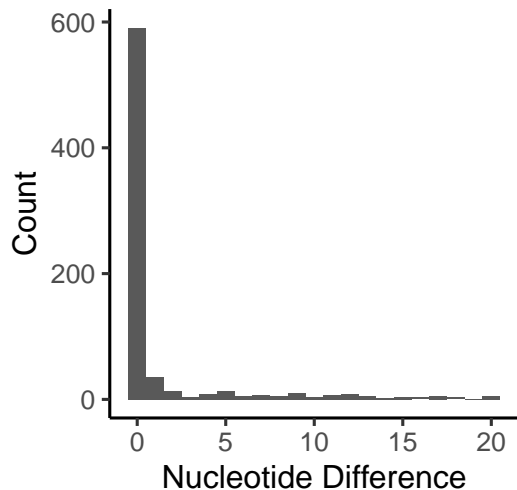


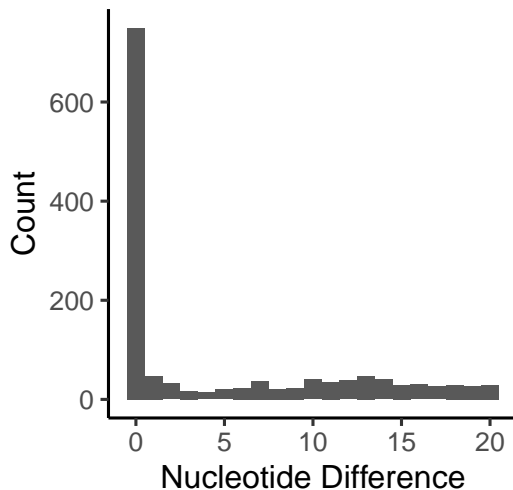
### IGHV1-2\*04

764 sequences assigned  
591 (77.4%) exact matches, in which:  
590 unique CDR3  
6 unique J



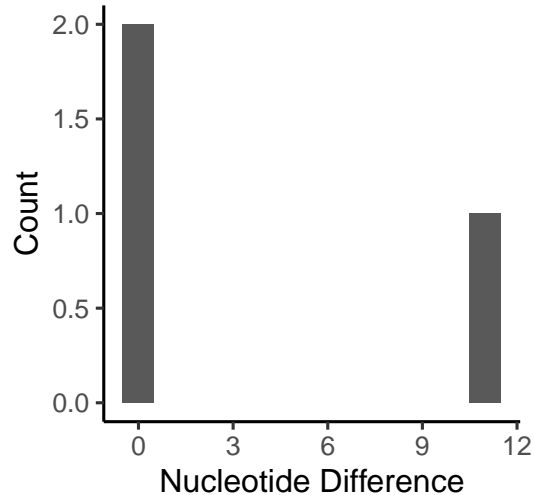
### IGHV1-18\*01

1477 sequences assigned  
750 (50.8%) exact matches, in which:  
748 unique CDR3  
6 unique J



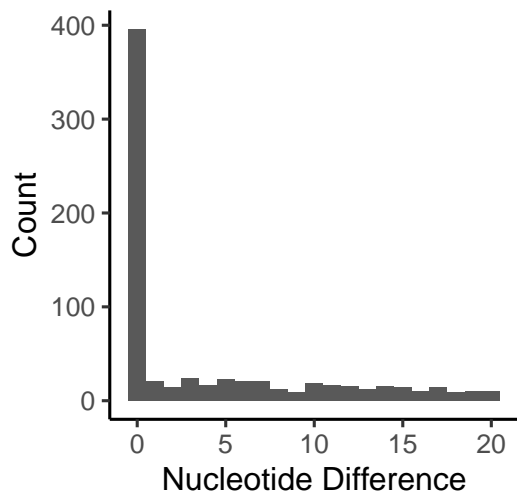
### IGHV1-45\*02

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



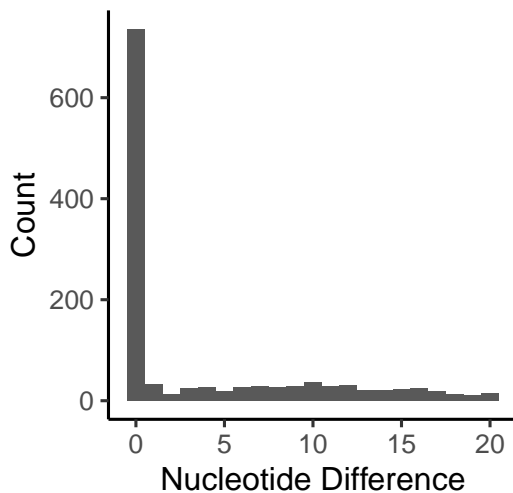
### IGHV1-3\*01\_05

751 sequences assigned  
396 (52.7%) exact matches, in which:  
394 unique CDR3  
6 unique J



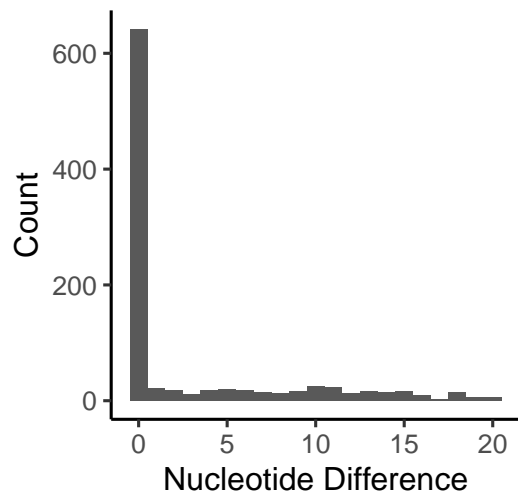
### IGHV1-18\*04

1272 sequences assigned  
736 (57.9%) exact matches, in which:  
734 unique CDR3  
6 unique J



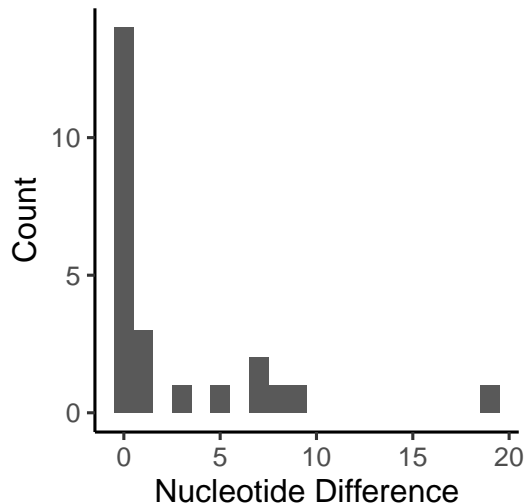
### IGHV1-46\*01

988 sequences assigned  
642 (65%) exact matches, in which:  
639 unique CDR3  
6 unique J



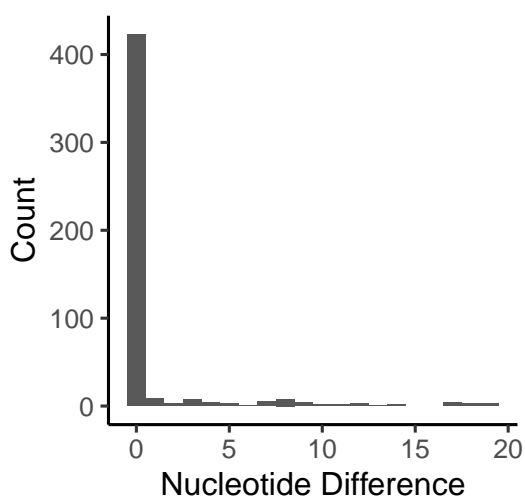
### IGHV1-8\*01

25 sequences assigned  
14 (56%) exact matches, in which:  
14 unique CDR3  
5 unique J



