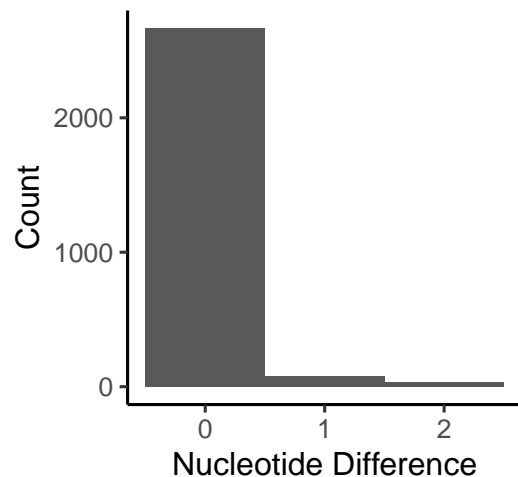


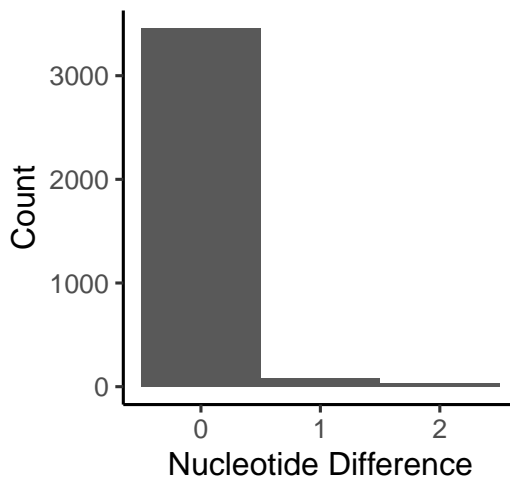
### IGHV1-2\*02

2780 sequences assigned  
2665 (95.9%) exact matches, in which:  
2615 unique CDR3  
6 unique J



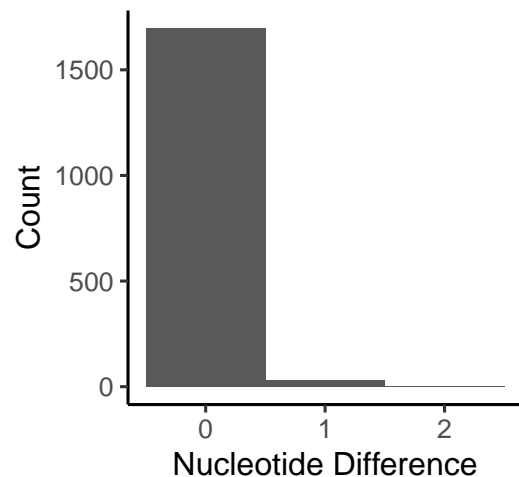
### IGHV1-8\*01

3568 sequences assigned  
3456 (96.9%) exact matches, in which:  
3384 unique CDR3  
6 unique J



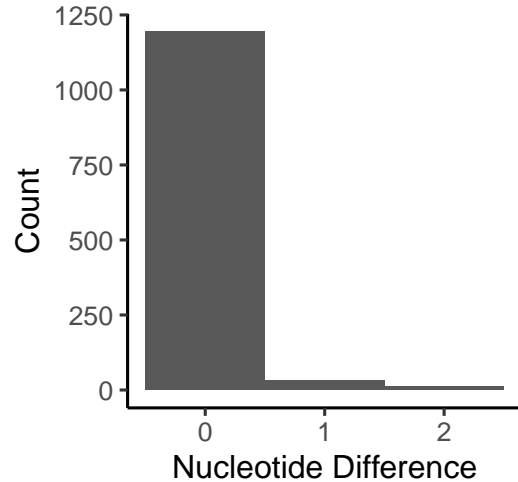
### IGHV1-24\*01

1730 sequences assigned  
1696 (98%) exact matches, in which:  
1674 unique CDR3  
6 unique J



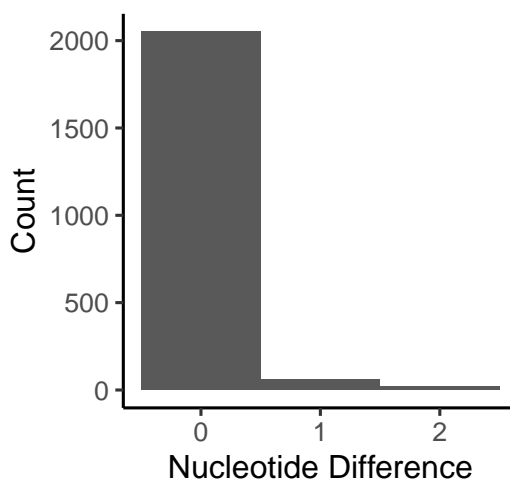
### IGHV1-2\*04

1239 sequences assigned  
1194 (96.4%) exact matches, in which:  
1178 unique CDR3  
6 unique J



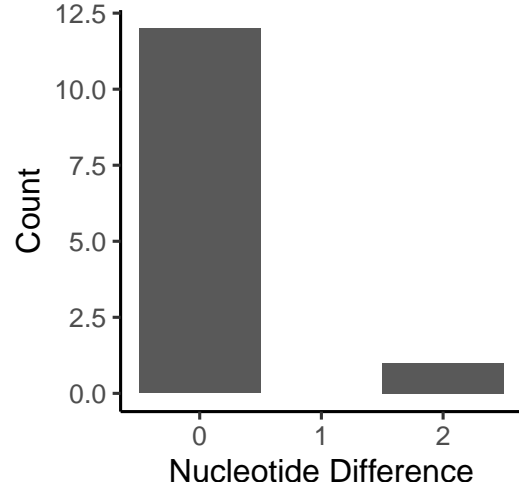
### IGHV1-18\*01

2132 sequences assigned  
2051 (96.2%) exact matches, in which:  
2009 unique CDR3  
6 unique J



