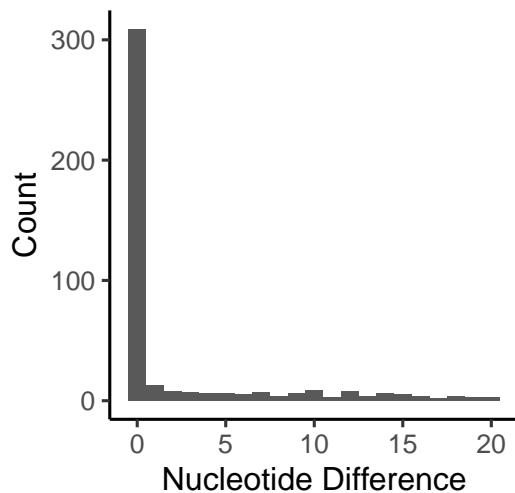
### IGHV1-45\*02

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



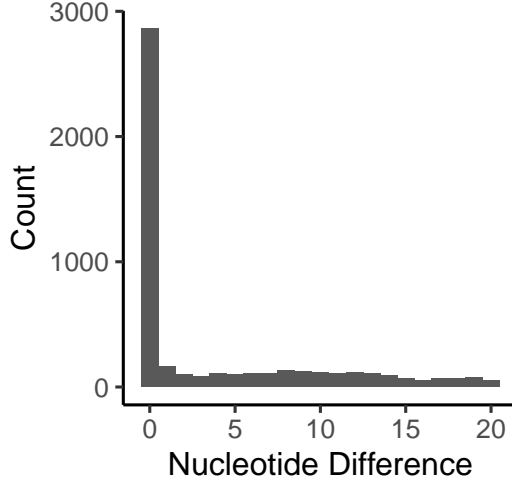
### IGHV1-2\*04

445 sequences assigned  
309 (69.4%) exact matches, in which:  
309 unique CDR3  
6 unique J



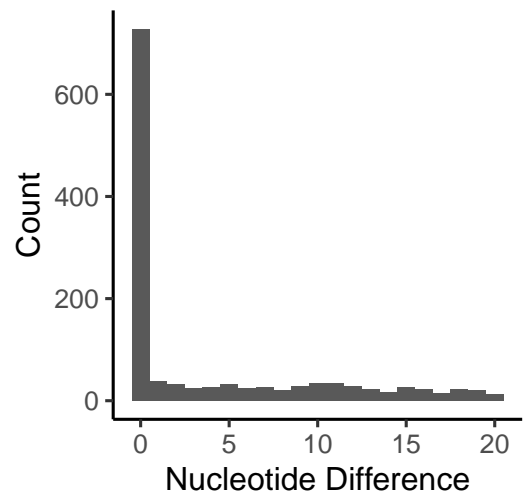
### IGHV1-18\*01

5233 sequences assigned  
2861 (54.7%) exact matches, in which:  
2826 unique CDR3  
6 unique J



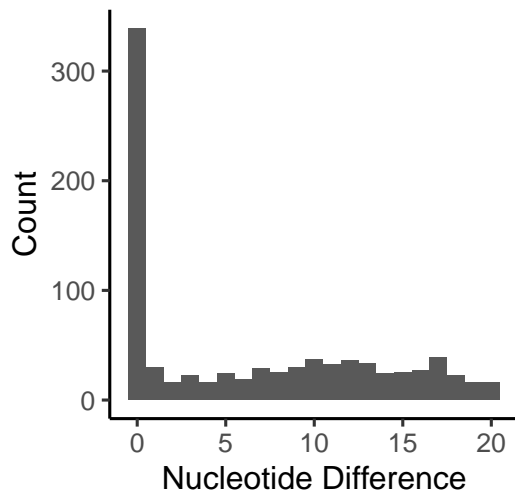
### IGHV1-46\*01

1345 sequences assigned  
728 (54.1%) exact matches, in which:  
724 unique CDR3  
6 unique J



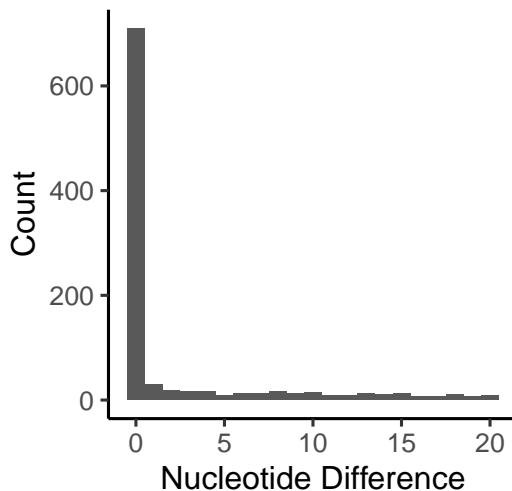
### IGHV1-3\*01\_05

943 sequences assigned  
339 (35.9%) exact matches, in which:  
338 unique CDR3  
6 unique J



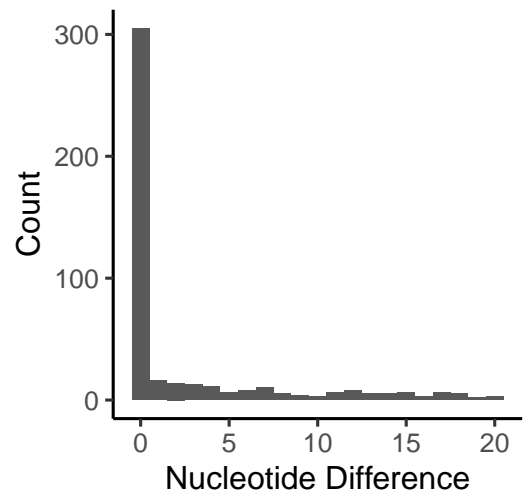
### IGHV1-24\*01

991 sequences assigned  
710 (71.6%) exact matches, in which:  
705 unique CDR3  
6 unique J



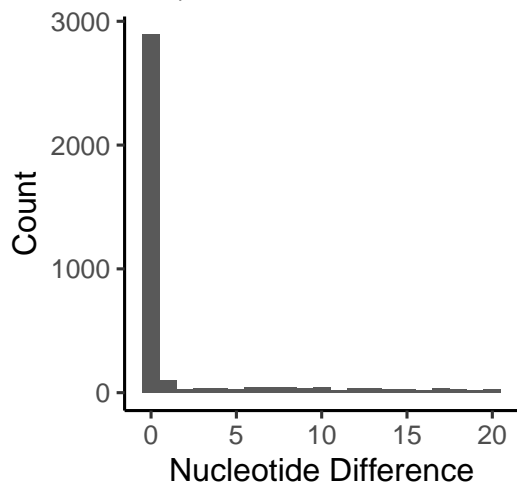
### IGHV1-58\*01\_03

469 sequences assigned  
305 (65%) exact matches, in which:  
305 unique CDR3  
6 unique J



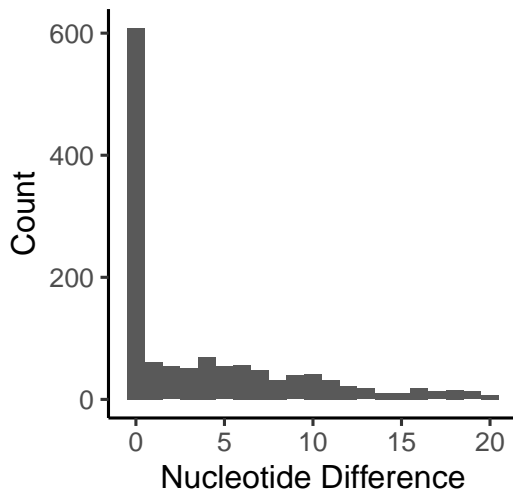
### IGHV1-69\*01\_12\_13

3837 sequences assigned  
2894 (75.4%) exact matches, in which:  
2881 unique CDR3  
6 unique J



