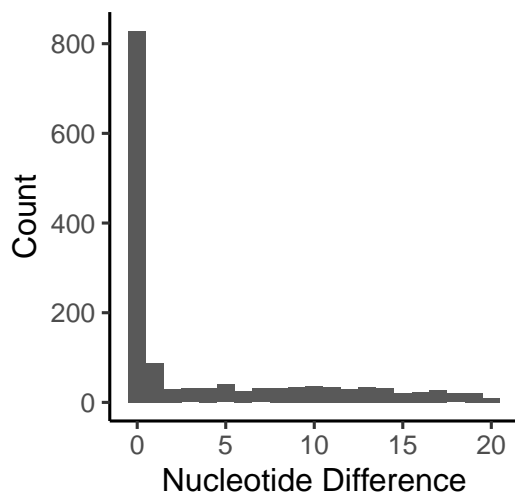


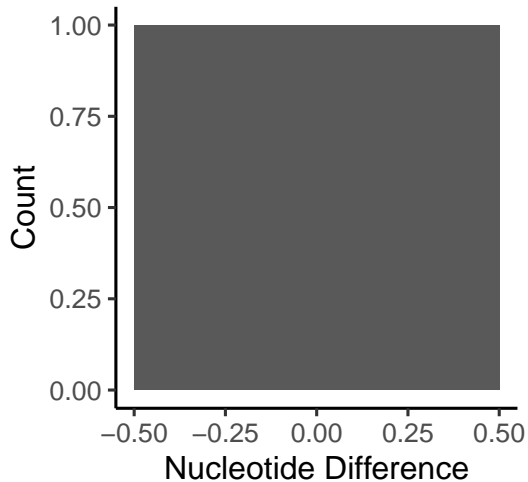
### IGHV1-2\*06

1608 sequences assigned  
829 (51.6%) exact matches, in which:  
821 unique CDR3  
6 unique J



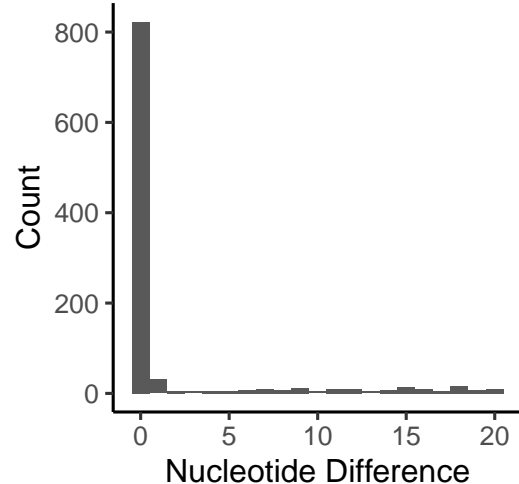
### IGHV1-8\*03

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



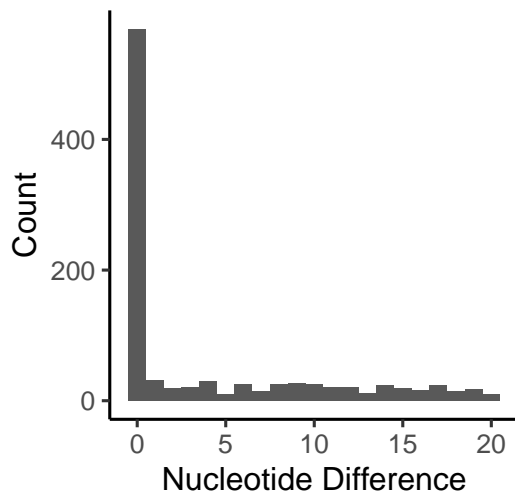
### IGHV1-24\*01

1056 sequences assigned  
823 (77.9%) exact matches, in which:  
819 unique CDR3  
7 unique J



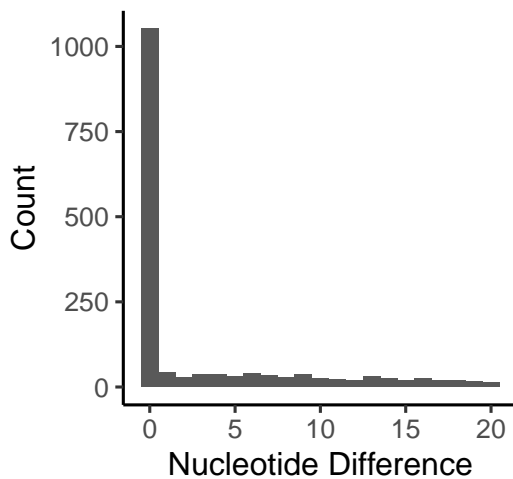
### IGHV1-3\*01\_05

1069 sequences assigned  
569 (53.2%) exact matches, in which:  
569 unique CDR3  
7 unique J



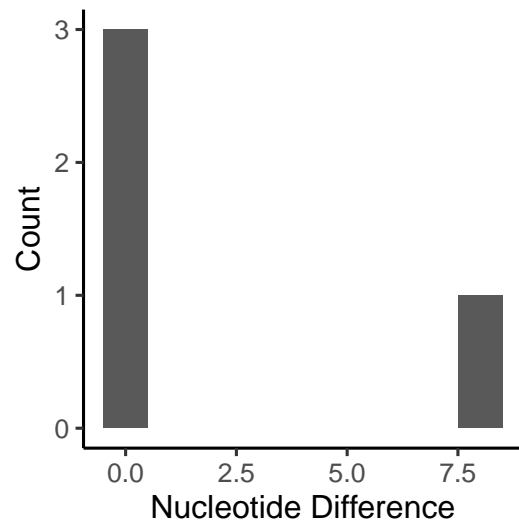
### IGHV1-18\*01

1742 sequences assigned  
1052 (60.4%) exact matches, in which:  
1044 unique CDR3  
7 unique J