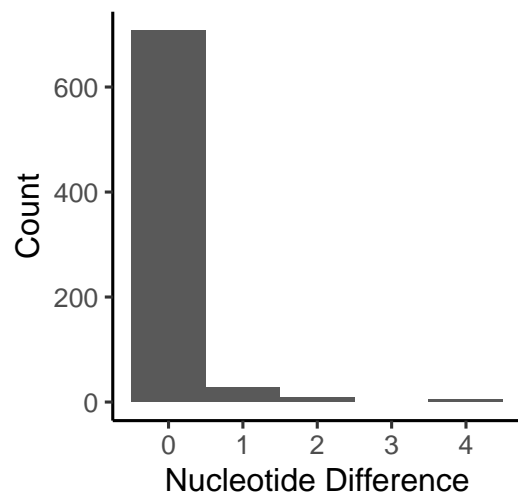
### IGHV1-45\*02

13 sequences assigned  
12 (92.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



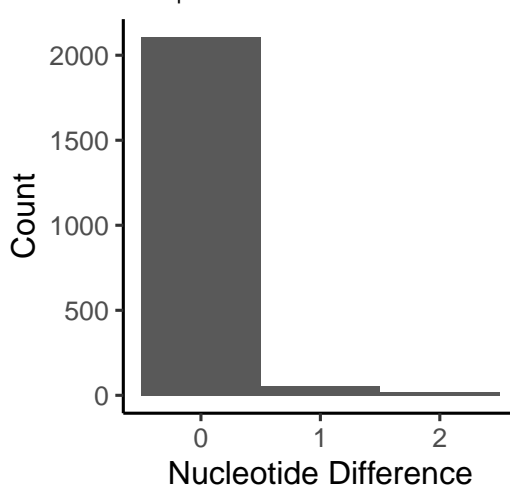
### IGHV1-3\*01\_05

749 sequences assigned  
708 (94.5%) exact matches, in which:  
703 unique CDR3  
6 unique J



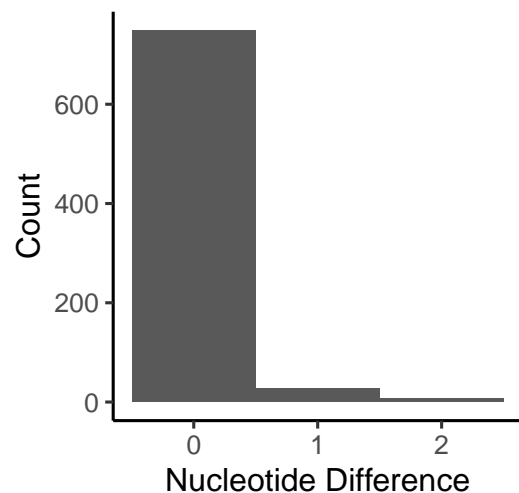
### IGHV1-18\*04

2184 sequences assigned  
2107 (96.5%) exact matches, in which:  
2064 unique CDR3  
6 unique J



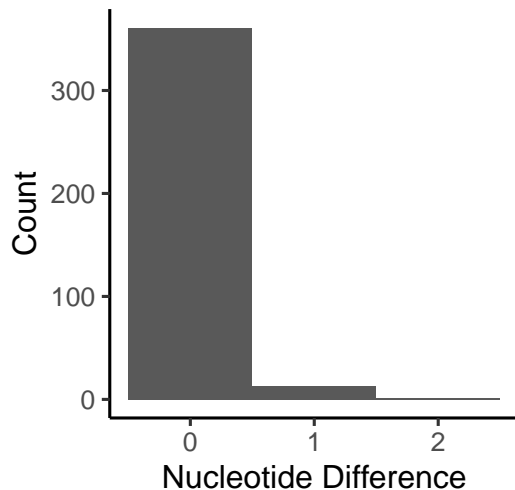
### IGHV1-46\*01

784 sequences assigned  
749 (95.5%) exact matches, in which:  
744 unique CDR3  
6 unique J



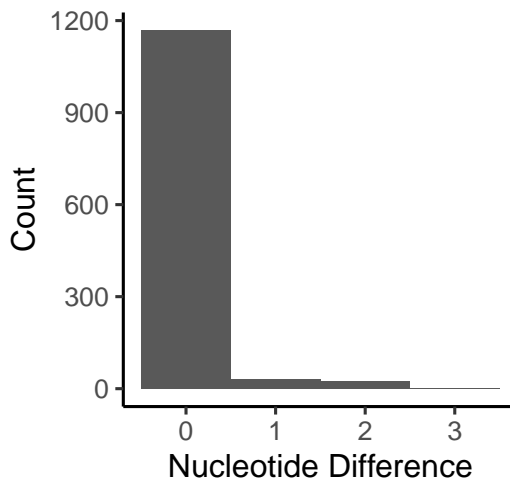
### IGHV1-46\*03

375 sequences assigned  
361 (96.3%) exact matches, in which:  
354 unique CDR3  
6 unique J



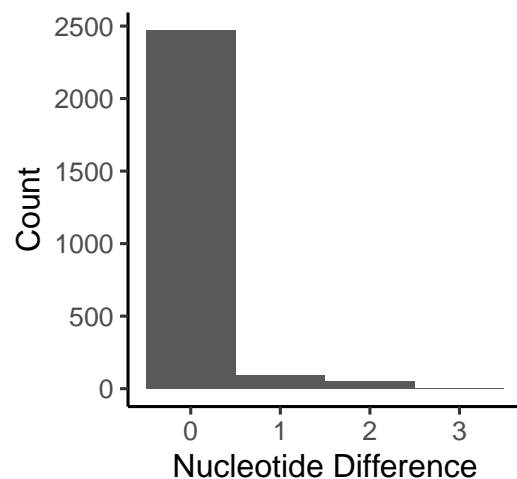
### IGHV2-5\*01

1224 sequences assigned  
1168 (95.4%) exact matches, in which:  
1155 unique CDR3  
6 unique J



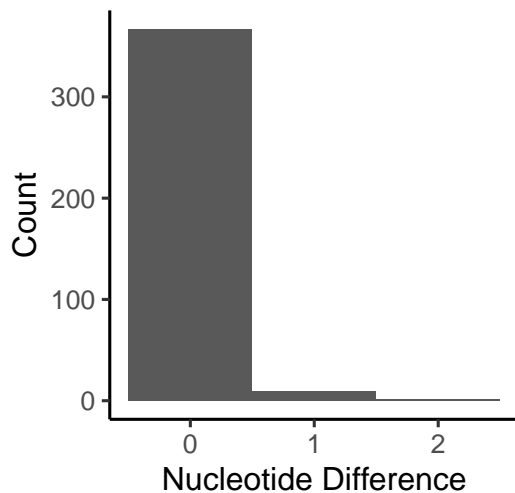
### IGHV3-7\*01

2613 sequences assigned  
2470 (94.5%) exact matches, in which:  
2310 unique CDR3  
6 unique J