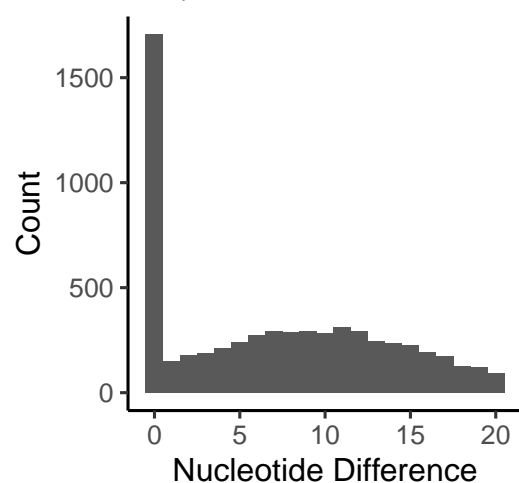
### IGHV2-5\*02

1323 sequences assigned  
609 (46%) exact matches, in which:  
606 unique CDR3  
6 unique J



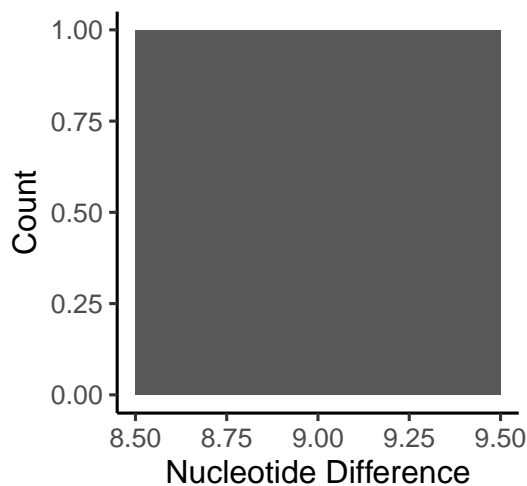
### IGHV3-7\*01

6584 sequences assigned  
1706 (25.9%) exact matches, in which:  
1619 unique CDR3  
6 unique J



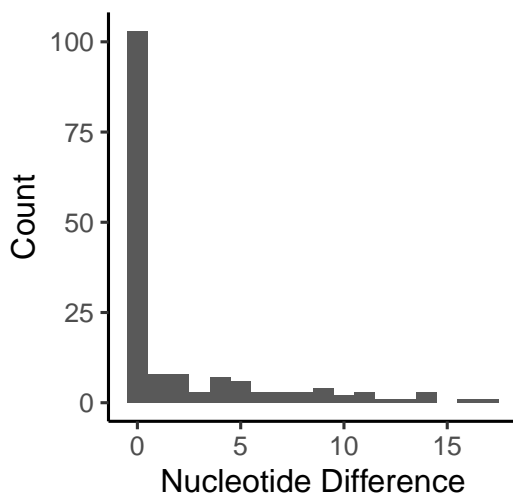
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



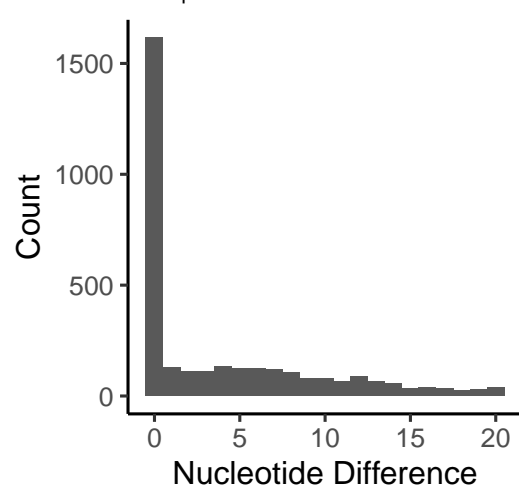
### IGHV2-26\*01

162 sequences assigned  
103 (63.6%) exact matches, in which:  
103 unique CDR3  
5 unique J



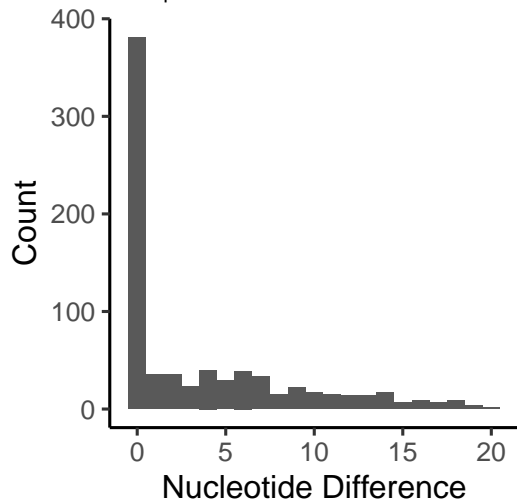
### IGHV3-9\*01

3399 sequences assigned  
1616 (47.5%) exact matches, in which:  
1565 unique CDR3  
6 unique J



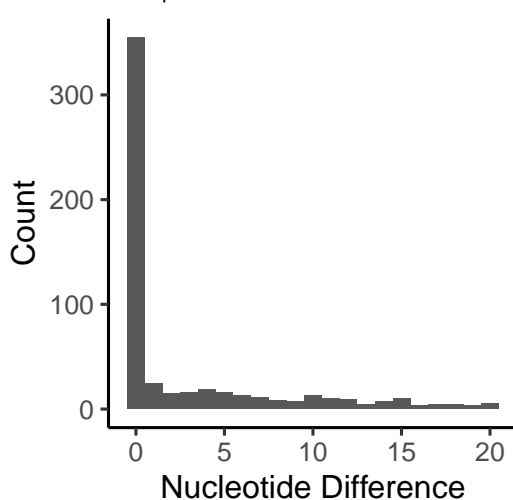
### IGHV2-5\*01

787 sequences assigned  
381 (48.4%) exact matches, in which:  
379 unique CDR3  
6 unique J



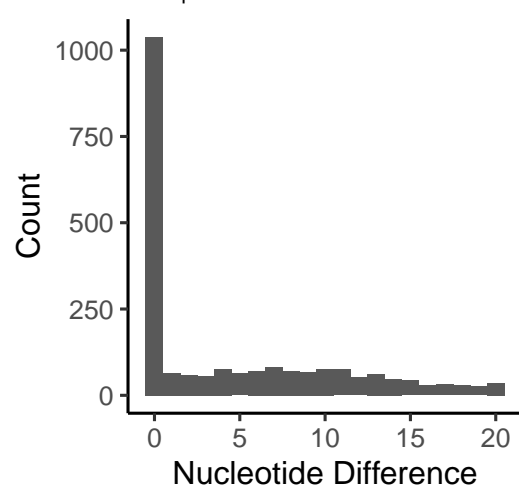
### IGHV2-70\*01

569 sequences assigned  
355 (62.4%) exact matches, in which:  
350 unique CDR3  
6 unique J



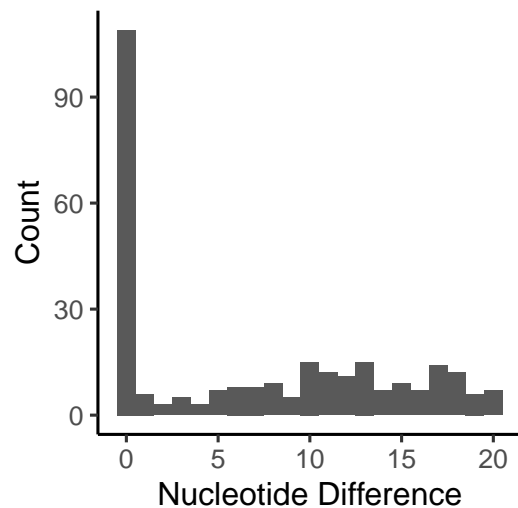
### IGHV3-11\*01

2349 sequences assigned  
1038 (44.2%) exact matches, in which:  
1008 unique CDR3  
6 unique J