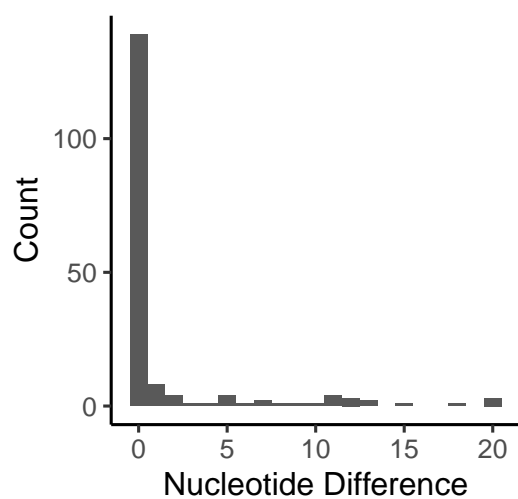
### IGHV1-24\*01

495 sequences assigned  
423 (85.5%) exact matches, in which:  
422 unique CDR3  
6 unique J



### IGHV1-58\*01\_03

180 sequences assigned  
139 (77.2%) exact matches, in which:  
139 unique CDR3  
6 unique J



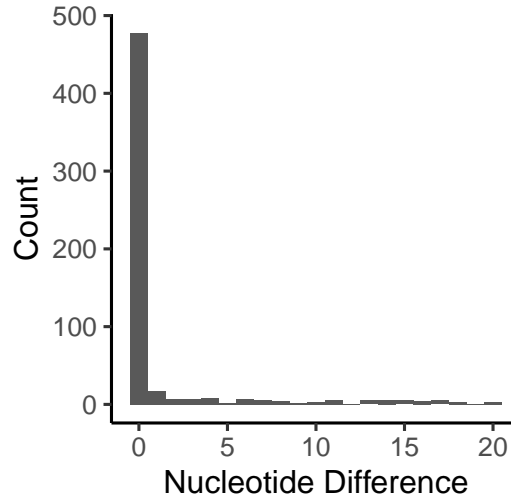
### IGHV1-68\*01

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



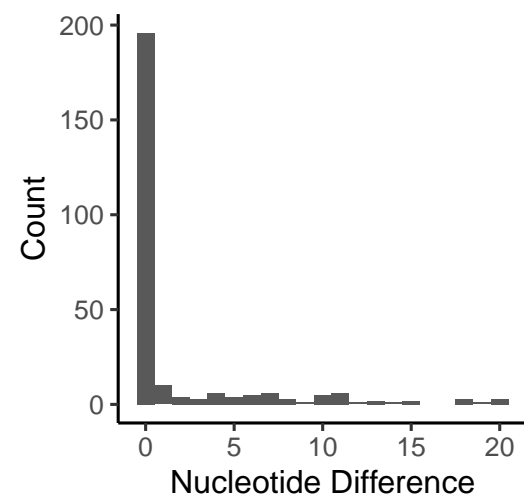
### IGHV1-69\*06\_14

615 sequences assigned  
478 (77.7%) exact matches, in which:  
476 unique CDR3  
6 unique J



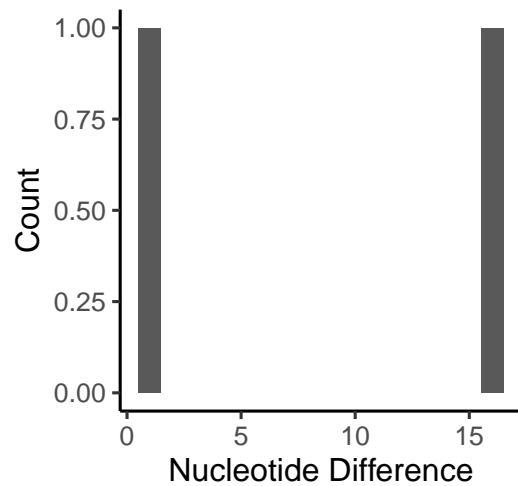
### IGHV2-70\*01

266 sequences assigned  
196 (73.7%) exact matches, in which:  
195 unique CDR3  
5 unique J



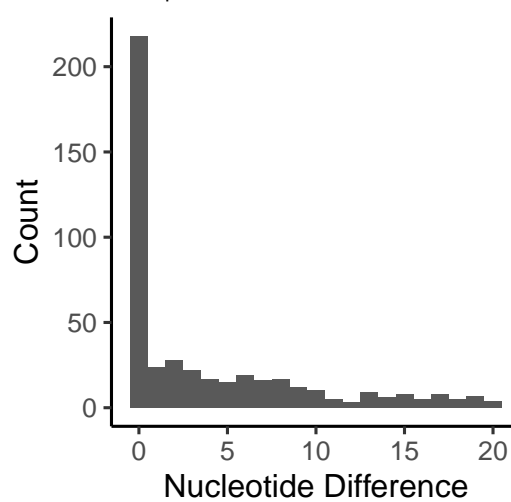
### IGHV1-69-2\*01

4 sequences assigned  
No exact matches.



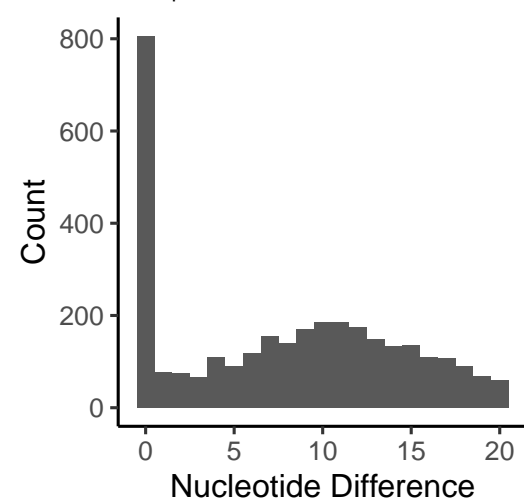
### IGHV2-5\*02

479 sequences assigned  
218 (45.5%) exact matches, in which:  
217 unique CDR3  
6 unique J



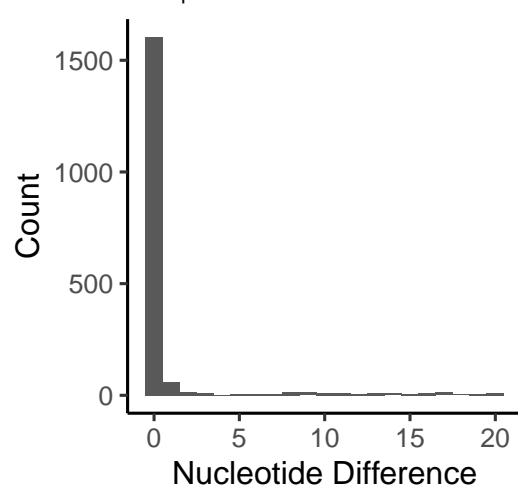
### IGHV3-7\*03

3453 sequences assigned  
806 (23.3%) exact matches, in which:  
793 unique CDR3  
6 unique J



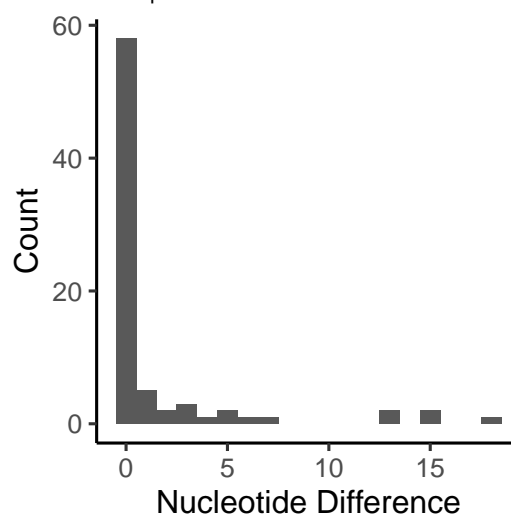
### IGHV1-69\*01\_12\_13

1948 sequences assigned  
1604 (82.3%) exact matches, in which:  
1600 unique CDR3  
6 unique J



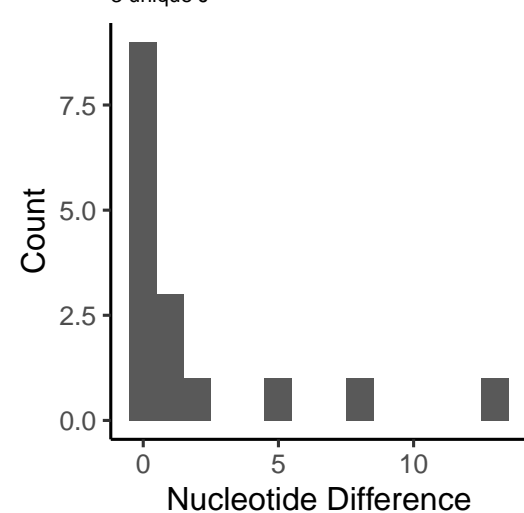
### IGHV2-26\*01

80 sequences assigned  
58 (72.5%) exact matches, in which:  
58 unique CDR3  
5 unique J