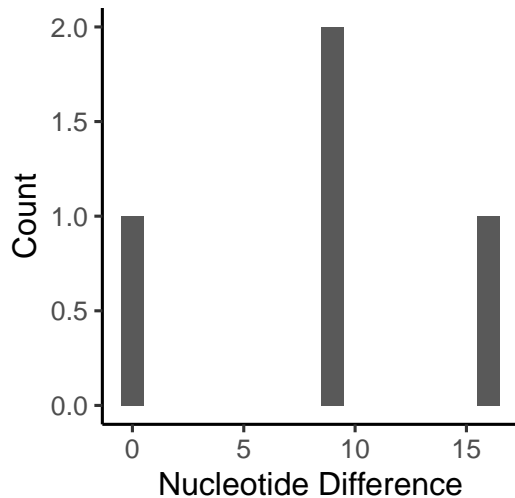
### IGHV1-45\*02

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
2 unique J



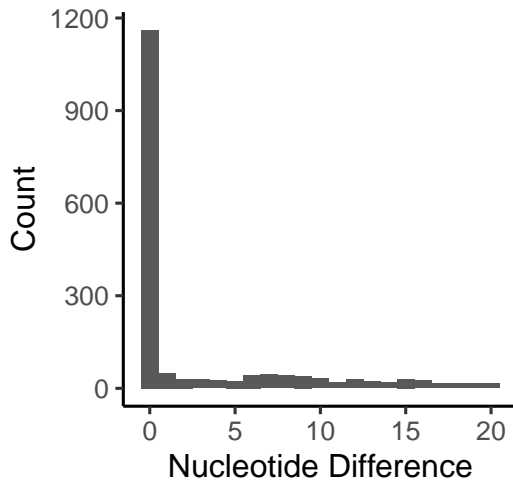
### IGHV1-8\*01

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



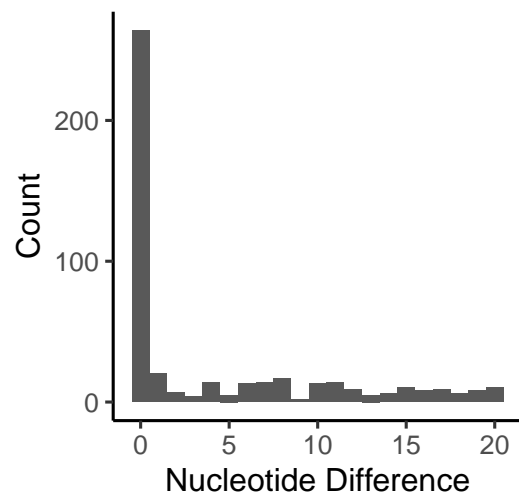
### IGHV1-18\*04

1876 sequences assigned  
1161 (61.9%) exact matches, in which:  
1152 unique CDR3  
7 unique J



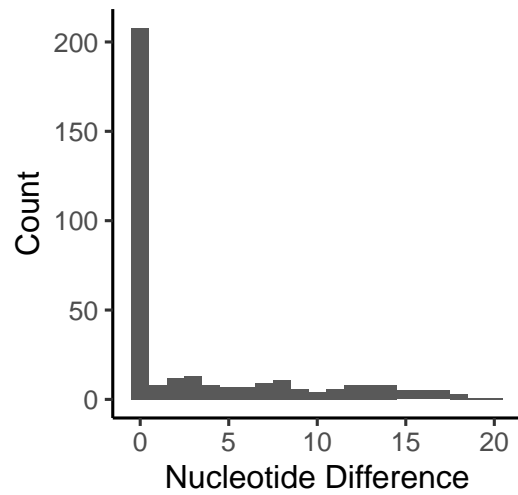
### IGHV1-46\*01

506 sequences assigned  
264 (52.2%) exact matches, in which:  
263 unique CDR3  
7 unique J



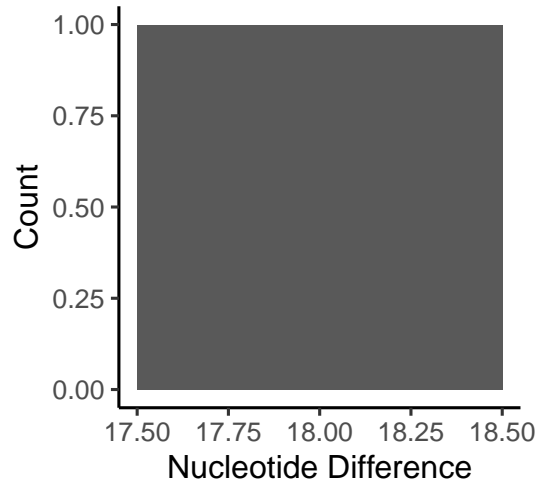
### IGHV1-46\*03

374 sequences assigned  
208 (55.6%) exact matches, in which:  
207 unique CDR3  
6 unique J



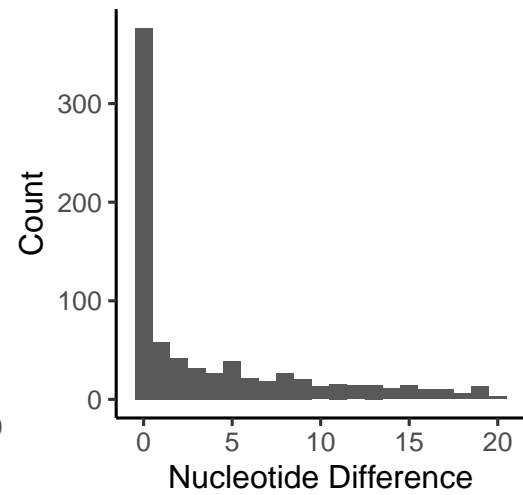
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



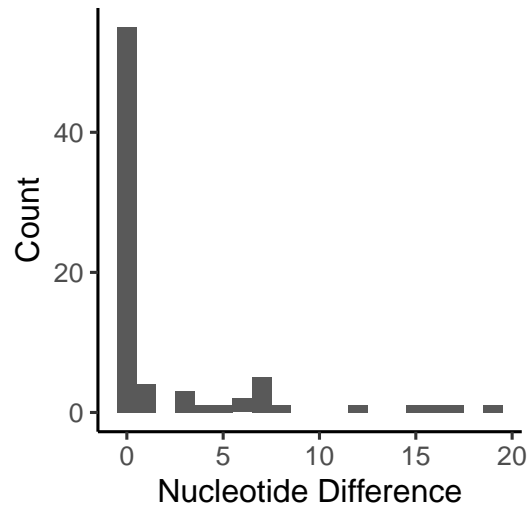
### IGHV2-5\*02

834 sequences assigned  
377 (45.2%) exact matches, in which:  
376 unique CDR3  
7 unique J