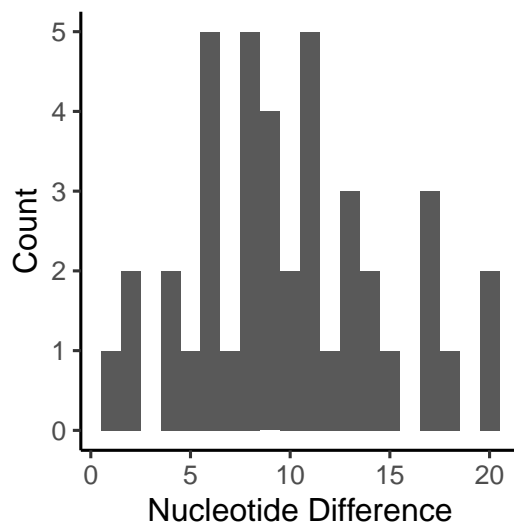
### IGHV3-13\*01

314 sequences assigned  
109 (34.7%) exact matches, in which:  
105 unique CDR3  
5 unique J



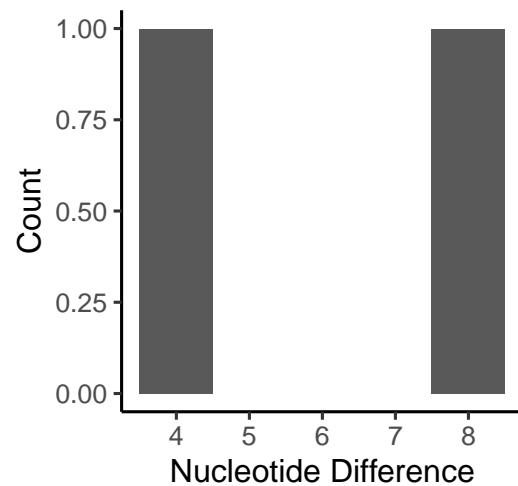
### IGHV3-20\*03\_04

49 sequences assigned  
No exact matches.



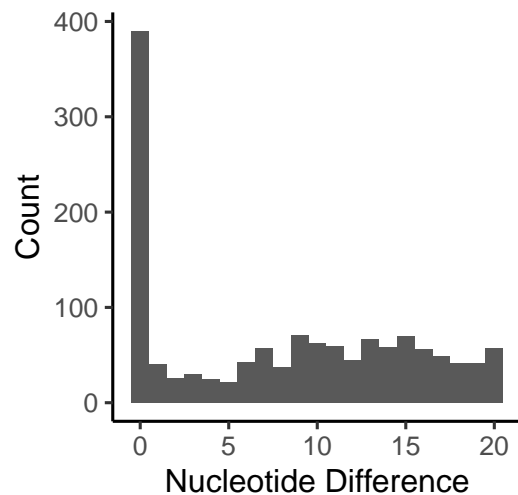
### IGHV3-30-3\*01

2 sequences assigned  
No exact matches.



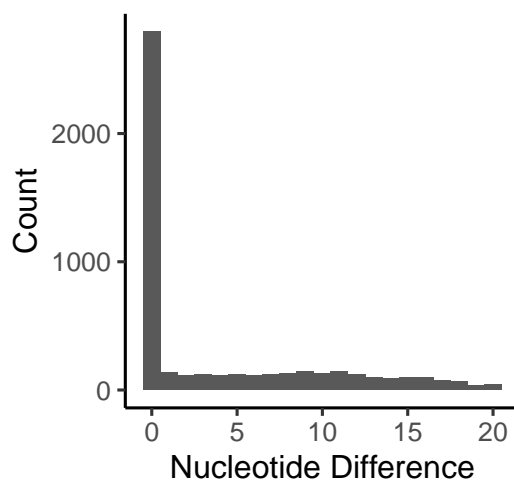
### IGHV3-15\*01\_02

1629 sequences assigned  
390 (23.9%) exact matches, in which:  
384 unique CDR3  
6 unique J



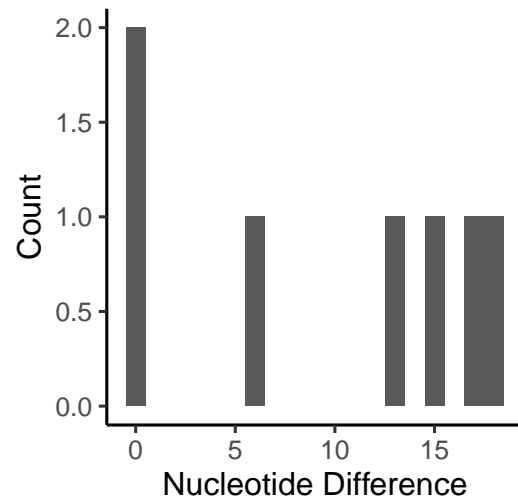
### IGHV3-21\*01\_02

5156 sequences assigned  
2794 (54.2%) exact matches, in which:  
2667 unique CDR3  
6 unique J



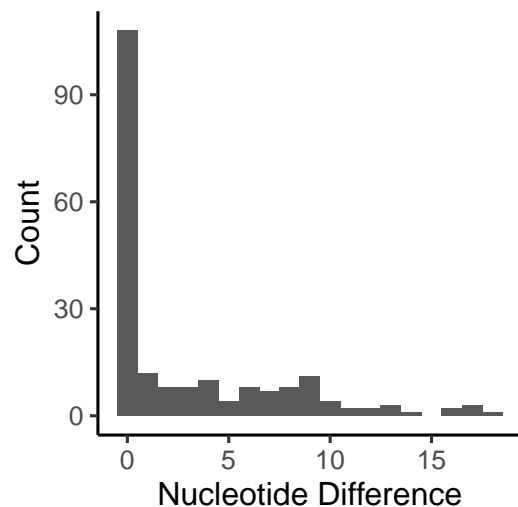
### IGHV3-30-3\*03

15 sequences assigned  
2 (13.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



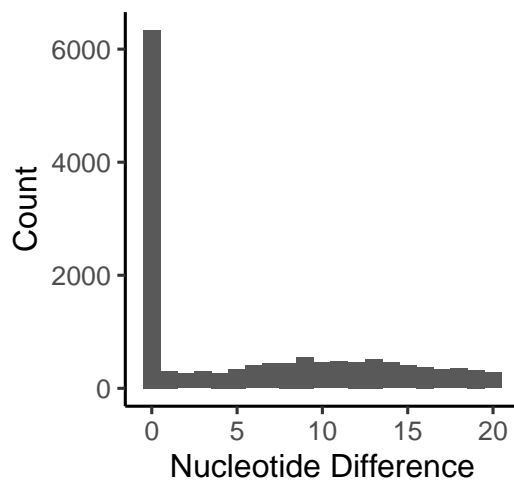
### IGHV3-20\*01\_02

213 sequences assigned  
108 (50.7%) exact matches, in which:  
102 unique CDR3  
5 unique J



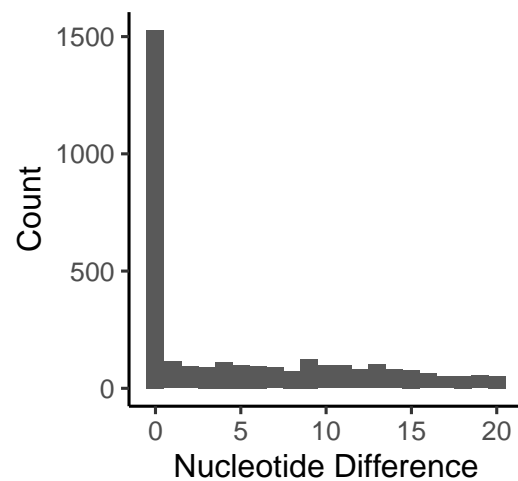
### IGHV3-23\*01\_04

15829 sequences assigned  
6338 (40%) exact matches, in which:  
6097 unique CDR3  
6 unique J



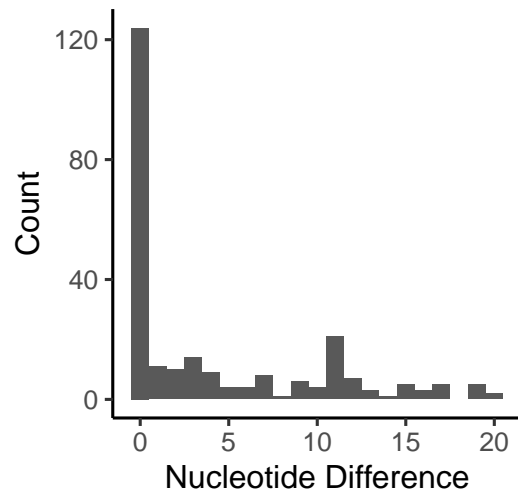
### IGHV3-33\*01

3526 sequences assigned  
1528 (43.3%) exact matches, in which:  
1488 unique CDR3  
6 unique J