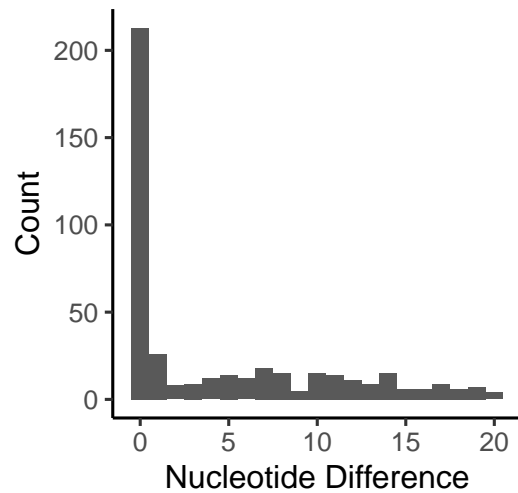
### IGHV3-9\*01

16 sequences assigned  
9 (56.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



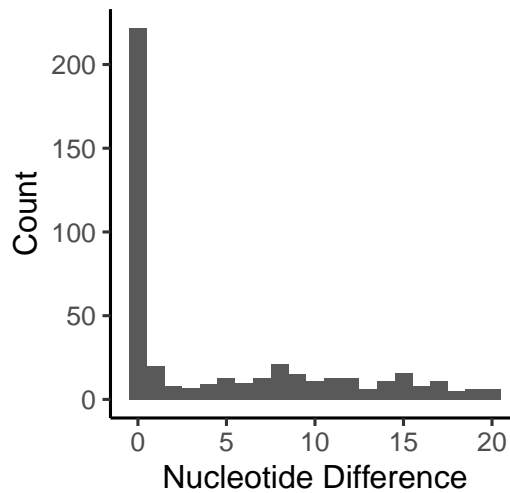
### IGHV3-11\*06

473 sequences assigned  
213 (45%) exact matches, in which:  
210 unique CDR3  
6 unique J



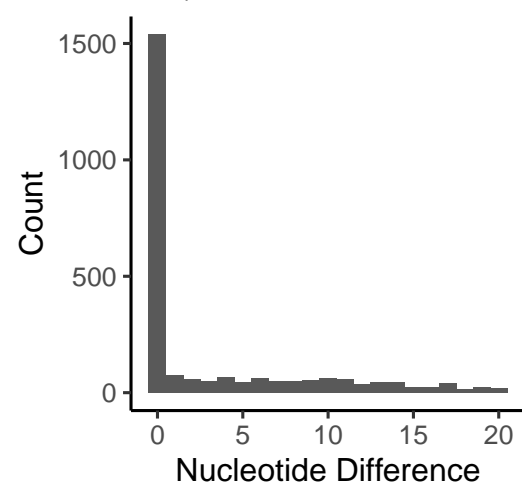
### IGHV3-15\*01\_02

481 sequences assigned  
222 (46.2%) exact matches, in which:  
218 unique CDR3  
6 unique J



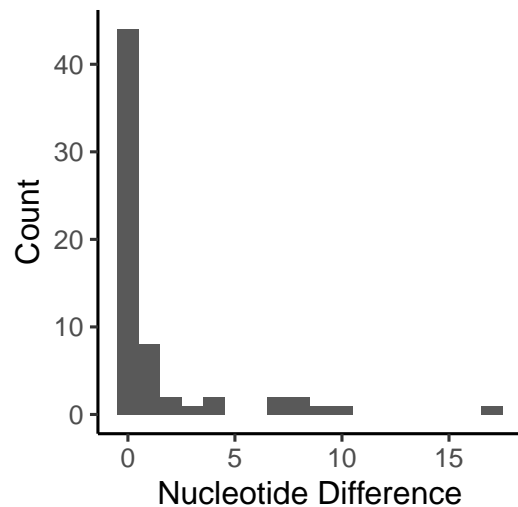
### IGHV3-21\*01\_02

2518 sequences assigned  
1539 (61.1%) exact matches, in which:  
1504 unique CDR3  
6 unique J



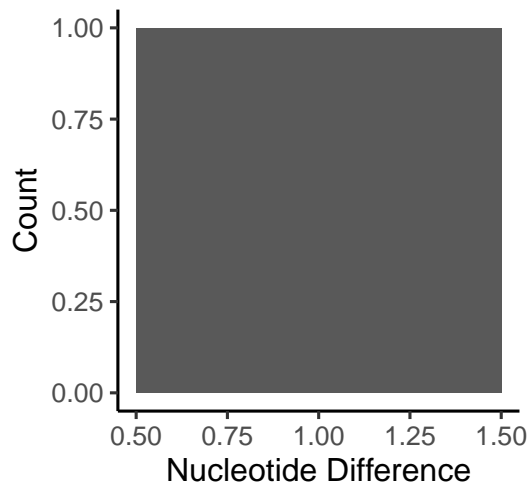
### IGHV3-13\*05

69 sequences assigned  
44 (63.8%) exact matches, in which:  
44 unique CDR3  
4 unique J



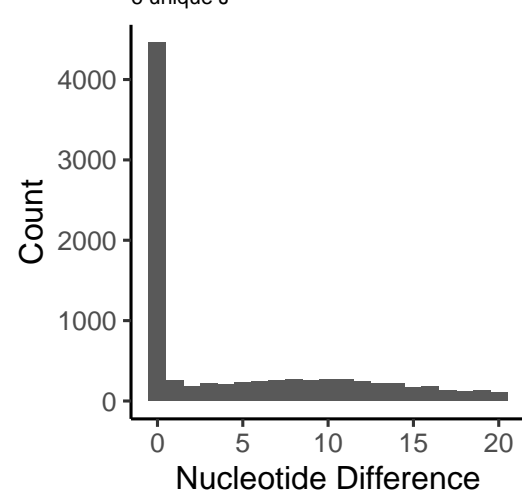
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



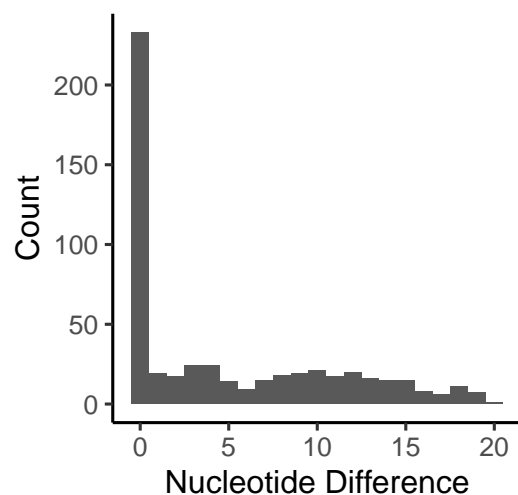
### IGHV3-23\*01\_04

9149 sequences assigned  
4458 (48.7%) exact matches, in which:  
4378 unique CDR3  
6 unique J



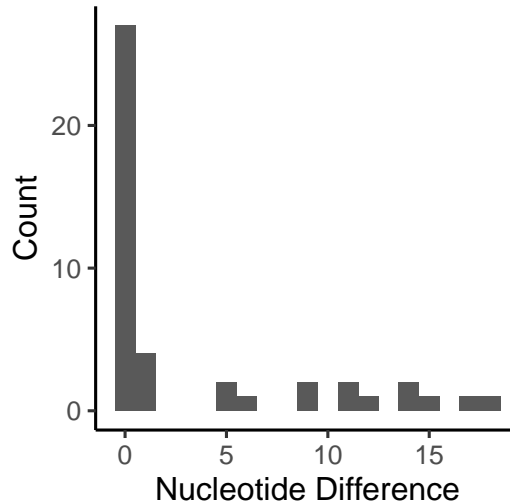
### IGHV3-15\*07

559 sequences assigned  
233 (41.7%) exact matches, in which:  
231 unique CDR3  
6 unique J