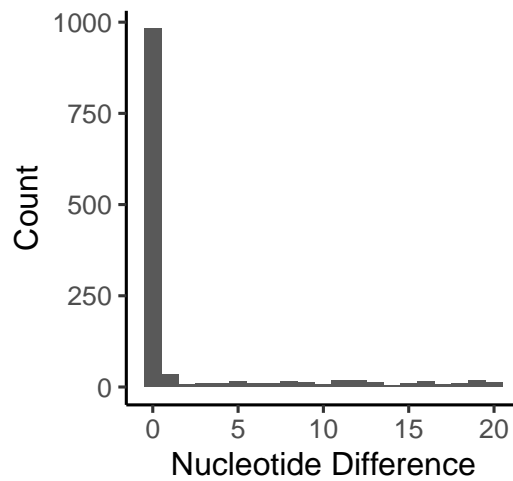
### IGHV1-58\*02

78 sequences assigned  
55 (70.5%) exact matches, in which:  
55 unique CDR3  
6 unique J



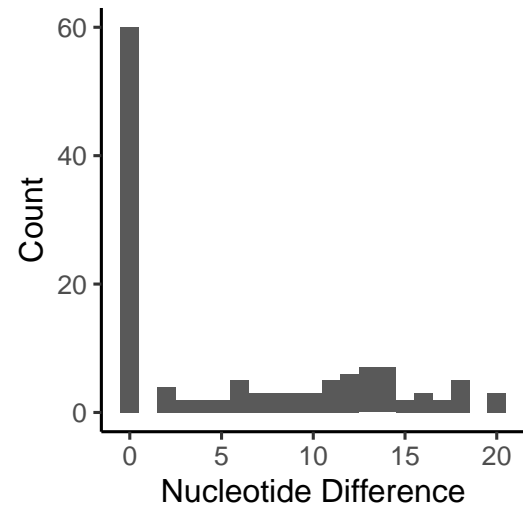
### IGHV1-69\*01\_12\_13

1361 sequences assigned  
982 (72.2%) exact matches, in which:  
981 unique CDR3  
7 unique J



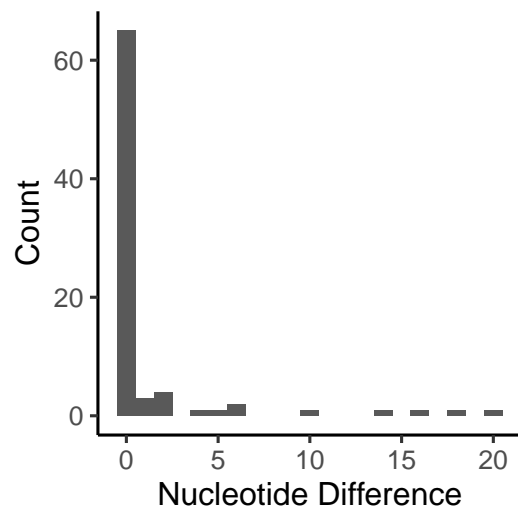
### IGHV2-26\*01

133 sequences assigned  
60 (45.1%) exact matches, in which:  
60 unique CDR3  
7 unique J



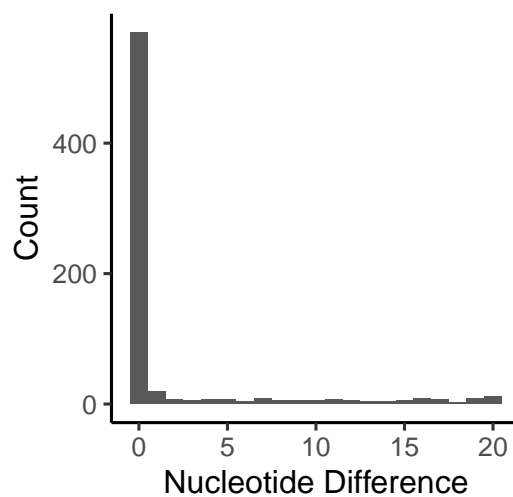
### IGHV1-58\*01\_03

90 sequences assigned  
65 (72.2%) exact matches, in which:  
65 unique CDR3  
6 unique J



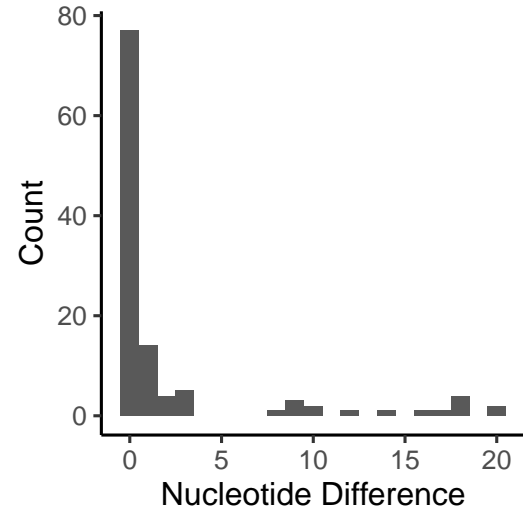
### IGHV1-69\*06\_14

807 sequences assigned  
570 (70.6%) exact matches, in which:  
570 unique CDR3  
7 unique J



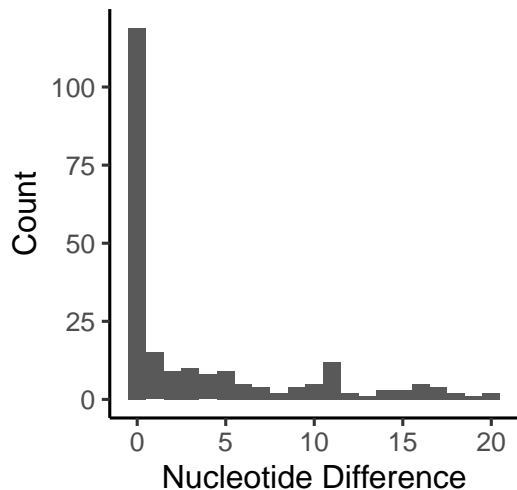
### IGHV2-70\*01

124 sequences assigned  
77 (62.1%) exact matches, in which:  
72 unique CDR3  
5 unique J



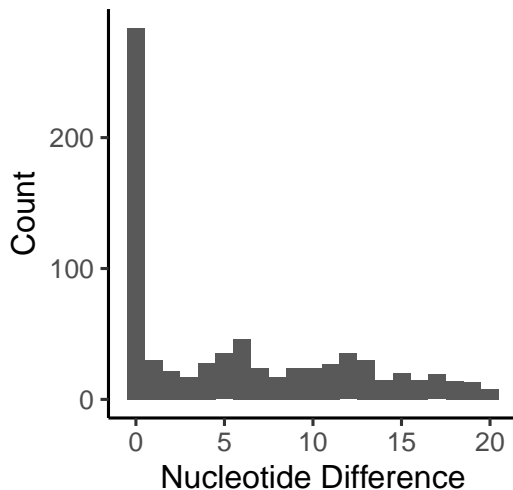
### IGHV2-70\*11\_15

235 sequences assigned  
119 (50.6%) exact matches, in which:  
119 unique CDR3  
6 unique J