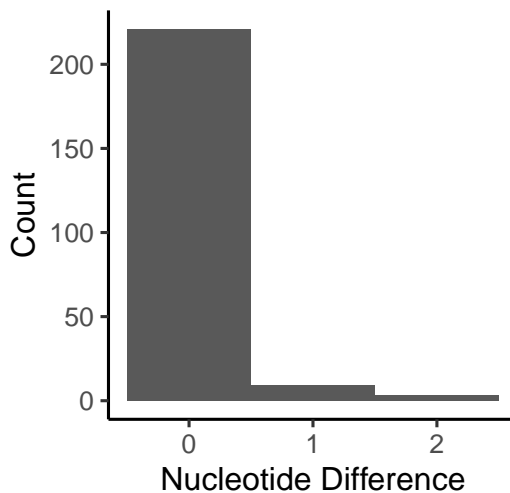
### IGHV1-58\*01\_03

377 sequences assigned  
367 (97.3%) exact matches, in which:  
360 unique CDR3  
6 unique J



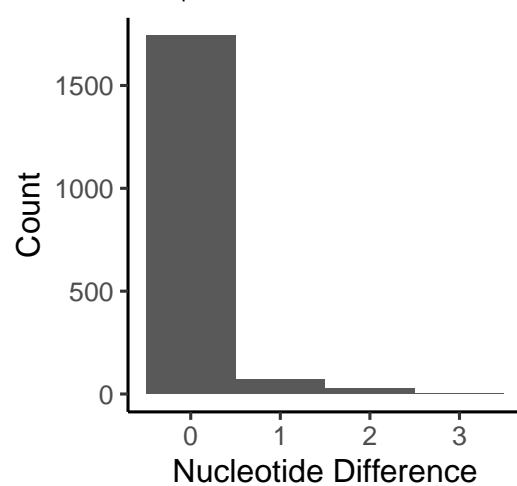
### IGHV2-26\*01

233 sequences assigned  
221 (94.8%) exact matches, in which:  
218 unique CDR3  
6 unique J



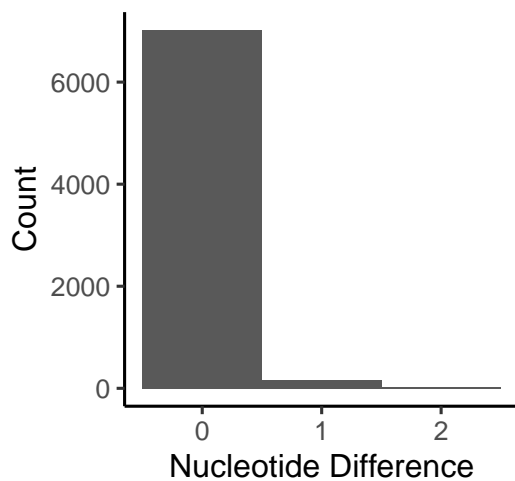
### IGHV3-9\*01

1840 sequences assigned  
1742 (94.7%) exact matches, in which:  
1685 unique CDR3  
6 unique J



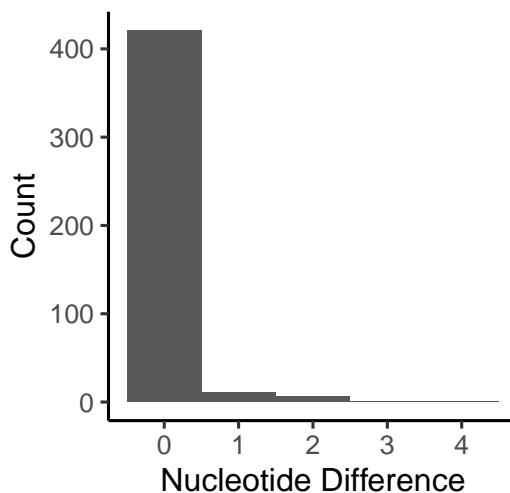
### IGHV1-69\*01\_12\_13

7209 sequences assigned  
7020 (97.4%) exact matches, in which:  
6949 unique CDR3  
6 unique J



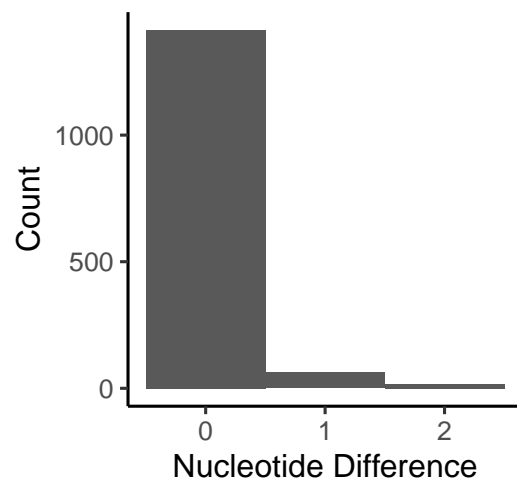
### IGHV2-70\*01

440 sequences assigned  
421 (95.7%) exact matches, in which:  
417 unique CDR3  
5 unique J



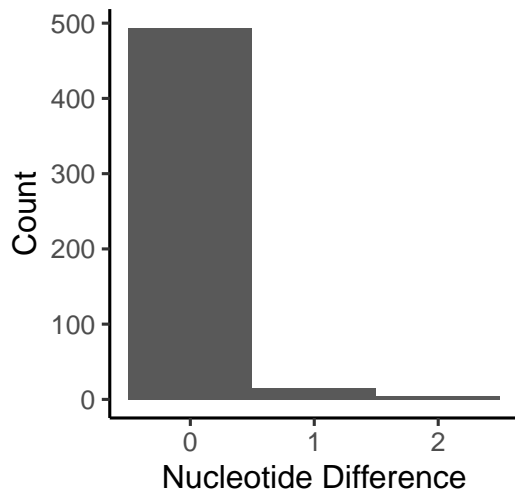
### IGHV3-11\*01

1494 sequences assigned  
1415 (94.7%) exact matches, in which:  
1348 unique CDR3  
6 unique J