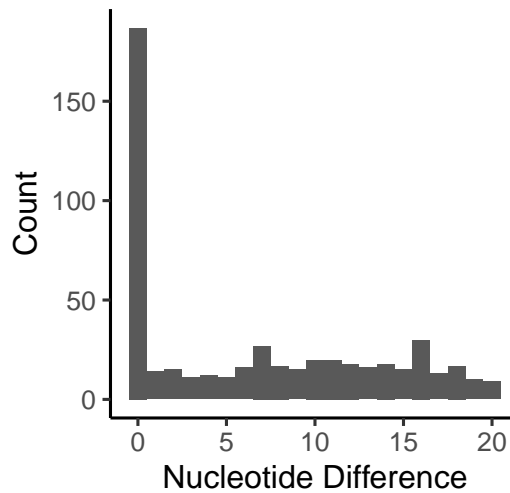
### IGHV3-43\*01

277 sequences assigned  
124 (44.8%) exact matches, in which:  
118 unique CDR3  
6 unique J



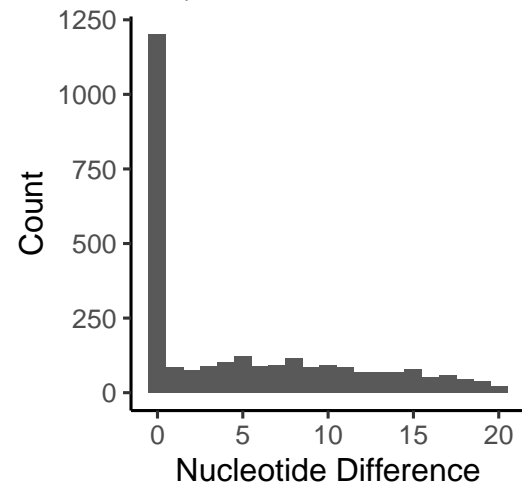
### IGHV3-49\*04

592 sequences assigned  
187 (31.6%) exact matches, in which:  
185 unique CDR3  
5 unique J



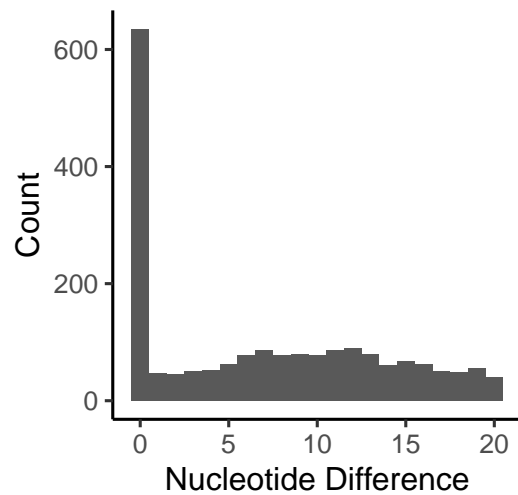
### IGHV3-53\*01\_02

2980 sequences assigned  
1201 (40.3%) exact matches, in which:  
1149 unique CDR3  
6 unique J



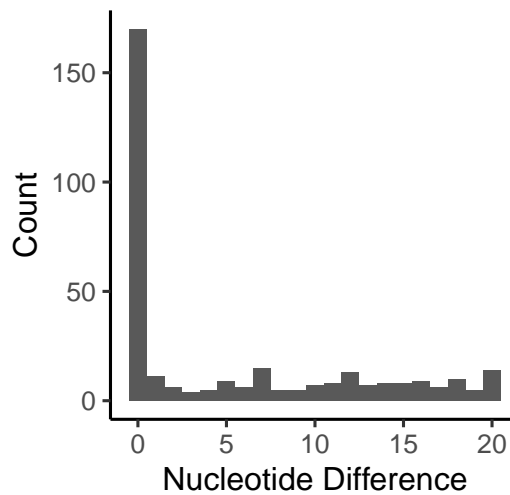
### IGHV3-48\*02

2218 sequences assigned  
635 (28.6%) exact matches, in which:  
611 unique CDR3  
6 unique J



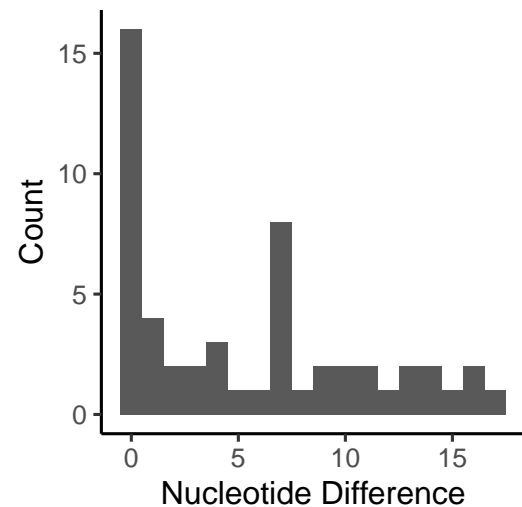
### IGHV3-49\*03\_05

366 sequences assigned  
170 (46.4%) exact matches, in which:  
166 unique CDR3  
6 unique J



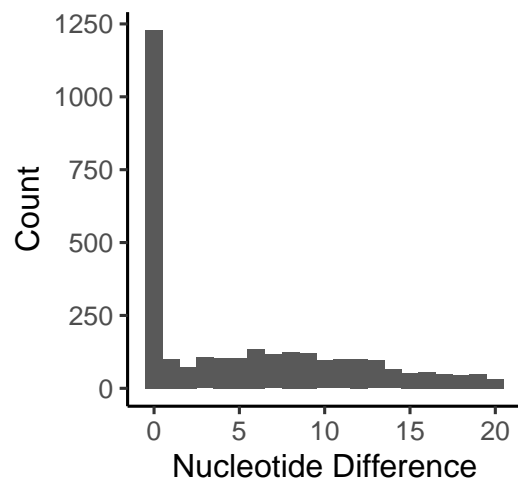
### IGHV3-64\*02\_07

58 sequences assigned  
16 (27.6%) exact matches, in which:  
16 unique CDR3  
4 unique J



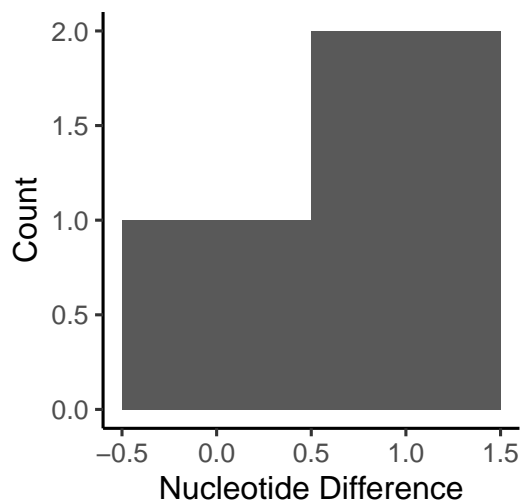
### IGHV3-48\*03

3202 sequences assigned  
1229 (38.4%) exact matches, in which:  
1179 unique CDR3  
6 unique J



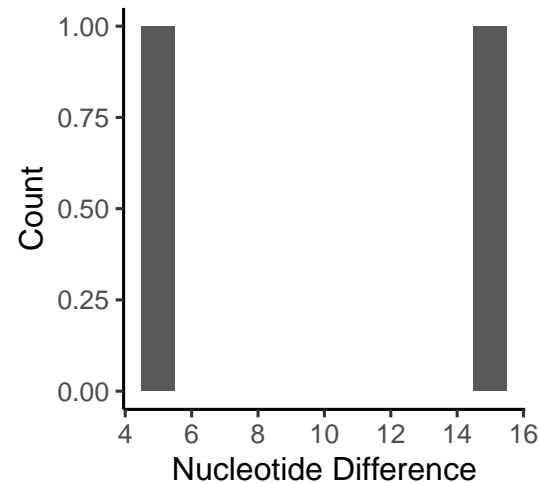
### IGHV3-52\*01\_03

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



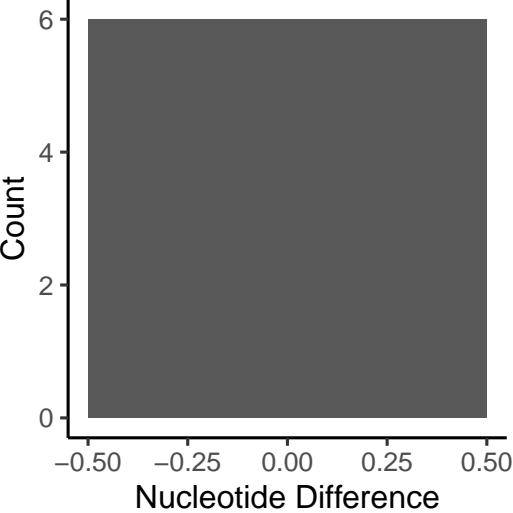
### IGHV3-66\*02

2 sequences assigned  
No exact matches.