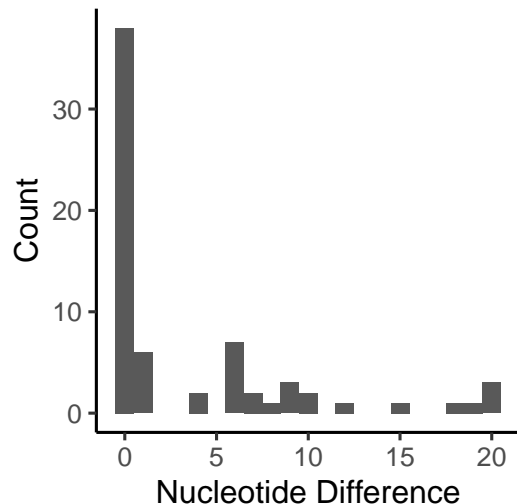
### IGHV3-11\*06

846 sequences assigned  
284 (33.6%) exact matches, in which:  
282 unique CDR3  
7 unique J



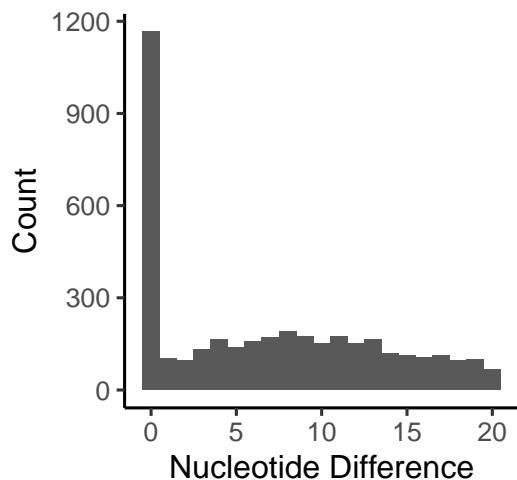
### IGHV3-20\*01\_02

69 sequences assigned  
38 (55.1%) exact matches, in which:  
37 unique CDR3  
5 unique J



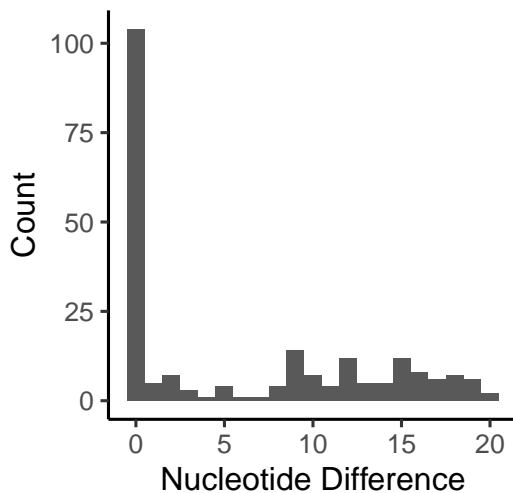
### IGHV3-7\*03

4148 sequences assigned  
1166 (28.1%) exact matches, in which:  
1134 unique CDR3  
7 unique J



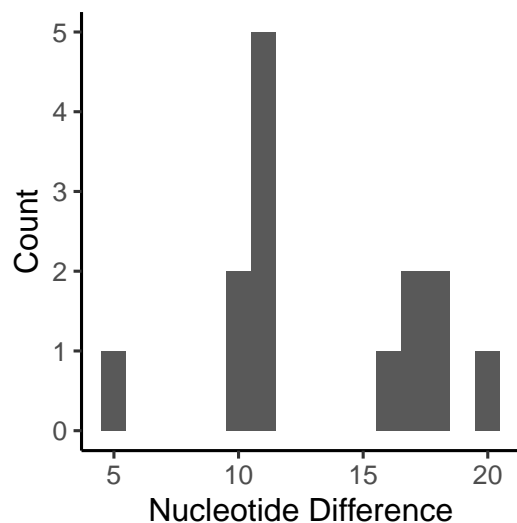
### IGHV3-13\*05

233 sequences assigned  
104 (44.6%) exact matches, in which:  
103 unique CDR3  
6 unique J



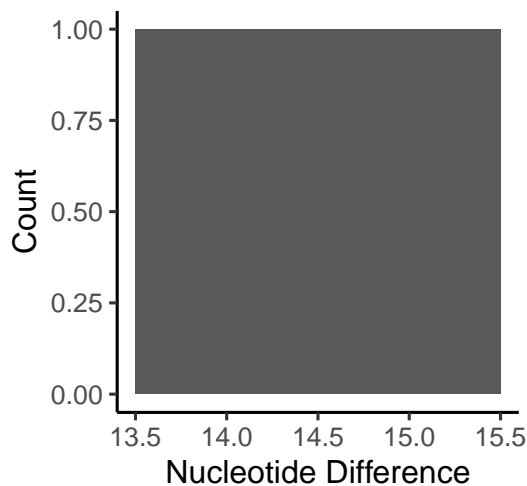
### IGHV3-20\*03\_04

20 sequences assigned  
No exact matches.



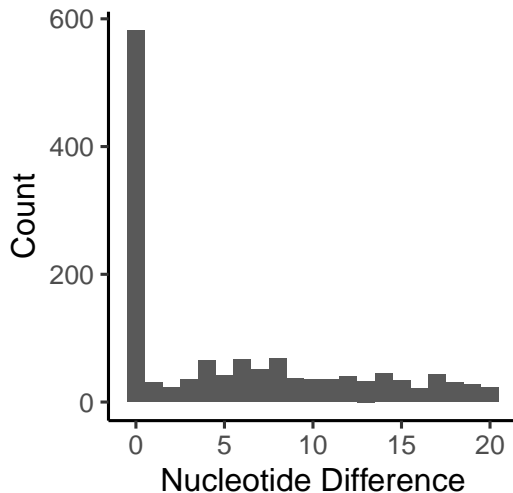
### IGHV3-9\*01

2 sequences assigned  
No exact matches.