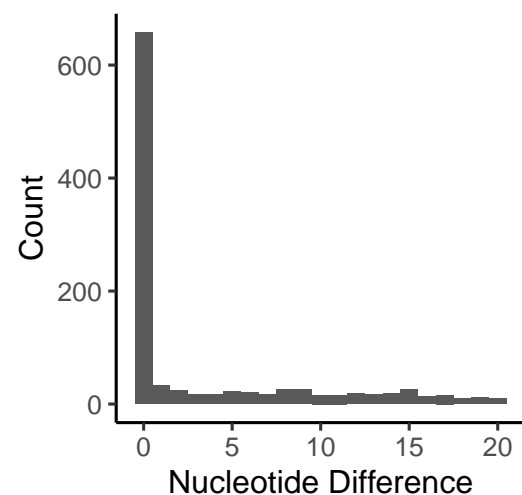
### IGHV3-20\*03\_04

46 sequences assigned  
27 (58.7%) exact matches, in which:  
27 unique CDR3  
4 unique J



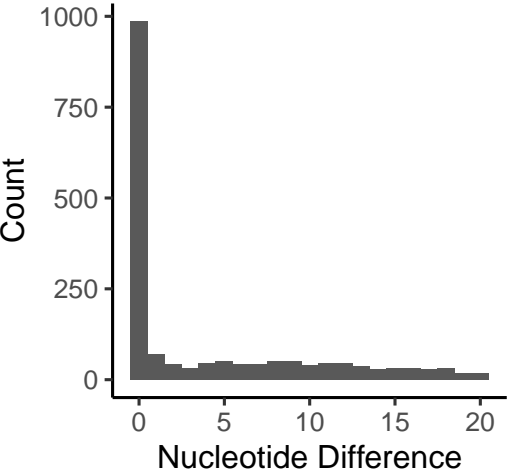
### IGHV3-30-3\*01

1072 sequences assigned  
658 (61.4%) exact matches, in which:  
648 unique CDR3  
6 unique J



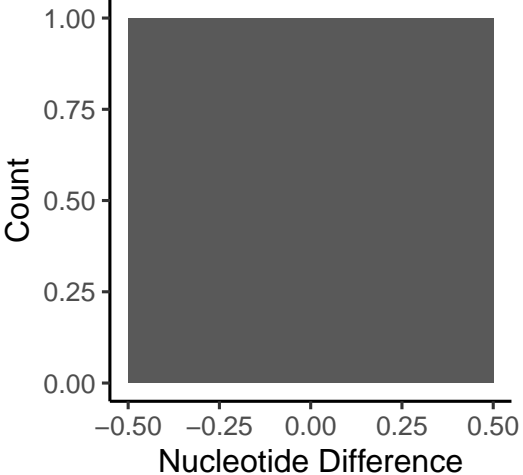
IGHV3-33\*01

1845 sequences assigned  
986 (53.4%) exact matches, in which:  
975 unique CDR3  
6 unique J



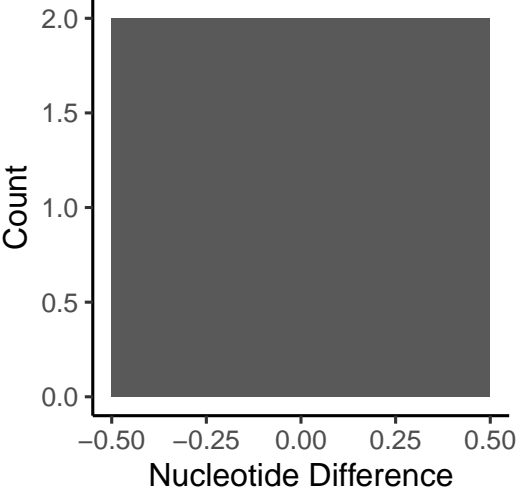
IGHV3-47\*02

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



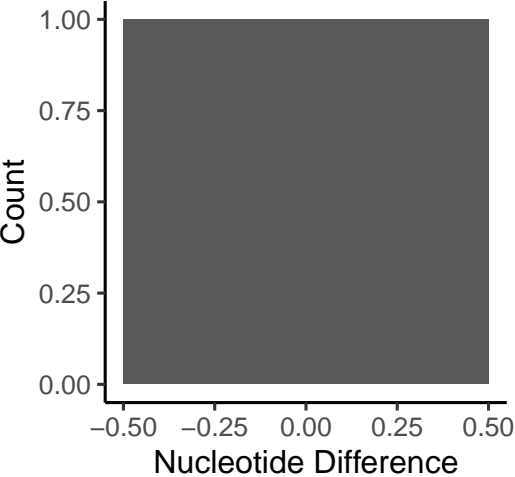
IGHV3-52\*01\_03

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



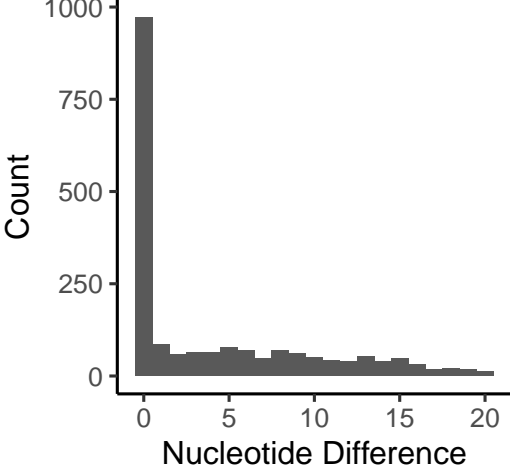
IGHV3-35\*01

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



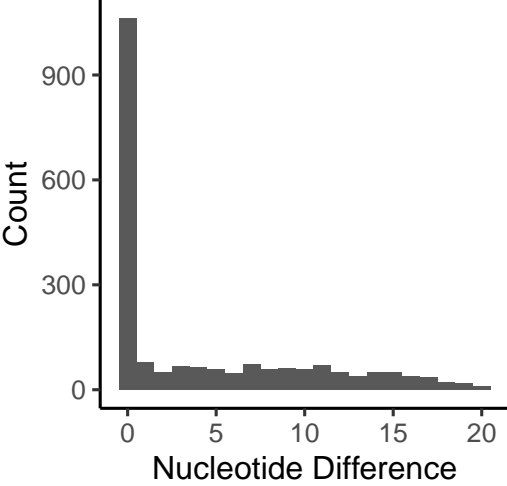
IGHV3-48\*02

2017 sequences assigned  
971 (48.1%) exact matches, in which:  
952 unique CDR3  
6 unique J



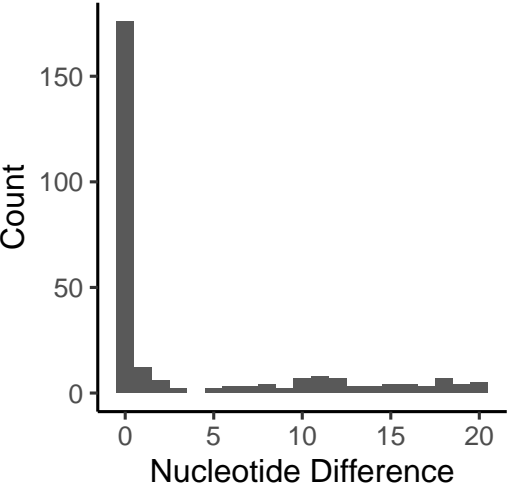
IGHV3-53\*01\_02

2147 sequences assigned  
1063 (49.5%) exact matches, in which:  
1045 unique CDR3  
6 unique J



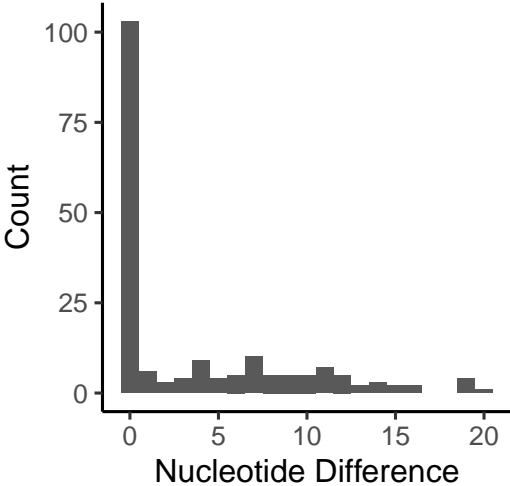
IGHV3-43\*01

276 sequences assigned  
176 (63.8%) exact matches, in which:  
175 unique CDR3  
6 unique J