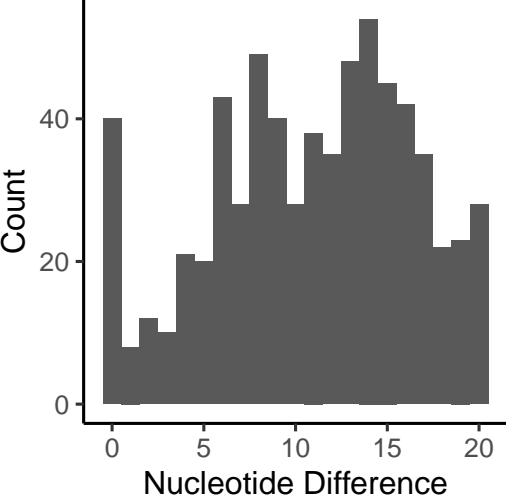
IGHV3-66\*03

6 sequences assigned  
6 (100%) exact matches, in which:  
5 unique CDR3  
2 unique J



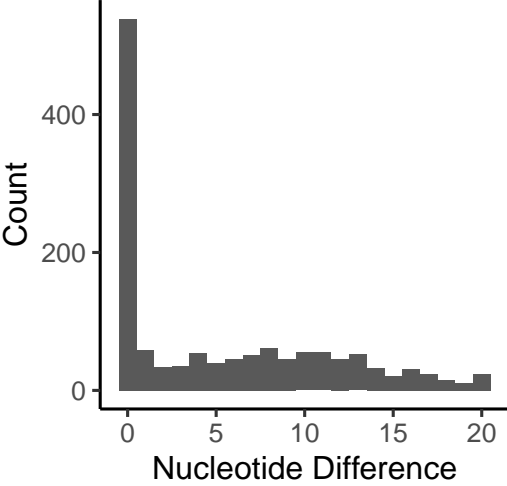
IGHV3-72\*01

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



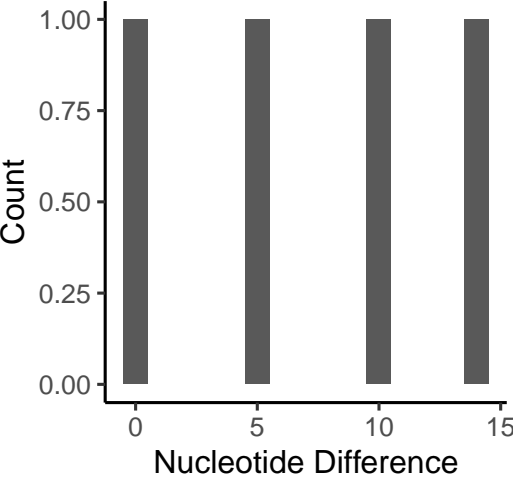
IGHV3-74\*01\_02

1439 sequences assigned  
539 (37.5%) exact matches, in which:  
522 unique CDR3  
6 unique J



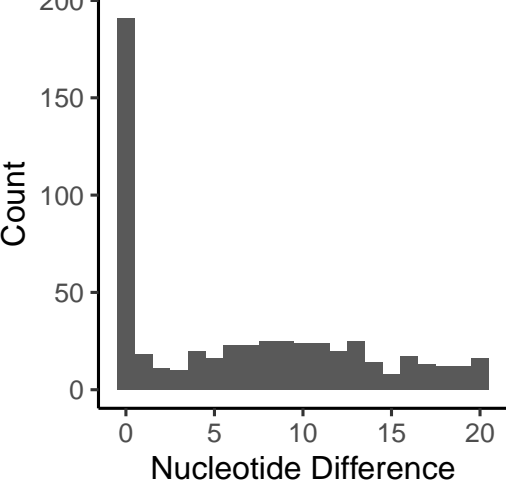
IGHV3-66\*04

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



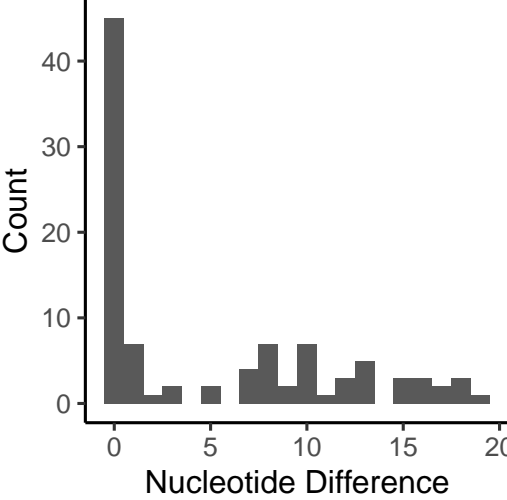
IGHV3-73\*01\_02

615 sequences assigned  
191 (31.1%) exact matches, in which:  
183 unique CDR3  
6 unique J



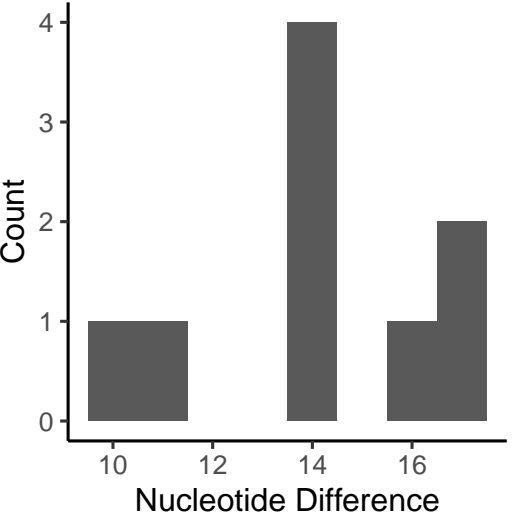
IGHV3-43D\*04

105 sequences assigned  
45 (42.9%) exact matches, in which:  
43 unique CDR3  
4 unique J



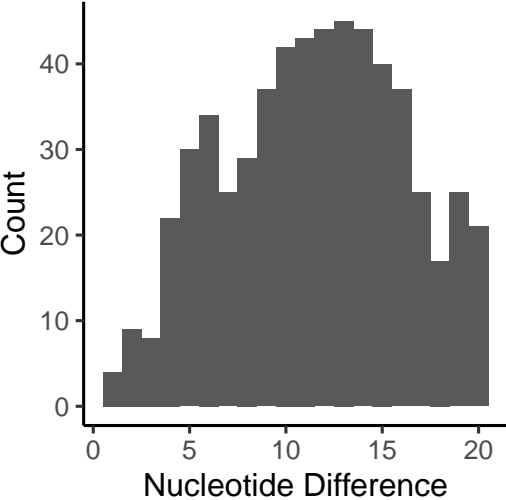
IGHV3-69-1\*01

15 sequences assigned  
No exact matches.