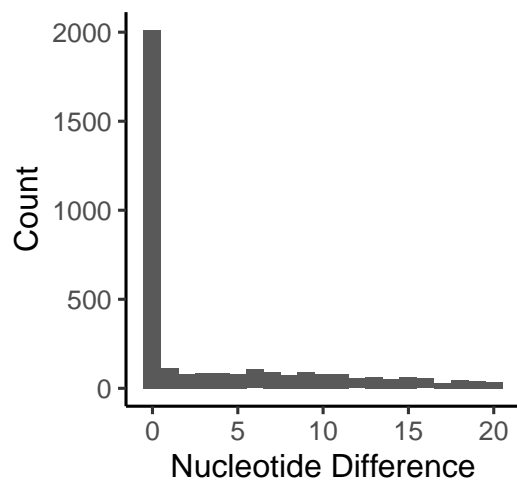
### IGHV3-15\*01\_02

1506 sequences assigned  
582 (38.6%) exact matches, in which:  
571 unique CDR3  
7 unique J



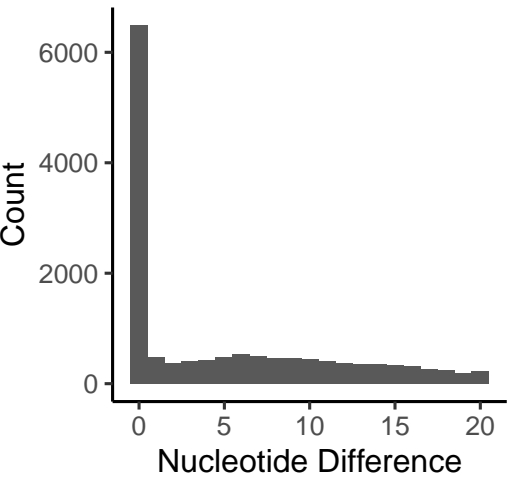
### IGHV3-21\*01\_02

3793 sequences assigned  
2012 (53%) exact matches, in which:  
1959 unique CDR3  
7 unique J



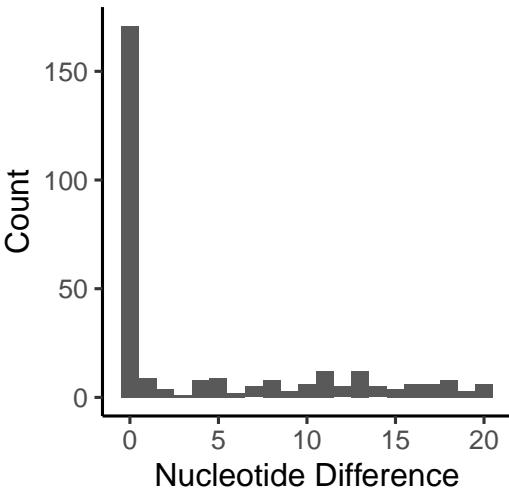
IGHV3-23\*01\_04

15542 sequences assigned  
6487 (41.7%) exact matches, in which:  
6344 unique CDR3  
7 unique J



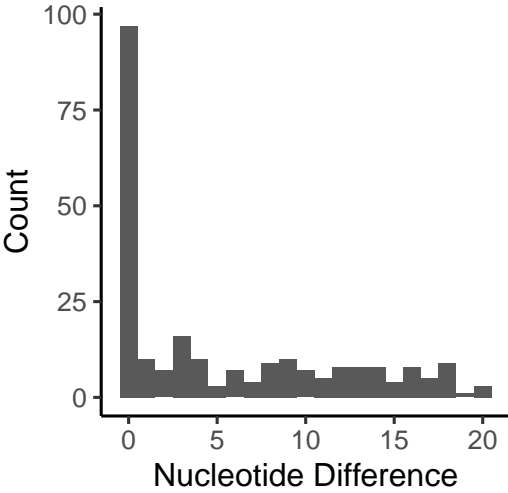
IGHV3-43\*01

341 sequences assigned  
171 (50.1%) exact matches, in which:  
170 unique CDR3  
7 unique J



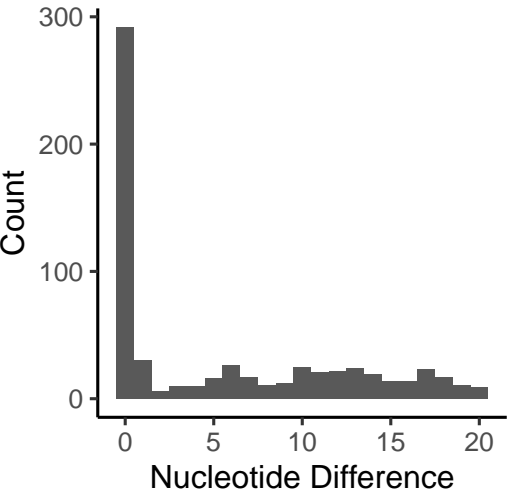
IGHV3-49\*04

252 sequences assigned  
97 (38.5%) exact matches, in which:  
97 unique CDR3  
6 unique J



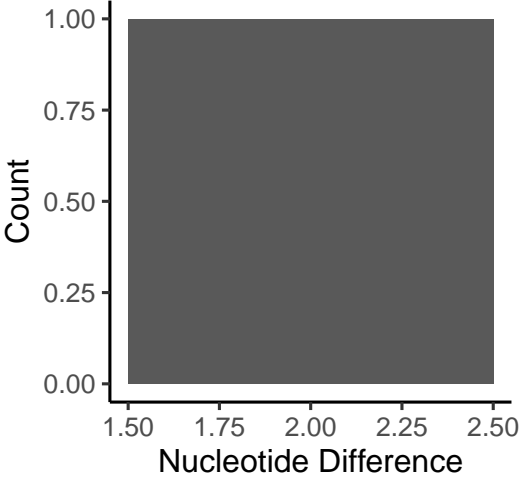
IGHV3-33\*01

739 sequences assigned  
292 (39.5%) exact matches, in which:  
288 unique CDR3  
7 unique J



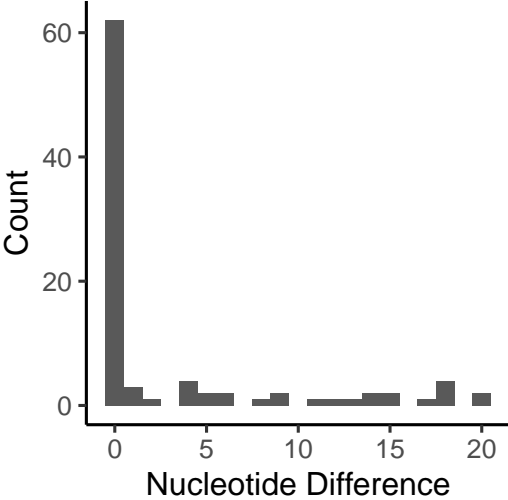
IGHV3-47\*02

1 sequences assigned  
No exact matches.