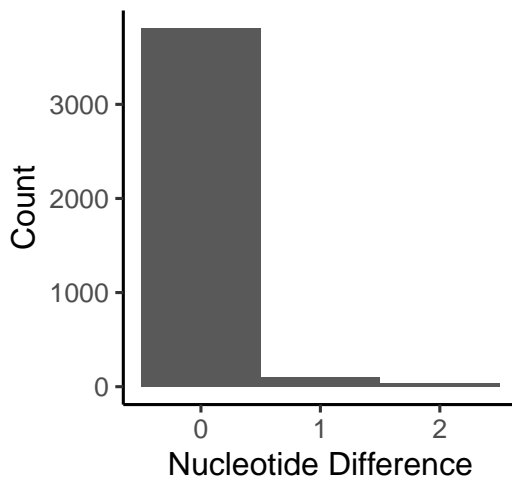
### IGHV3-13\*01

514 sequences assigned  
494 (96.1%) exact matches, in which:  
467 unique CDR3  
5 unique J



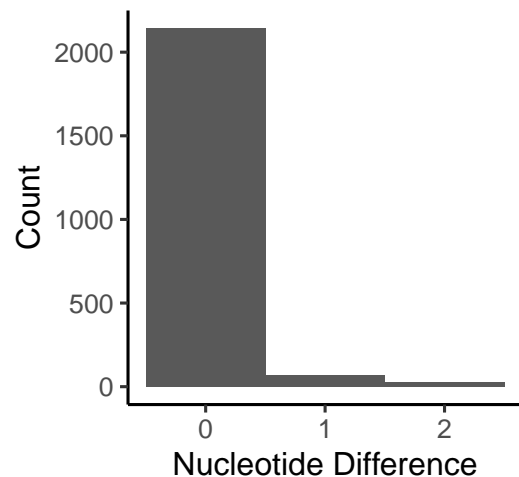
### IGHV3-21\*01\_02

3945 sequences assigned  
3807 (96.5%) exact matches, in which:  
3540 unique CDR3  
6 unique J



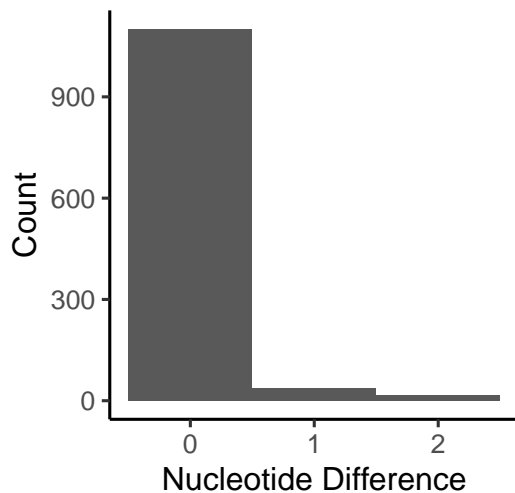
### IGHV3-33\*01

2239 sequences assigned  
2142 (95.7%) exact matches, in which:  
2070 unique CDR3  
6 unique J



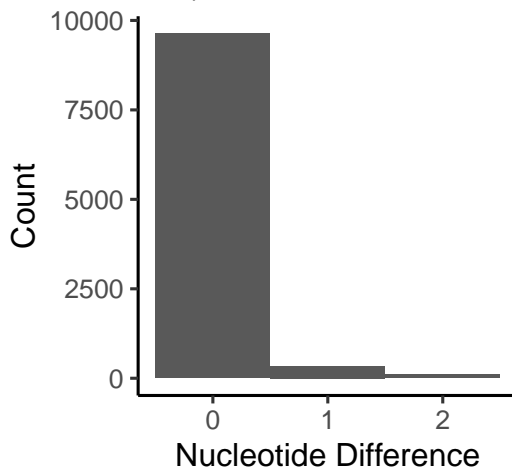
### IGHV3-15\*01\_02

1154 sequences assigned  
1101 (95.4%) exact matches, in which:  
1051 unique CDR3  
6 unique J



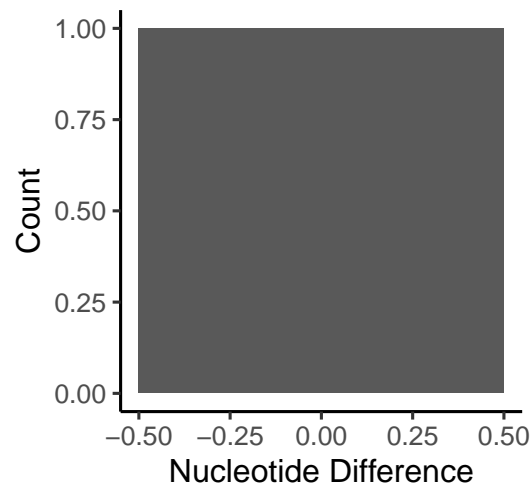
### IGHV3-23\*01\_04

10083 sequences assigned  
9636 (95.6%) exact matches, in which:  
8938 unique CDR3  
6 unique J



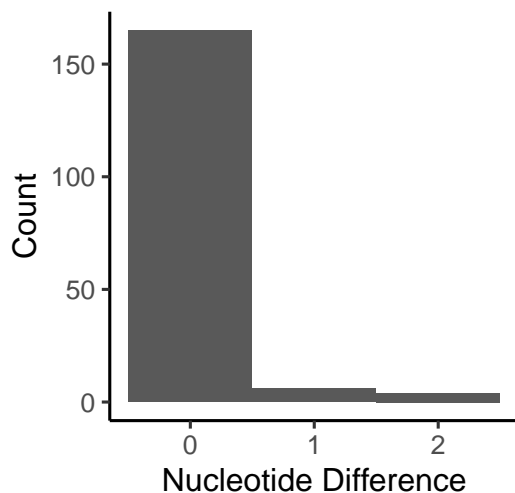
### IGHV3-35\*01

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



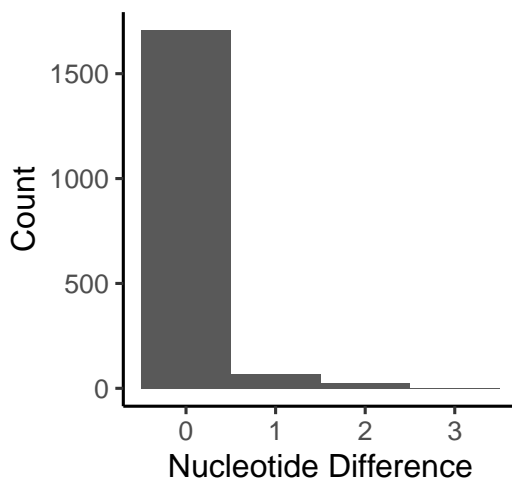
### IGHV3-20\*01\_02

175 sequences assigned  
165 (94.3%) exact matches, in which:  
158 unique CDR3  
5 unique J