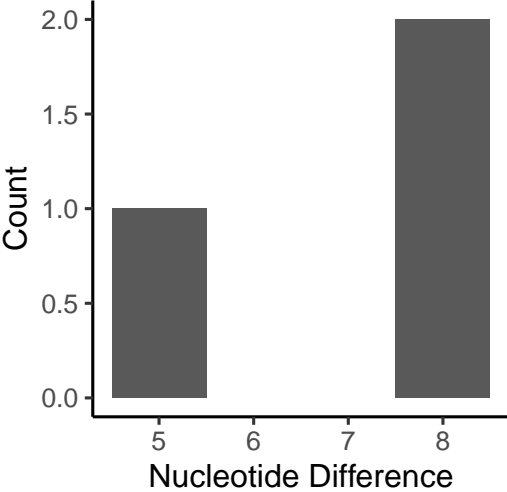
IGHV3-74\*03

712 sequences assigned  
No exact matches.



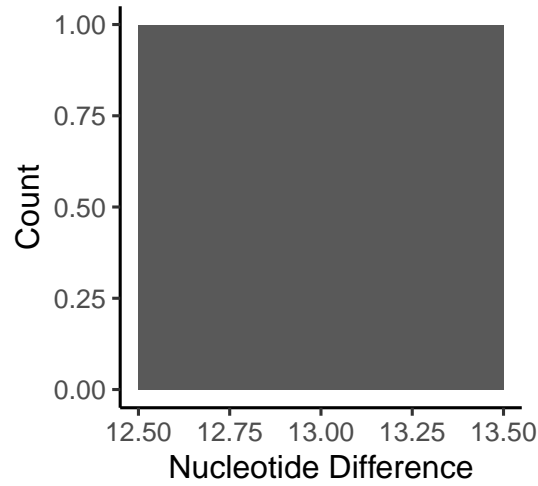
IGHV3-64D\*06

3 sequences assigned  
No exact matches.



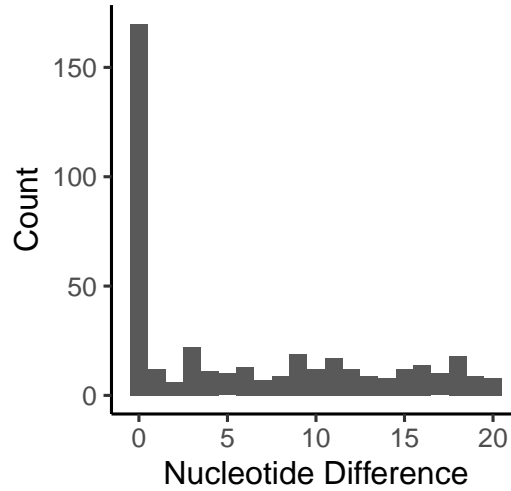
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



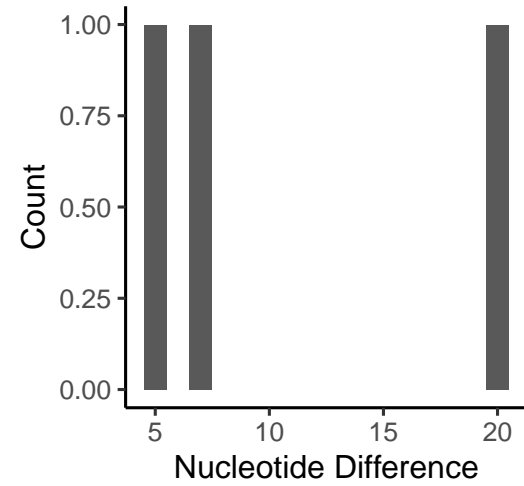
### IGHV4-4\*02\_03

491 sequences assigned  
170 (34.6%) exact matches, in which:  
164 unique CDR3  
6 unique J



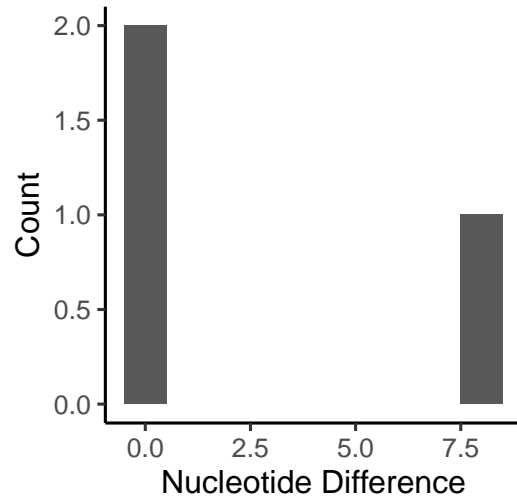
### IGHV4-28\*02\_05

3 sequences assigned  
No exact matches.



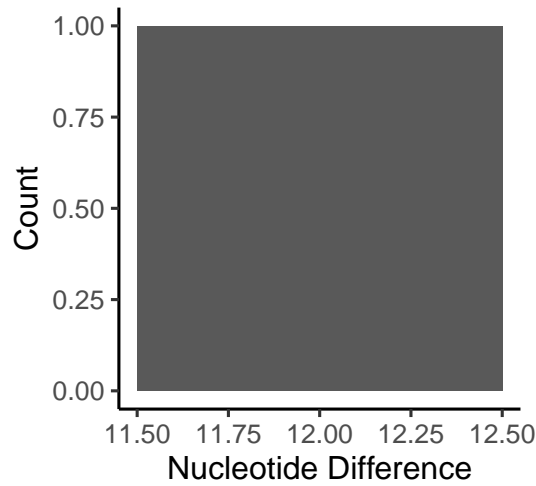
### IGHV3-64D\*09

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



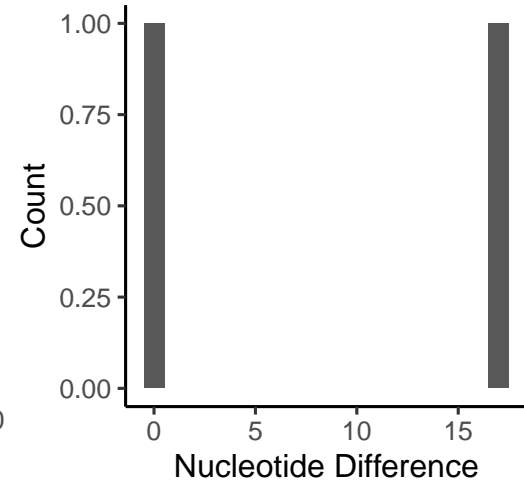
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



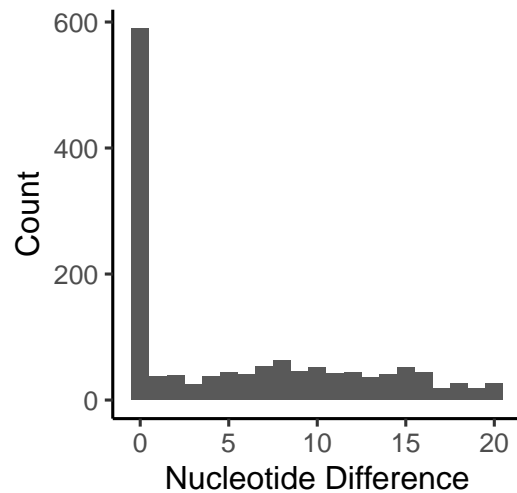
### IGHV4-30-2\*01

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



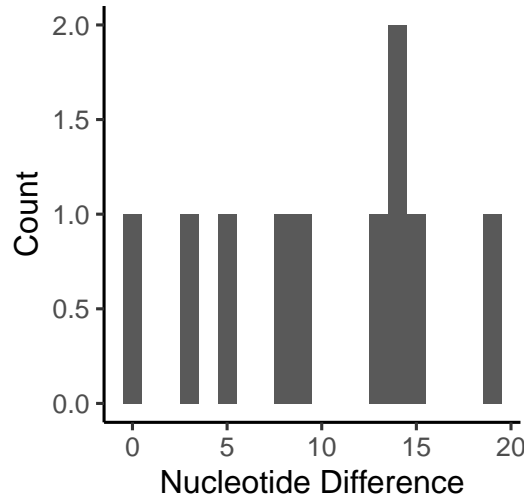
### IGHV4-4\*07

1523 sequences assigned  
590 (38.7%) exact matches, in which:  
581 unique CDR3  
6 unique J