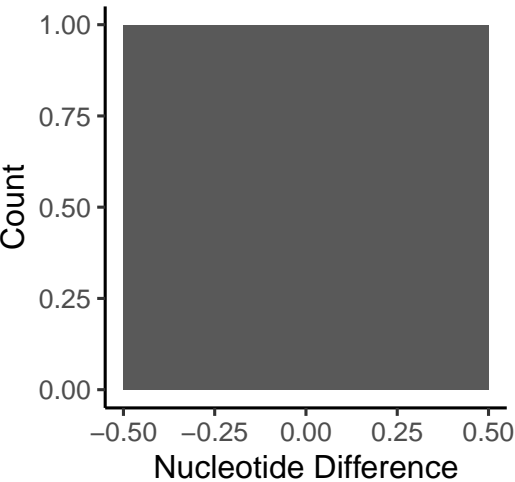
IGHV3-49\*03\_05

106 sequences assigned  
62 (58.5%) exact matches, in which:  
61 unique CDR3  
6 unique J



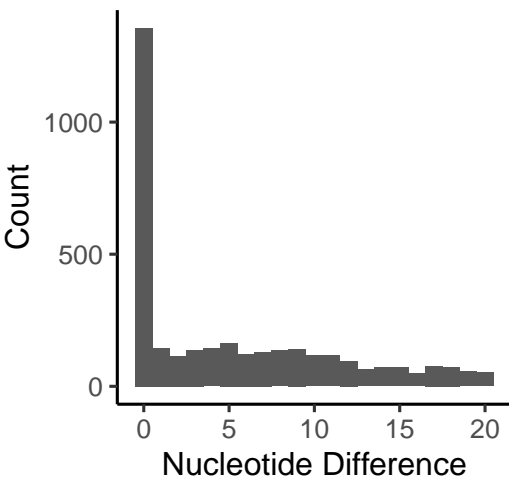
IGHV3-38-3\*01

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



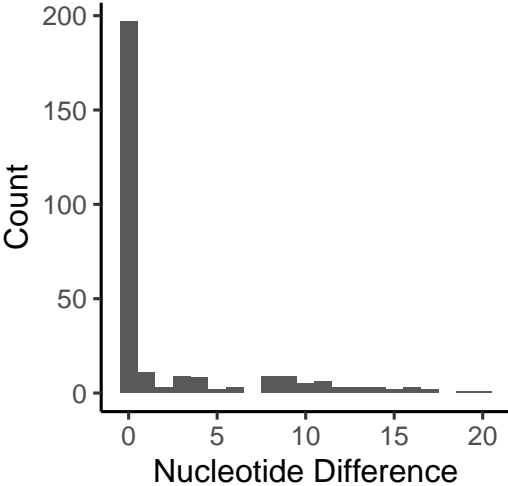
IGHV3-48\*02

3739 sequences assigned  
1356 (36.3%) exact matches, in which:  
1326 unique CDR3  
7 unique J



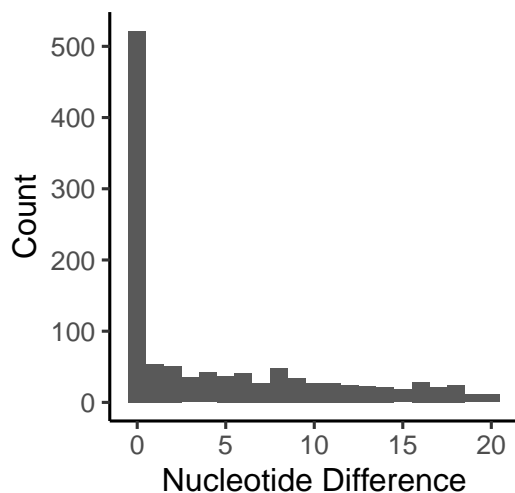
IGHV3-53\*04

294 sequences assigned  
197 (67%) exact matches, in which:  
193 unique CDR3  
6 unique J



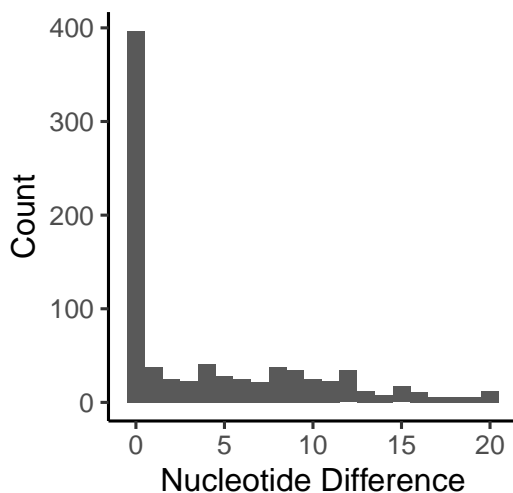
### IGHV3-53\*01\_02

1216 sequences assigned  
522 (42.9%) exact matches, in which:  
511 unique CDR3  
7 unique J



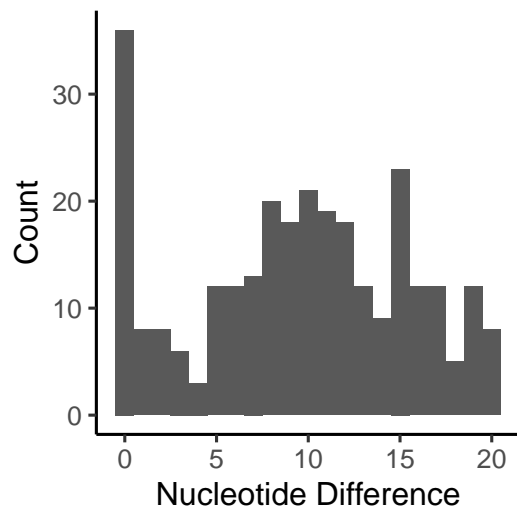
### IGHV3-66\*01

915 sequences assigned  
397 (43.4%) exact matches, in which:  
390 unique CDR3  
7 unique J