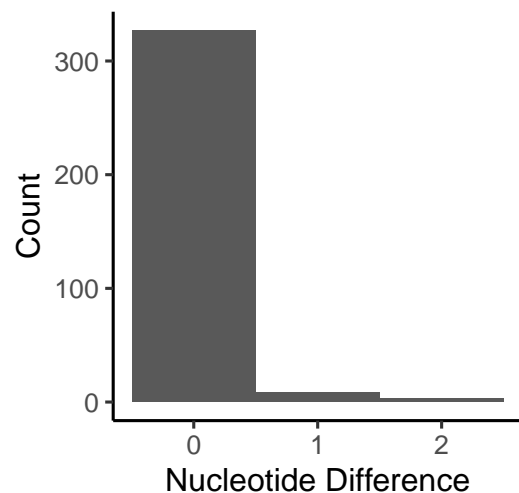
### IGHV3-30-3\*01

1802 sequences assigned  
1708 (94.8%) exact matches, in which:  
1648 unique CDR3  
6 unique J



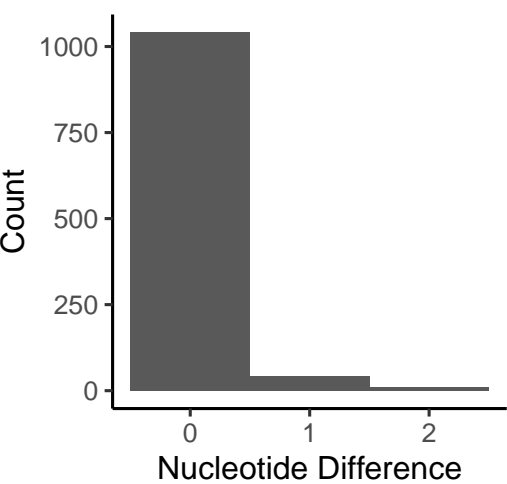
### IGHV3-43\*01

338 sequences assigned  
327 (96.7%) exact matches, in which:  
304 unique CDR3  
6 unique J



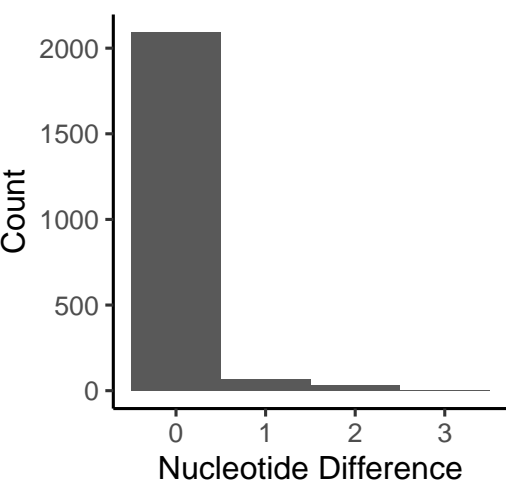
IGHV3-48\*01

1093 sequences assigned  
1041 (95.2%) exact matches, in which:  
968 unique CDR3  
6 unique J



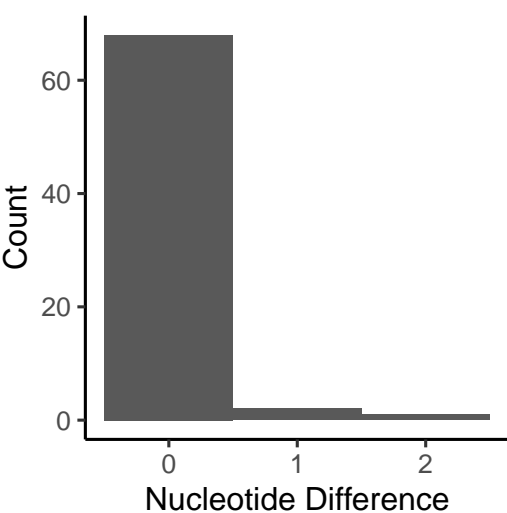
IGHV3-53\*01\_02

2194 sequences assigned  
2092 (95.4%) exact matches, in which:  
1927 unique CDR3  
6 unique J



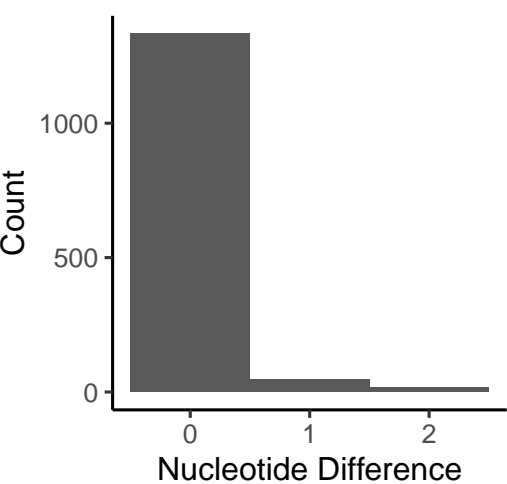
IGHV3-72\*01

71 sequences assigned  
68 (95.8%) exact matches, in which:  
65 unique CDR3  
6 unique J



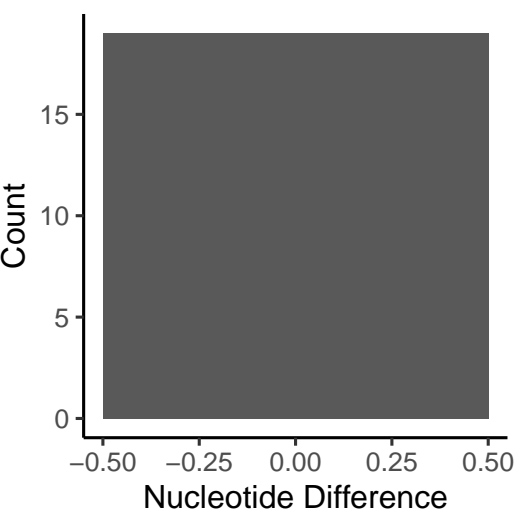
IGHV3-48\*02

1393 sequences assigned  
1333 (95.7%) exact matches, in which:  
1234 unique CDR3  
6 unique J