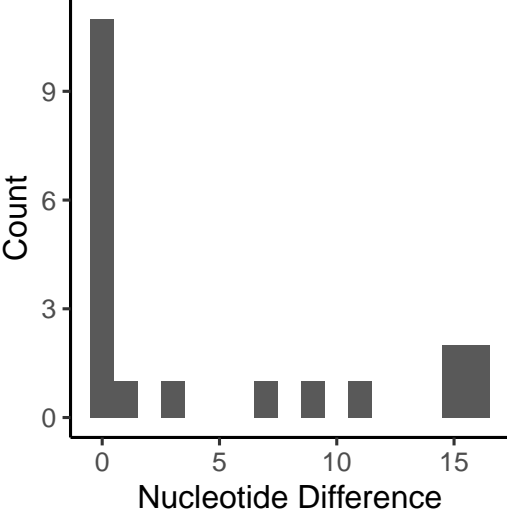
IGHV3-49\*03\_05

191 sequences assigned  
103 (53.9%) exact matches, in which:  
103 unique CDR3  
4 unique J



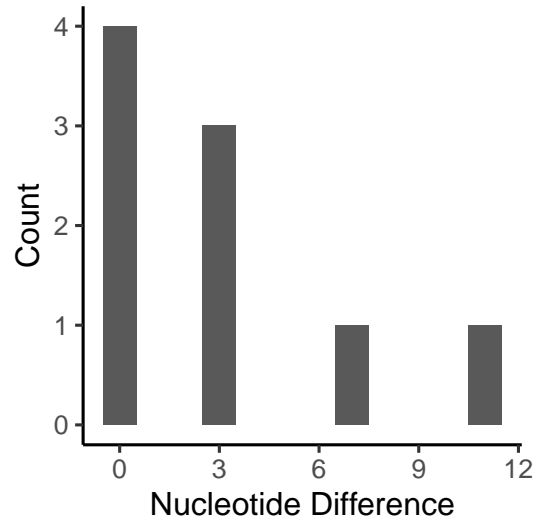
IGHV3-64\*02\_07

20 sequences assigned  
11 (55%) exact matches, in which:  
11 unique CDR3  
4 unique J



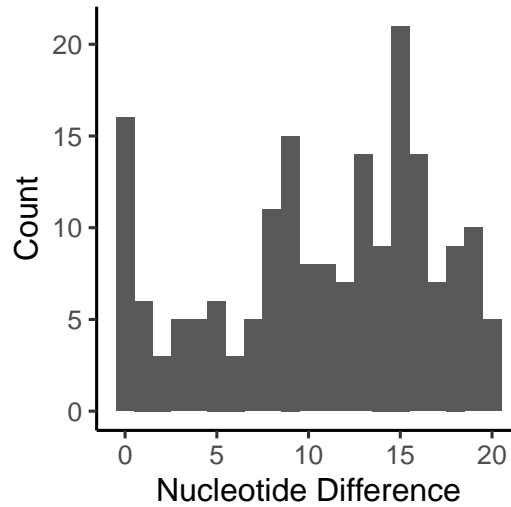
### IGHV3-66\*03

9 sequences assigned  
4 (44.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



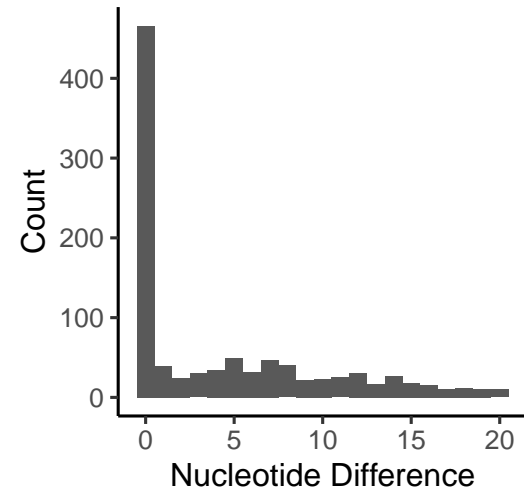
### IGHV3-72\*01

196 sequences assigned  
16 (8.2%) exact matches, in which:  
14 unique CDR3  
5 unique J



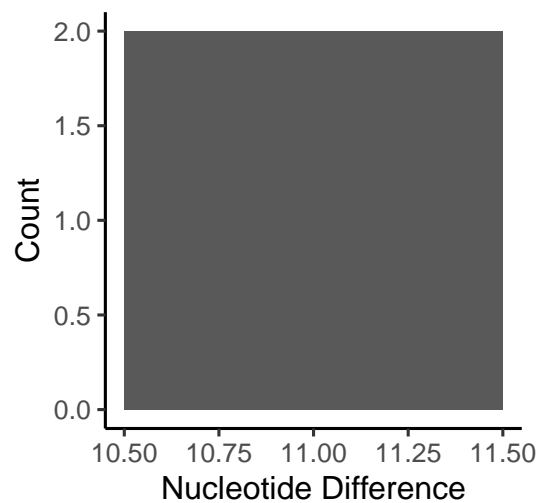
### IGHV3-74\*01\_02

1016 sequences assigned  
466 (45.9%) exact matches, in which:  
451 unique CDR3  
6 unique J



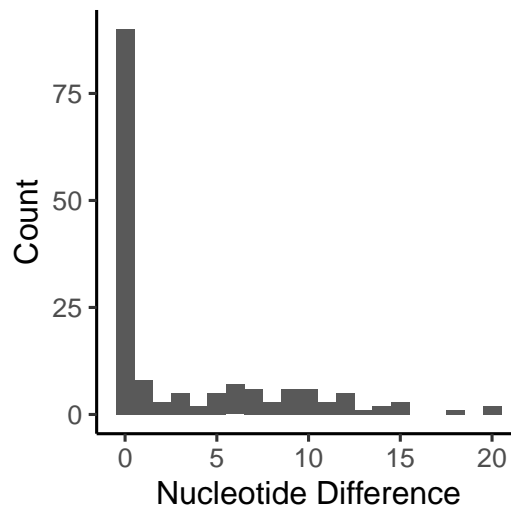
### IGHV3-66\*04

2 sequences assigned  
No exact matches.



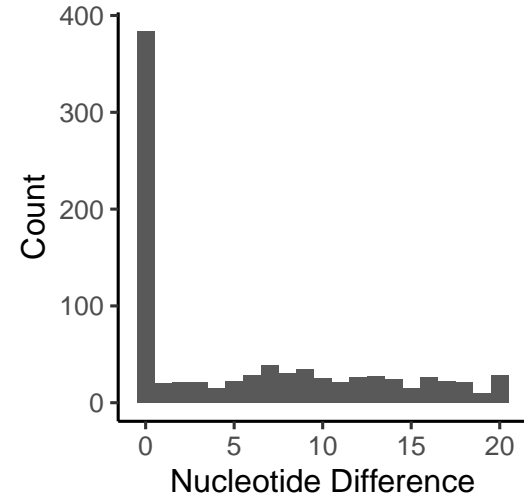
### IGHV3-73\*01\_02

161 sequences assigned  
90 (55.9%) exact matches, in which:  
90 unique CDR3  
5 unique J



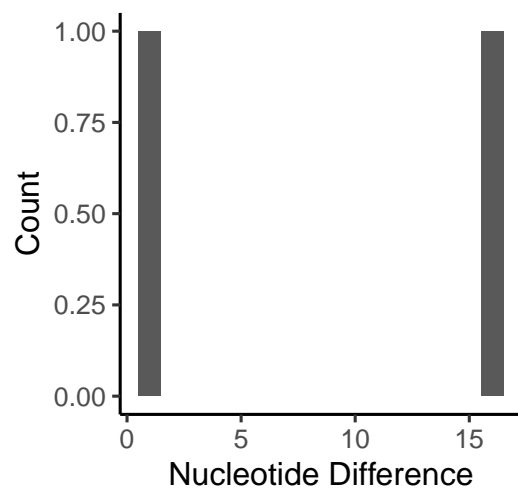
### IGHV3-64D\*06

932 sequences assigned  
384 (41.2%) exact matches, in which:  
381 unique CDR3  
6 unique J