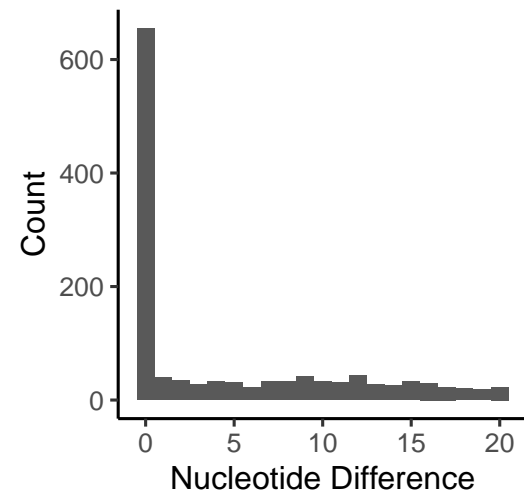
### IGHV4-28\*01\_07

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



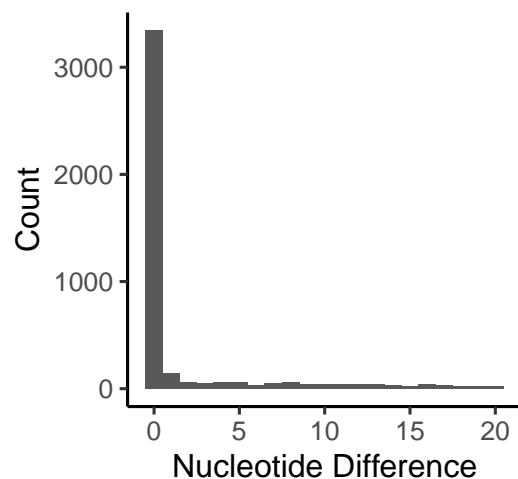
### IGHV4-31\*02

1386 sequences assigned  
655 (47.3%) exact matches, in which:  
644 unique CDR3  
6 unique J



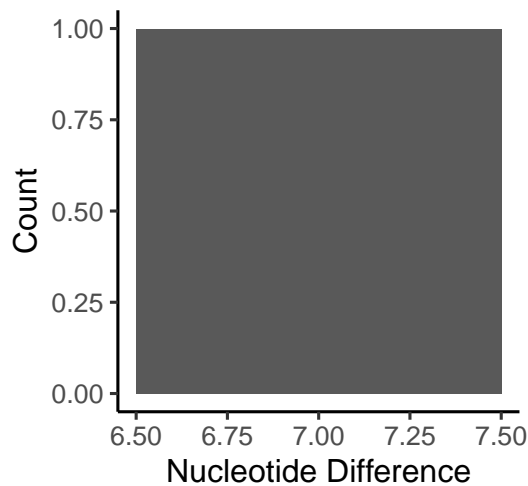
### IGHV4-34\*01\_02

4512 sequences assigned  
3344 (74.1%) exact matches, in which:  
3242 unique CDR3  
6 unique J



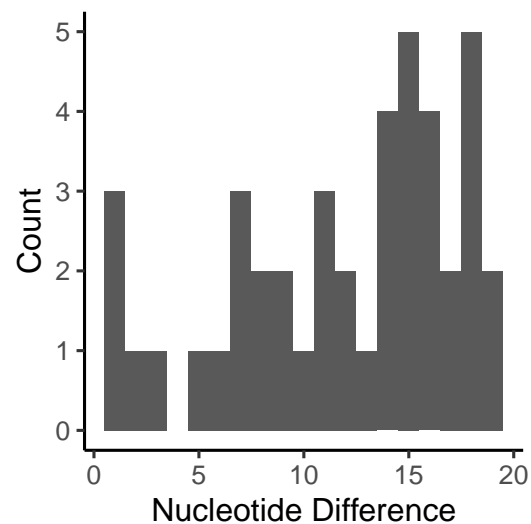
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



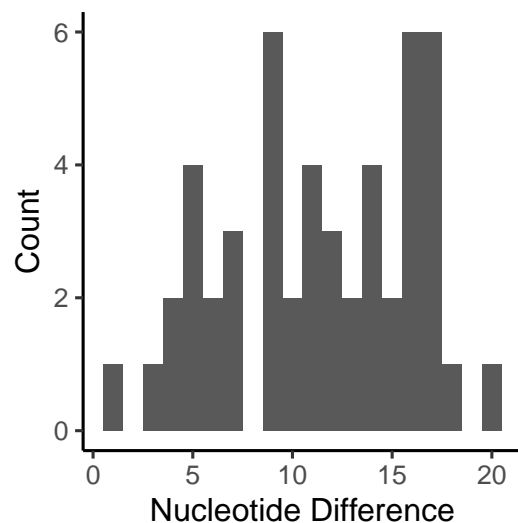
### IGHV4-59\*12

67 sequences assigned  
No exact matches.



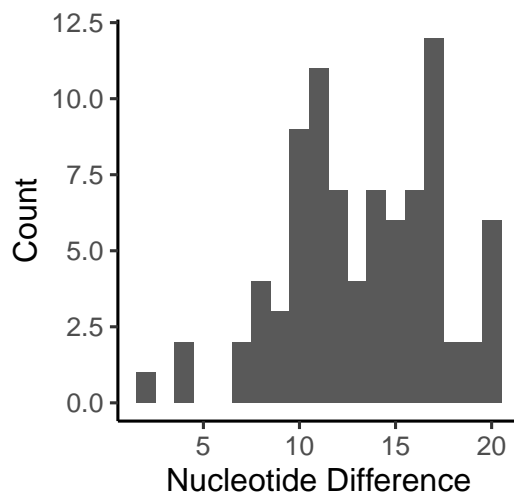
### IGHV4-38-2\*02

71 sequences assigned  
No exact matches.



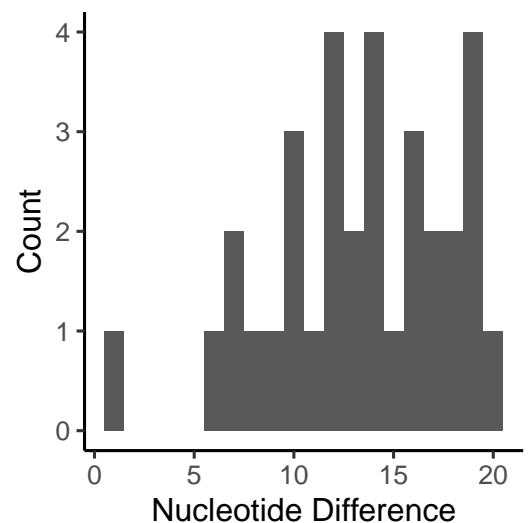
### IGHV4-59\*02

123 sequences assigned  
No exact matches.



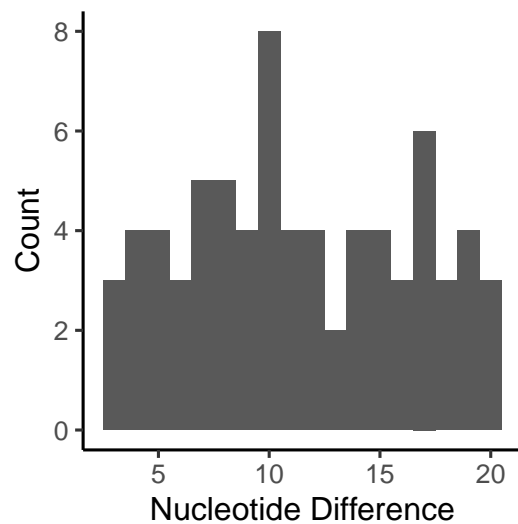
### IGHV4-59\*13

52 sequences assigned  
No exact matches.



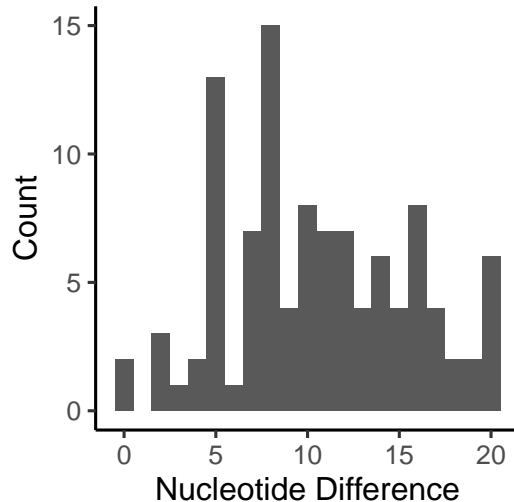
### IGHV4-39\*02

110 sequences assigned  
No exact matches.