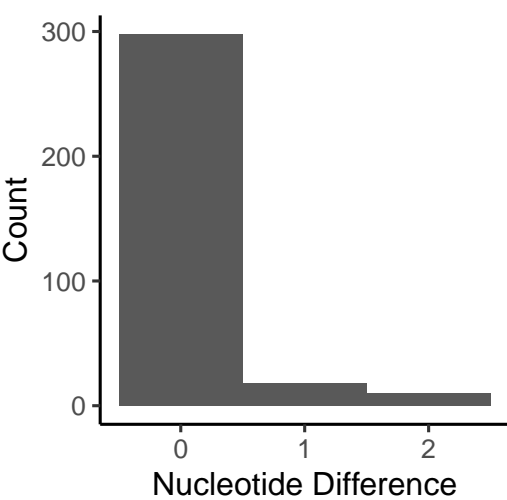
IGHV3-64\*02\_07

19 sequences assigned  
19 (100%) exact matches, in which:  
18 unique CDR3  
5 unique J



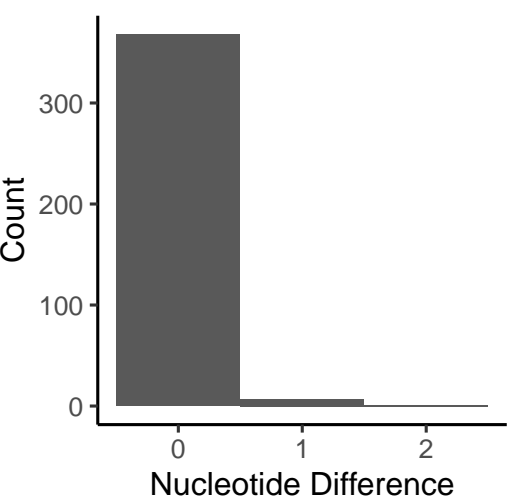
IGHV3-73\*01\_02

326 sequences assigned  
298 (91.4%) exact matches, in which:  
274 unique CDR3  
6 unique J



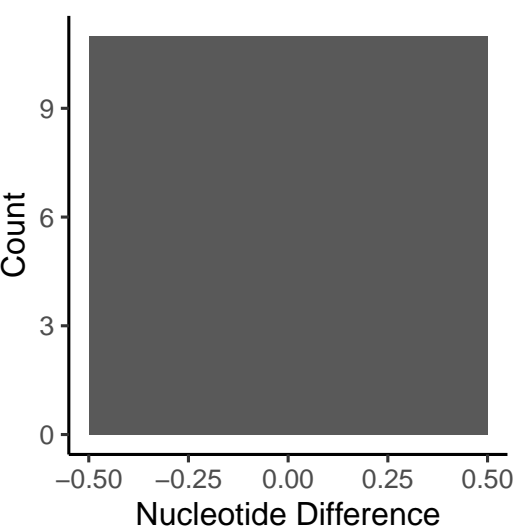
IGHV3-49\*03\_05

376 sequences assigned  
368 (97.9%) exact matches, in which:  
362 unique CDR3  
6 unique J



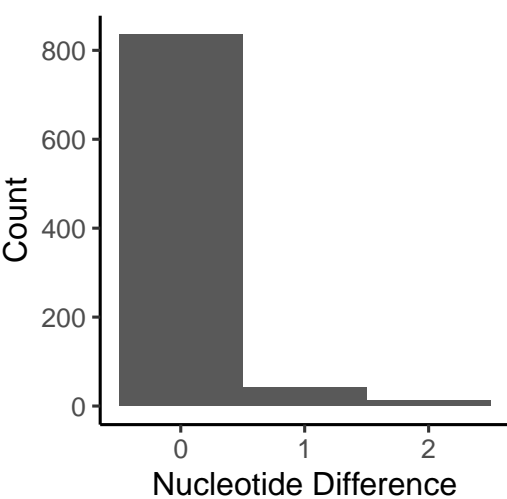
IGHV3-66\*03

11 sequences assigned  
11 (100%) exact matches, in which:  
11 unique CDR3  
2 unique J



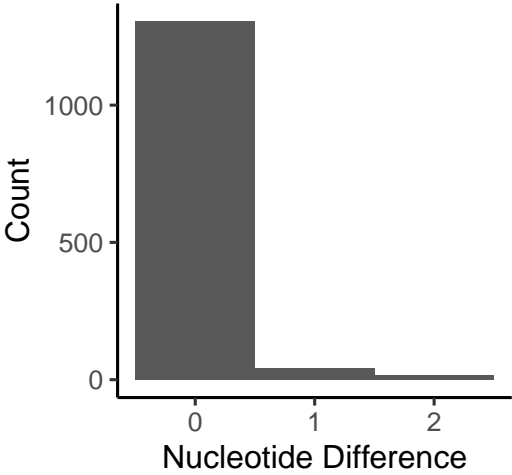
IGHV3-74\*01\_02

890 sequences assigned  
836 (93.9%) exact matches, in which:  
797 unique CDR3  
6 unique J



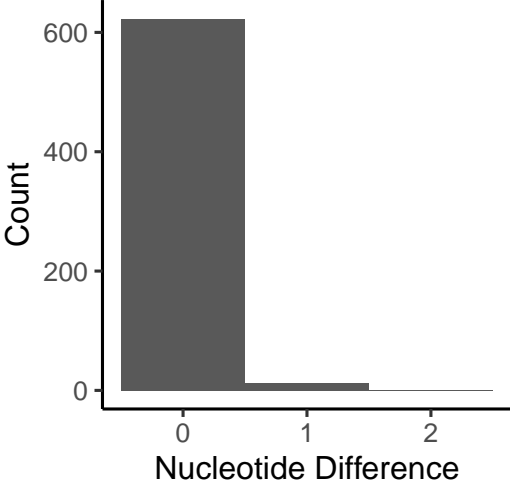
IGHV4-4\*07

1365 sequences assigned  
1305 (95.6%) exact matches, in which:  
1215 unique CDR3  
6 unique J