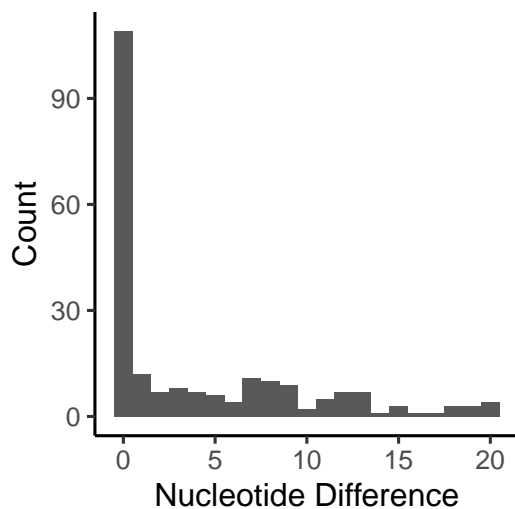
### IGHV3-72\*01

312 sequences assigned  
36 (11.5%) exact matches, in which:  
34 unique CDR3  
4 unique J



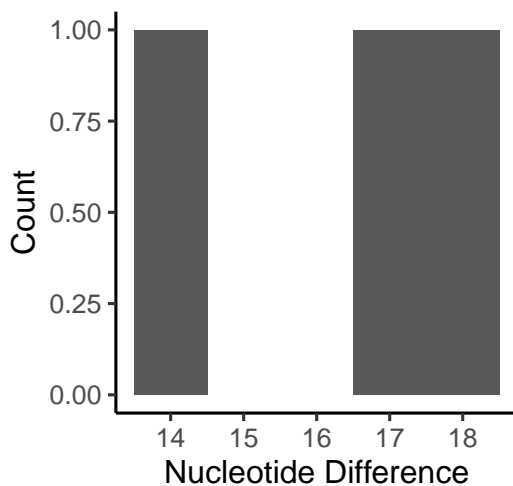
### IGHV3-64\*01

260 sequences assigned  
109 (41.9%) exact matches, in which:  
104 unique CDR3  
6 unique J



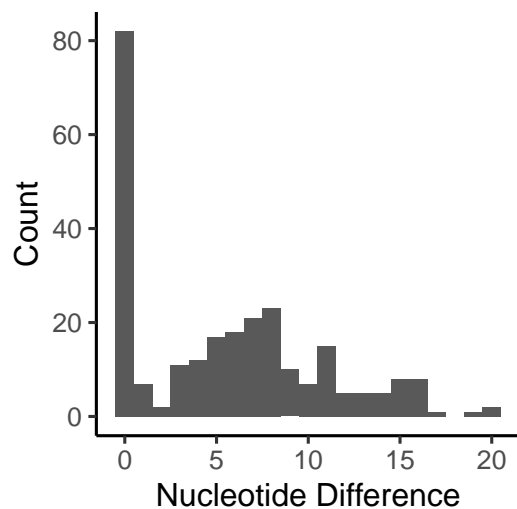
### IGHV3-69-1\*01

8 sequences assigned  
No exact matches.



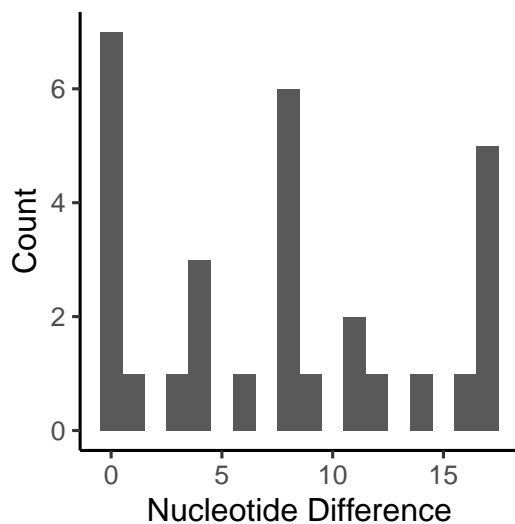
### IGHV3-73\*01\_02

284 sequences assigned  
82 (28.9%) exact matches, in which:  
79 unique CDR3  
6 unique J



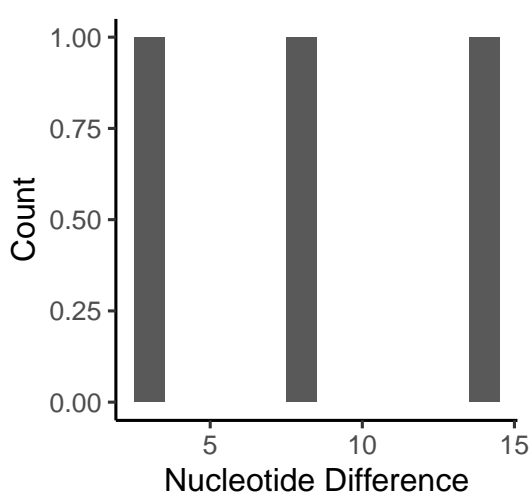
### IGHV3-64\*02\_07

40 sequences assigned  
7 (17.5%) exact matches, in which:  
7 unique CDR3  
3 unique J



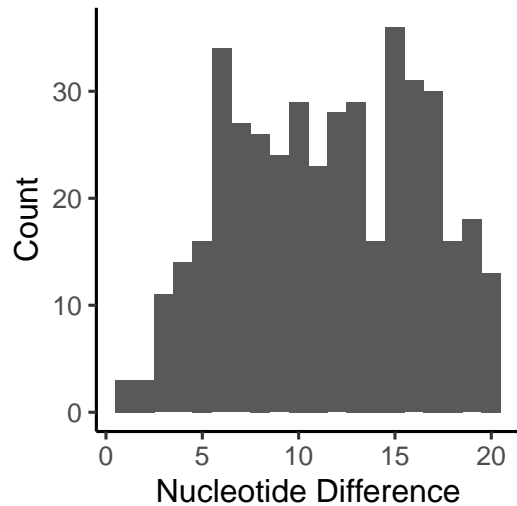
### IGHV3-69-1\*02

5 sequences assigned  
No exact matches.



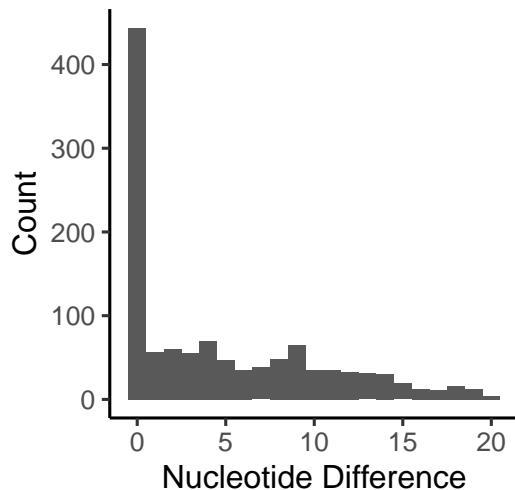
### IGHV3-74\*03

493 sequences assigned  
No exact matches.