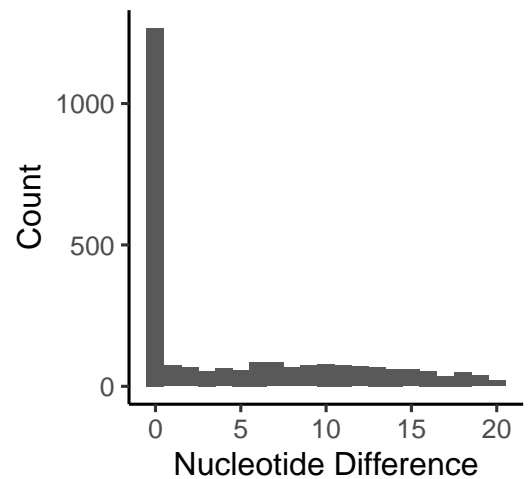
### IGHV4-59\*11

131 sequences assigned  
2 (1.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



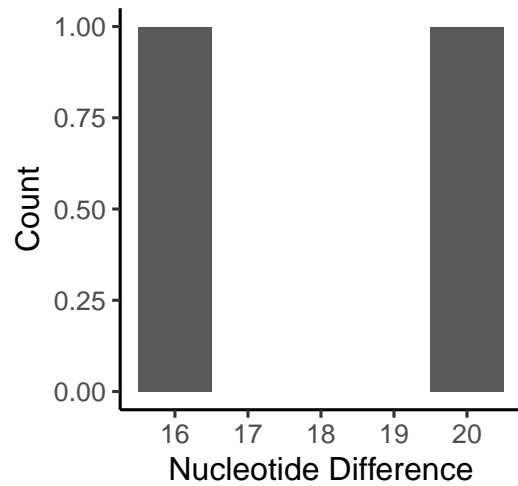
### IGHV4-61\*01

2663 sequences assigned  
1267 (47.6%) exact matches, in which:  
1217 unique CDR3  
6 unique J



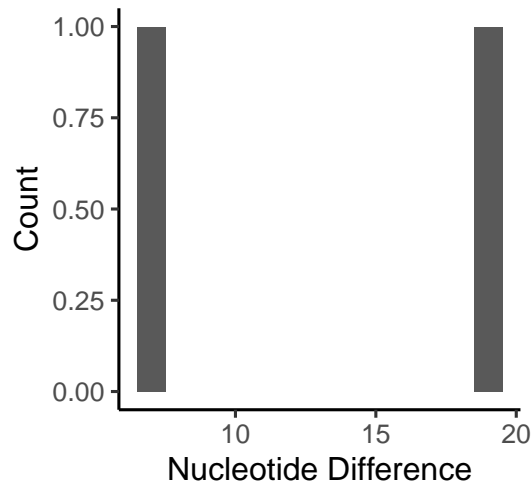
### IGHV4/OR15-8\*01

3 sequences assigned  
No exact matches.



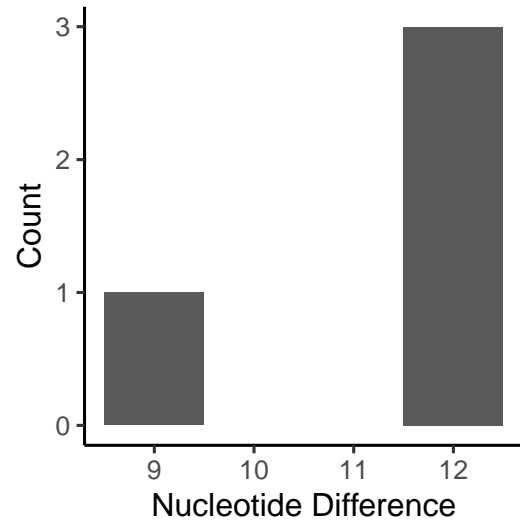
### IGHV5-51\*06

3 sequences assigned  
No exact matches.



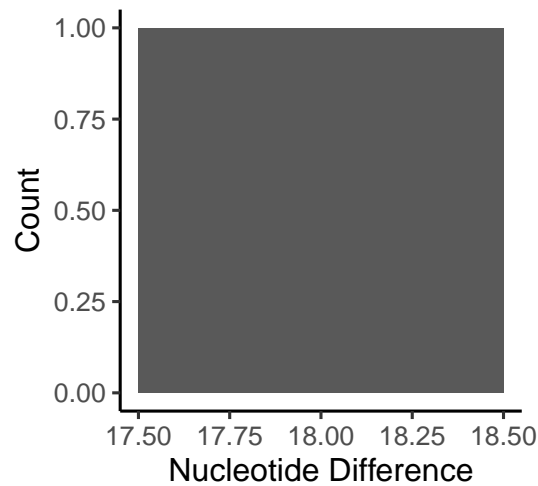
### IGHV7-4-1\*02

4 sequences assigned  
No exact matches.



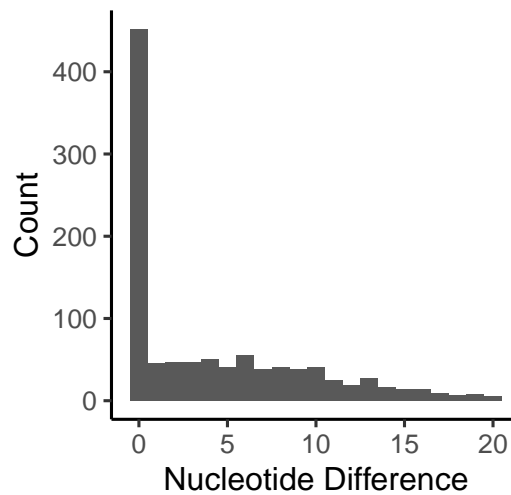
### IGHV4/OR15-8\*02

2 sequences assigned  
No exact matches.



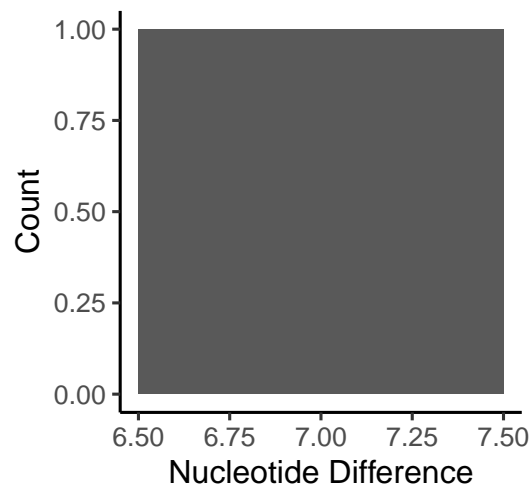
### IGHV6-1\*01\_02

1070 sequences assigned  
452 (42.2%) exact matches, in which:  
446 unique CDR3  
6 unique J



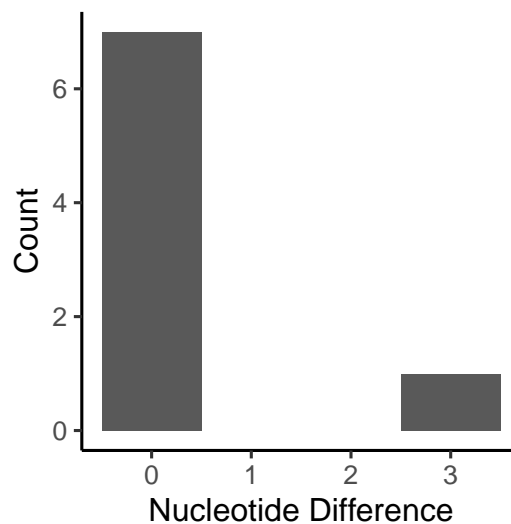
### IGHV5-51\*04

1 sequences assigned  
No exact matches.



### IGHV7-4-1\*01

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
3 unique J







Warning – no inferred sequences found.

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