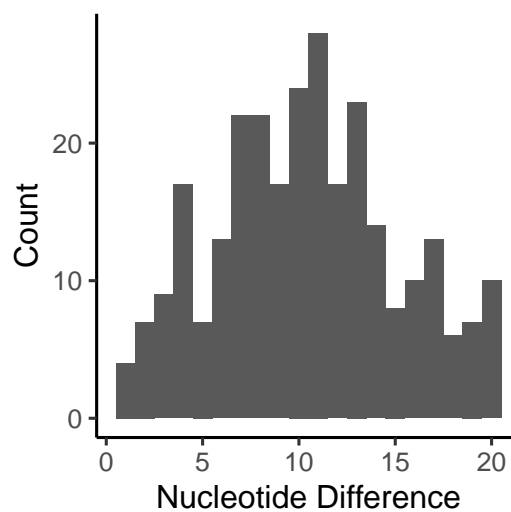
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



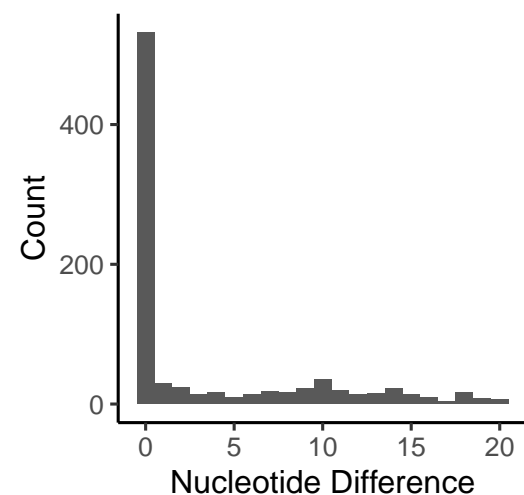
### IGHV3-74\*03

317 sequences assigned  
No exact matches.



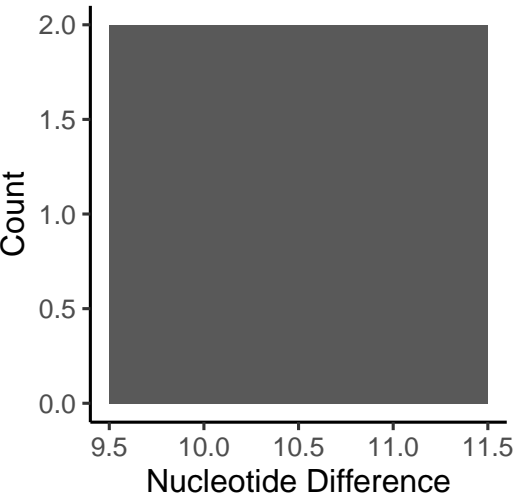
### IGHV4-4\*02\_03

924 sequences assigned  
532 (57.6%) exact matches, in which:  
528 unique CDR3  
6 unique J



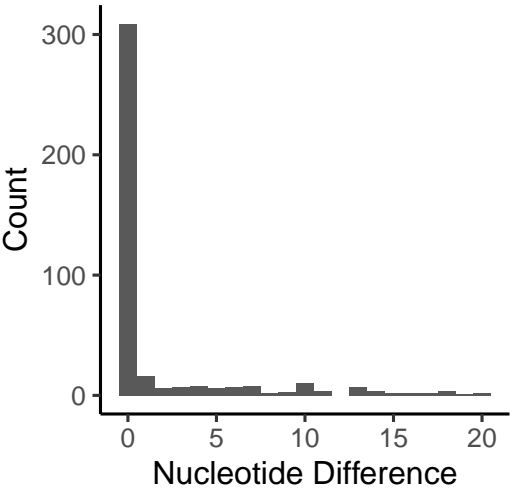
IGHV4-28\*03

4 sequences assigned  
No exact matches.



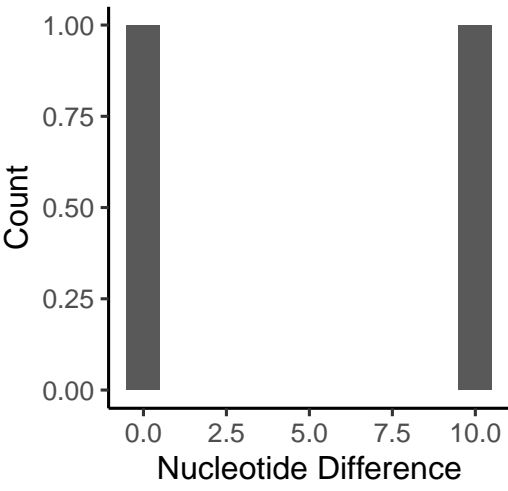
IGHV4-30-2\*01

420 sequences assigned  
309 (73.6%) exact matches, in which:  
305 unique CDR3  
6 unique J



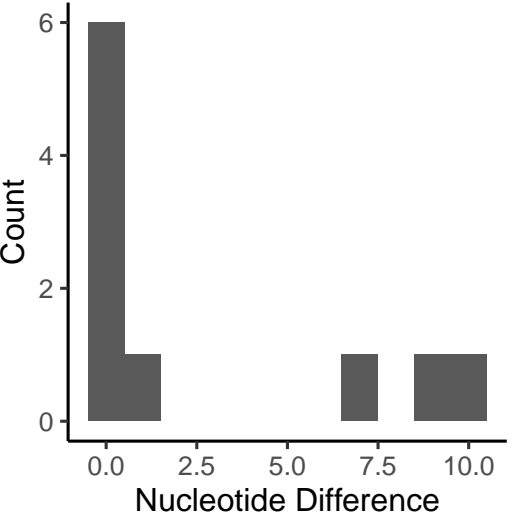
IGHV4-38-2\*01

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



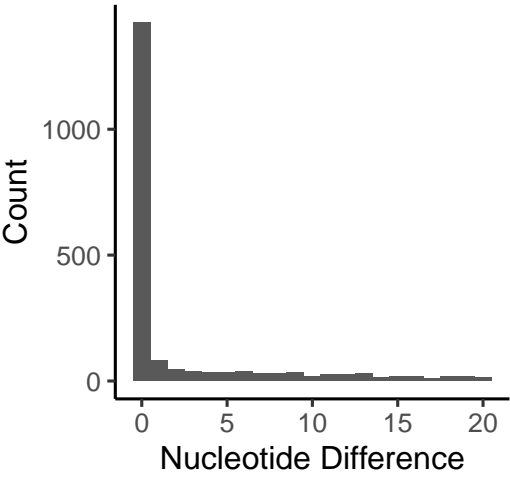
IGHV4-28\*01\_07

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
4 unique J



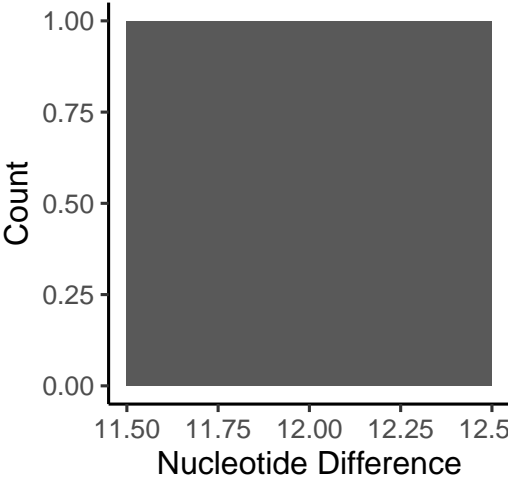
IGHV4-31\*02

2081 sequences assigned  
1423 (68.4%) exact matches, in which:  
1408 unique CDR3  
6 unique J



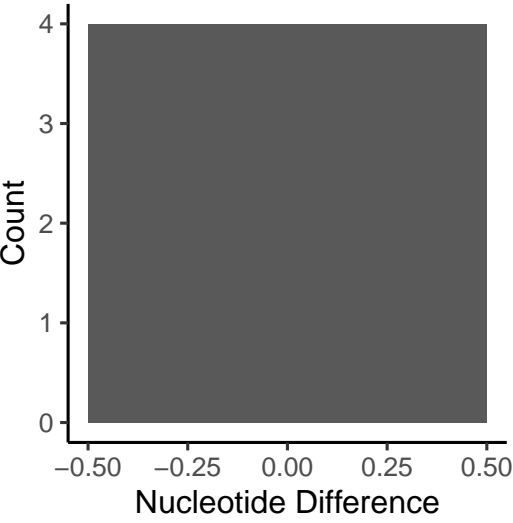
IGHV4-38-2\*02

3 sequences assigned  
No exact matches.