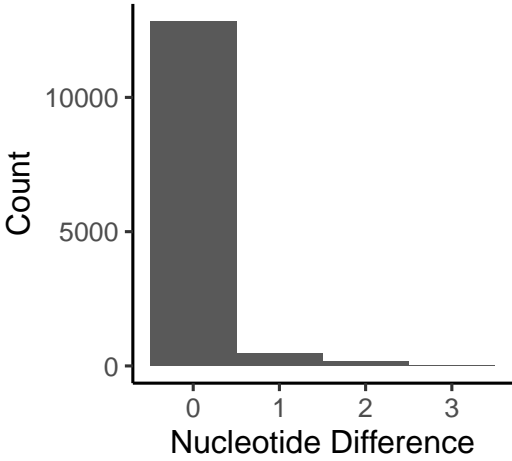
IGHV4-30-4\*01

636 sequences assigned  
623 (98%) exact matches, in which:  
602 unique CDR3  
6 unique J



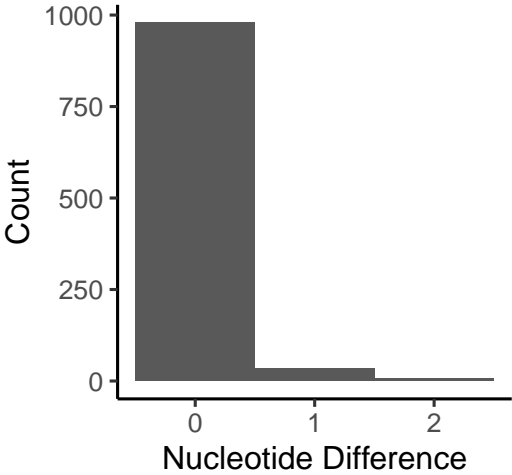
IGHV4-34\*01\_02

13451 sequences assigned  
12840 (95.5%) exact matches, in which:  
11776 unique CDR3  
6 unique J



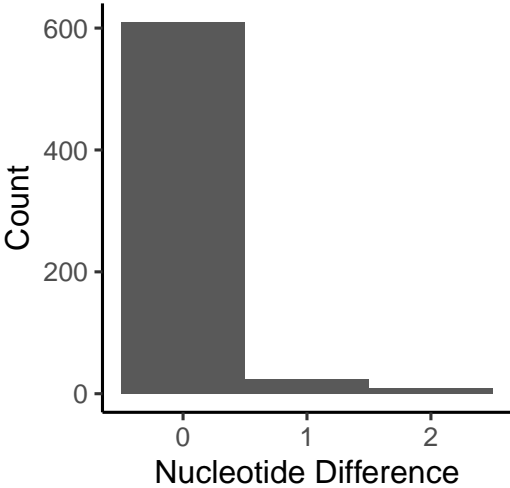
IGHV4-4\*02\_03

1019 sequences assigned  
979 (96.1%) exact matches, in which:  
937 unique CDR3  
6 unique J



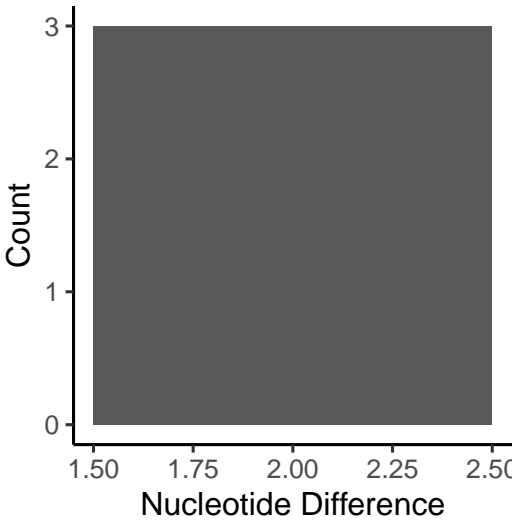
IGHV4-30-2\*01

643 sequences assigned  
610 (94.9%) exact matches, in which:  
557 unique CDR3  
6 unique J



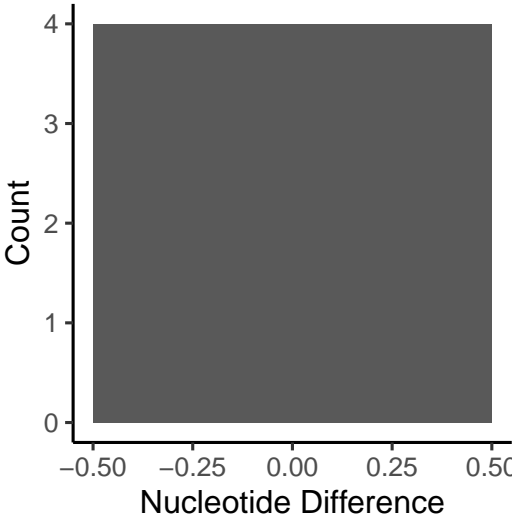
IGHV4-39\*02

3 sequences assigned  
No exact matches.



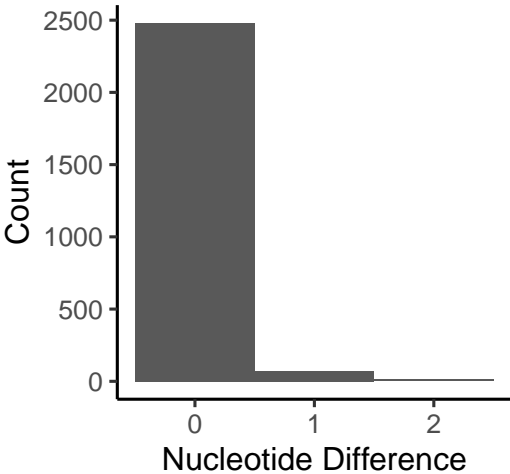
IGHV4-28\*01\_07

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



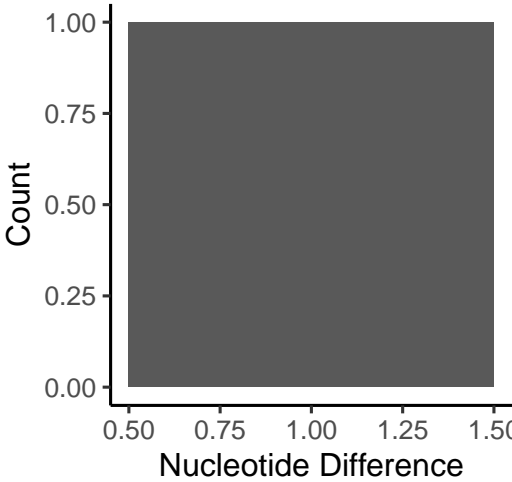
IGHV4-31\*02

2563 sequences assigned  
2480 (96.8%) exact matches, in which:  
2392 unique CDR3  
6 unique J