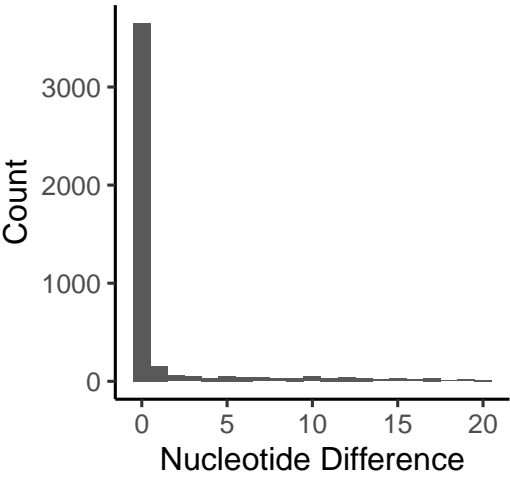
IGHV4-28\*02\_05

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



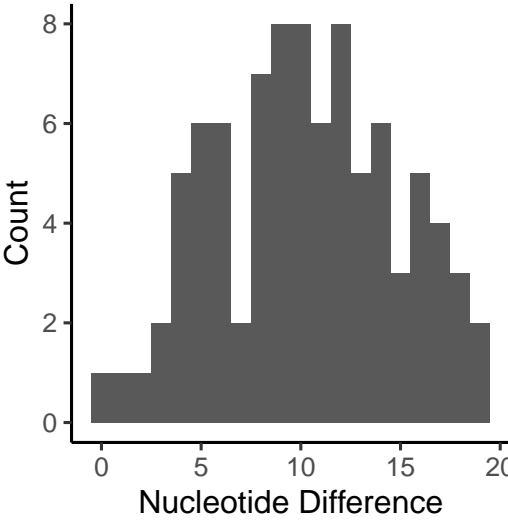
IGHV4-34\*01\_02

4595 sequences assigned  
3652 (79.5%) exact matches, in which:  
3590 unique CDR3  
6 unique J



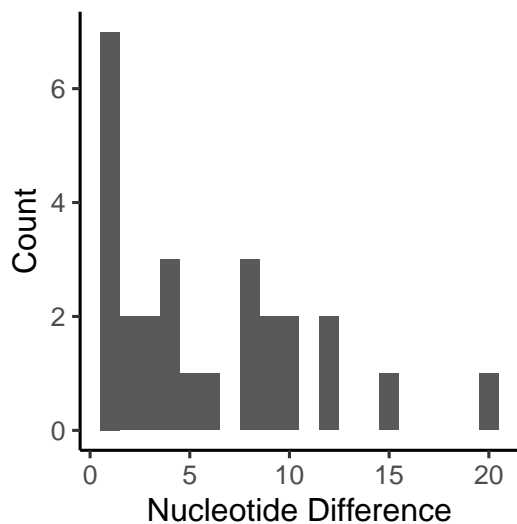
IGHV4-39\*02

124 sequences assigned  
1 (0.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



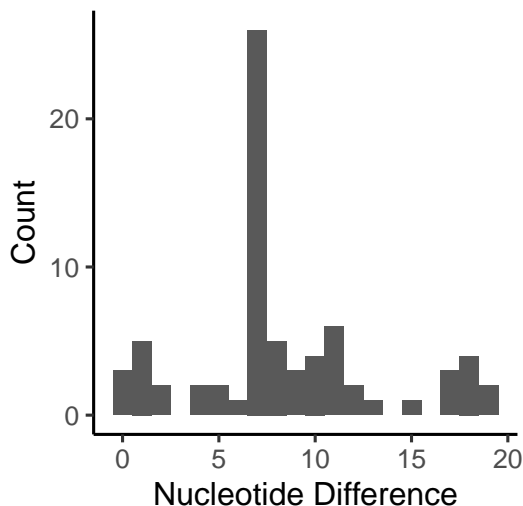
### IGHV4–39\*07

29 sequences assigned  
No exact matches.



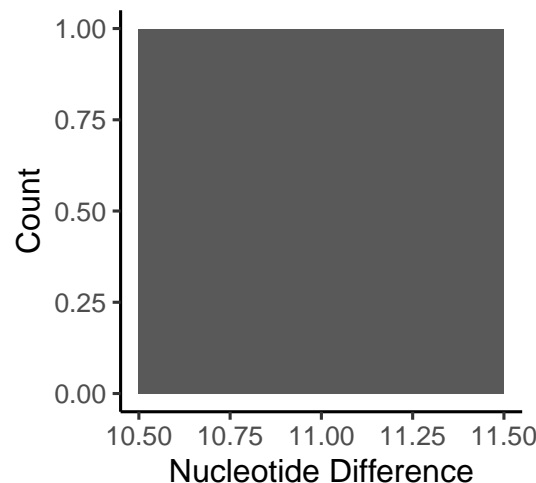
### IGHV4–59\*12

82 sequences assigned  
3 (3.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



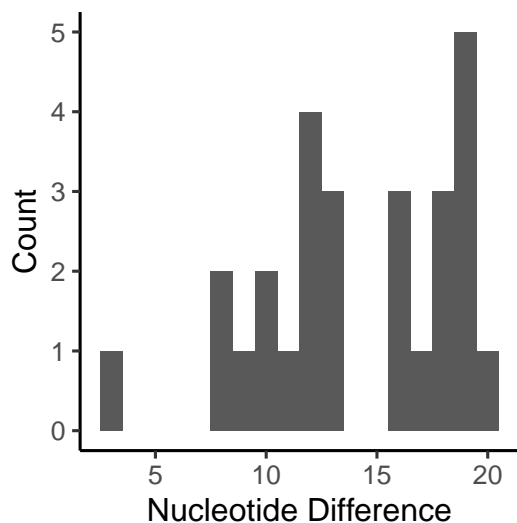
### IGHV4/OR15–8\*02

10 sequences assigned  
No exact matches.



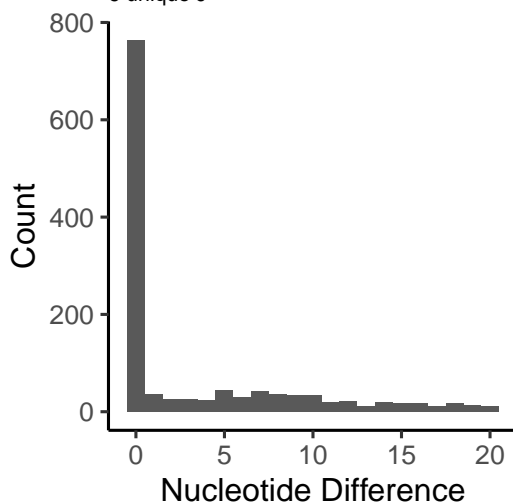
### IGHV4–59\*02

33 sequences assigned  
No exact matches.