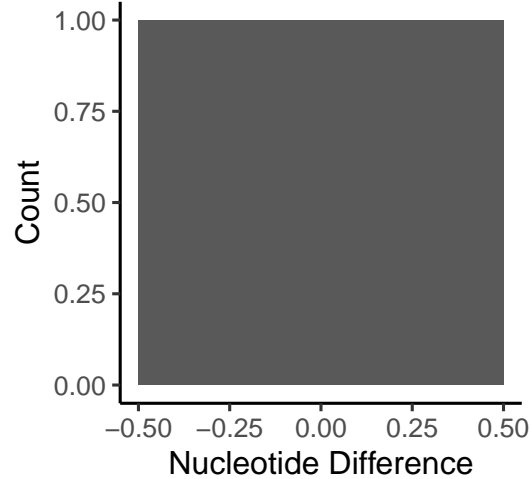
IGHV4-59\*08

1 sequences assigned  
No exact matches.



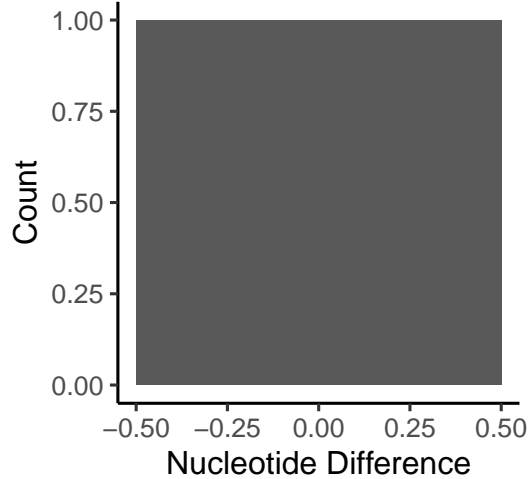
### IGHV4-59\*11

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



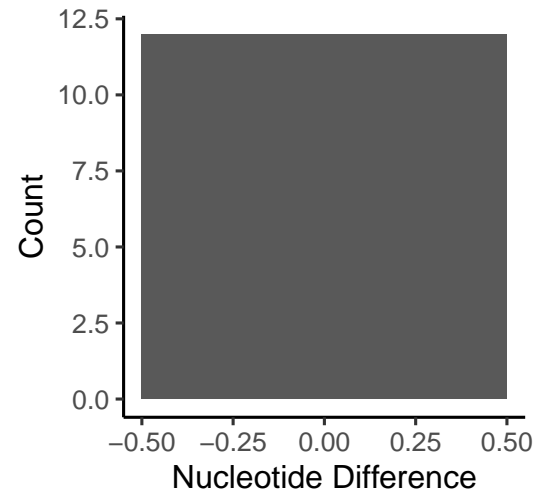
### IGHV5-51\*07

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



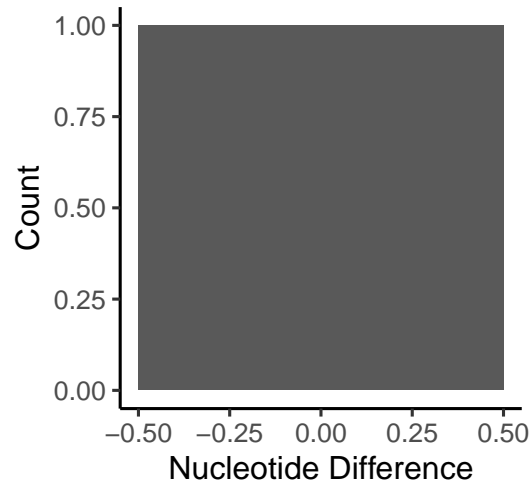
### IGHV7-4-1\*01

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



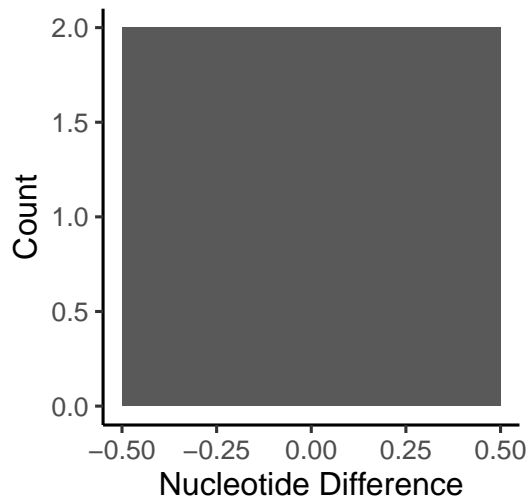
### IGHV4-59\*13

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



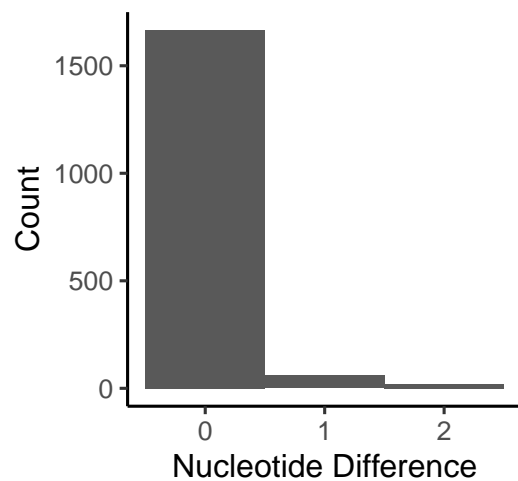
### IGHV5-51\*01\_03

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



### IGHV4-61\*01

1745 sequences assigned  
1666 (95.5%) exact matches, in which:  
1564 unique CDR3  
6 unique J



### IGHV6-1\*01\_02

932 sequences assigned  
887 (95.2%) exact matches, in which:  
856 unique CDR3  
6 unique J