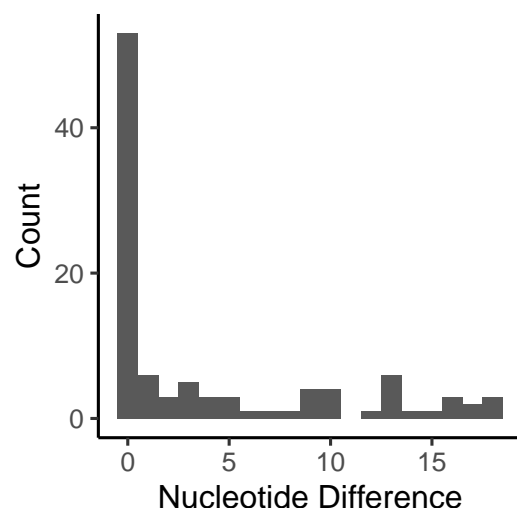
### IGHV4–61\*01

1327 sequences assigned  
764 (57.6%) exact matches, in which:  
747 unique CDR3  
6 unique J



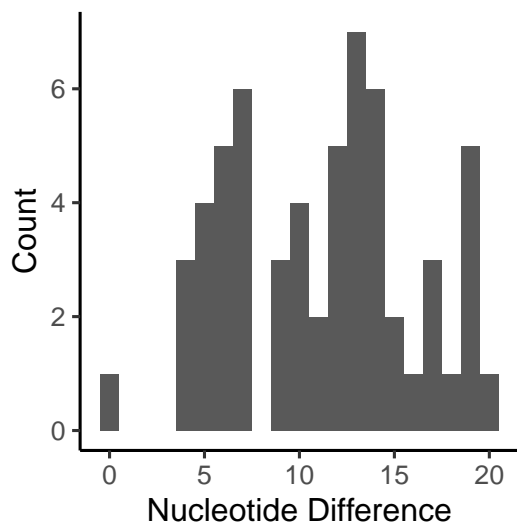
### IGHV5–10–1\*01\_03

108 sequences assigned  
53 (49.1%) exact matches, in which:  
53 unique CDR3  
6 unique J



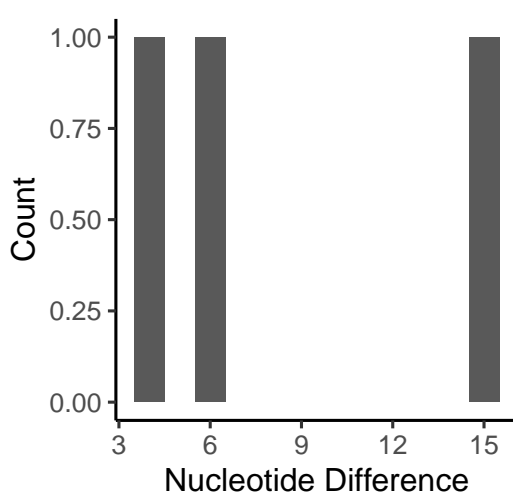
### IGHV4–59\*11

78 sequences assigned  
1 (1.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



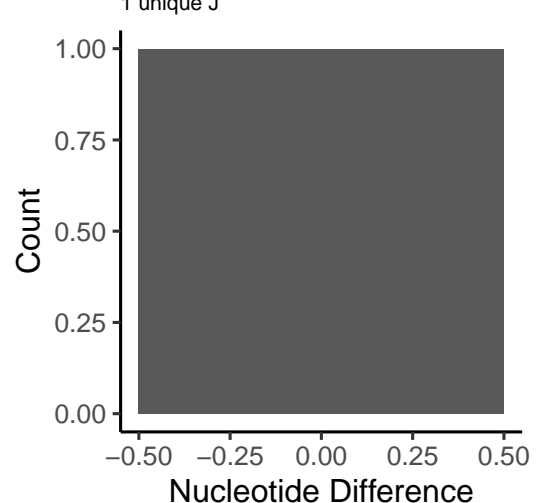
### IGHV4/OR15–8\*01

4 sequences assigned  
No exact matches.



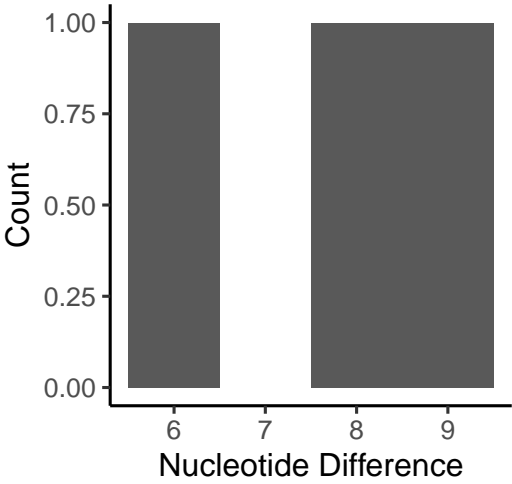
### IGHV5–51\*04

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



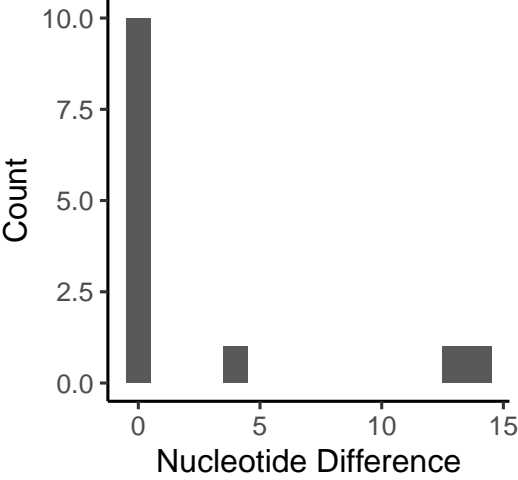
IGHV5-51\*06

3 sequences assigned  
No exact matches.



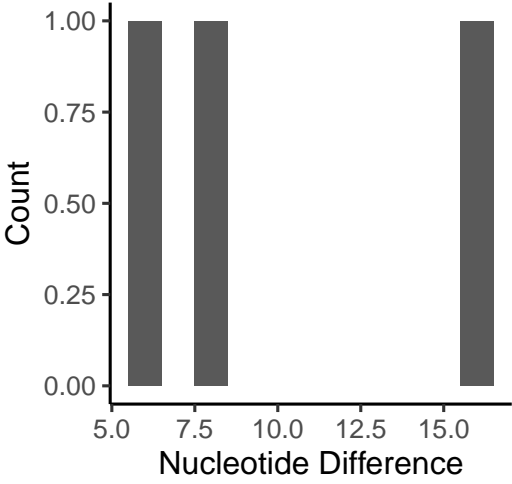
IGHV7-4-1\*01

13 sequences assigned  
10 (76.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



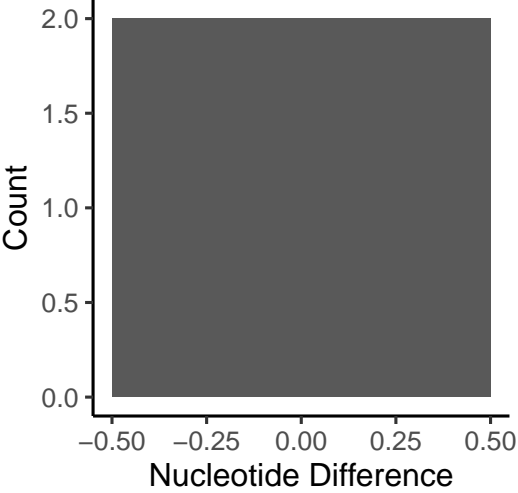
IGHV5-51\*07

4 sequences assigned  
No exact matches.



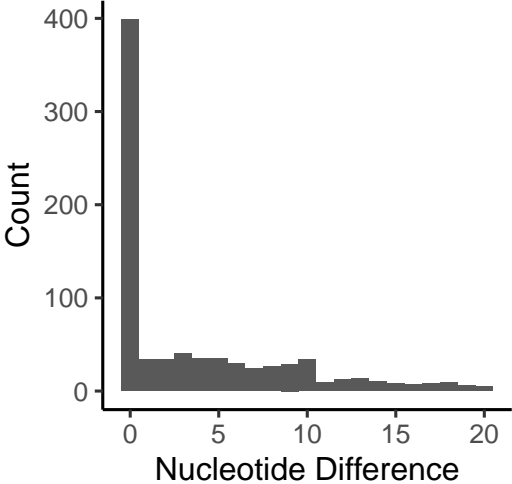
IGHV7-81\*01

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



IGHV6-1\*01\_02

836 sequences assigned  
399 (47.7%) exact matches, in which:  
398 unique CDR3  
6 unique J







[illegible]