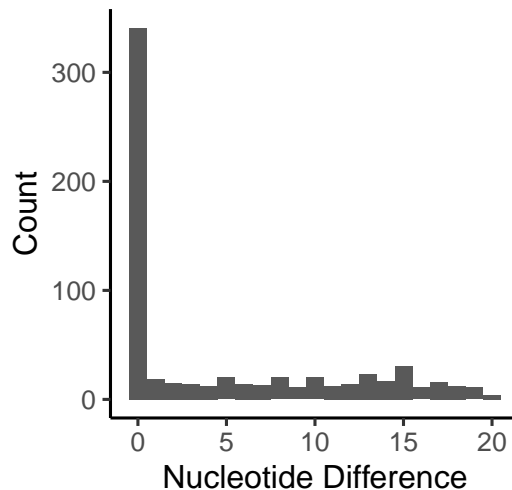
### IGHV3-74\*01\_02

1224 sequences assigned  
444 (36.3%) exact matches, in which:  
434 unique CDR3  
7 unique J



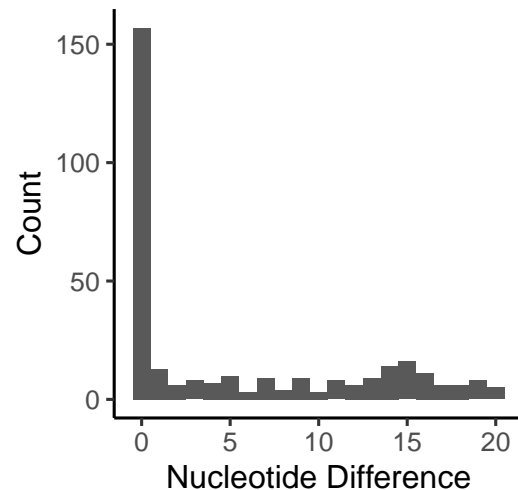
### IGHV4-4\*02\_03

753 sequences assigned  
341 (45.3%) exact matches, in which:  
338 unique CDR3  
6 unique J



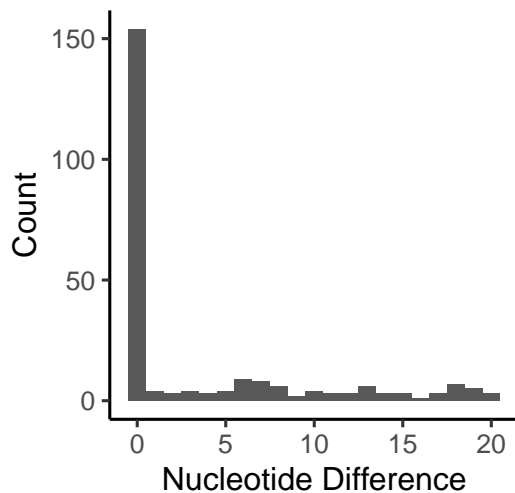
### IGHV4-30-4\*07

396 sequences assigned  
157 (39.6%) exact matches, in which:  
154 unique CDR3  
6 unique J



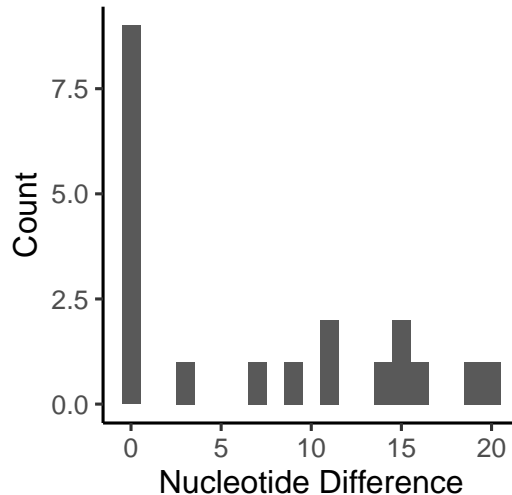
### IGHV3-43D\*03

256 sequences assigned  
154 (60.2%) exact matches, in which:  
149 unique CDR3  
7 unique J



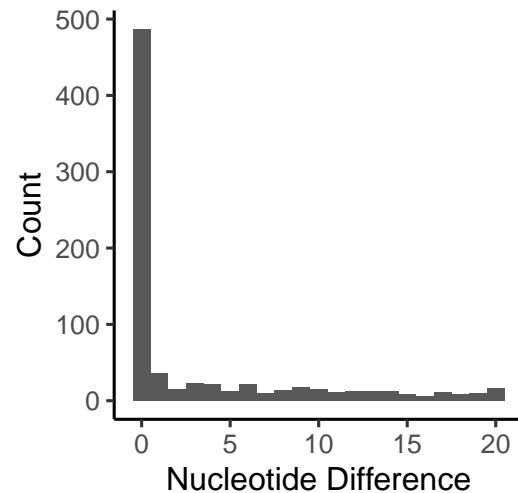
### IGHV4-28\*01\_07

20 sequences assigned  
9 (45%) exact matches, in which:  
9 unique CDR3  
4 unique J



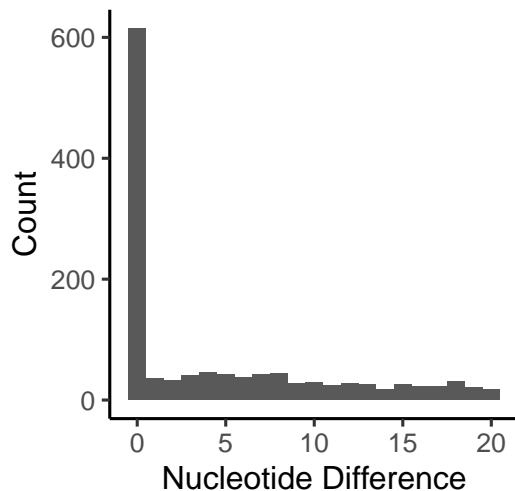
### IGHV4-31\*02

859 sequences assigned  
487 (56.7%) exact matches, in which:  
486 unique CDR3  
6 unique J



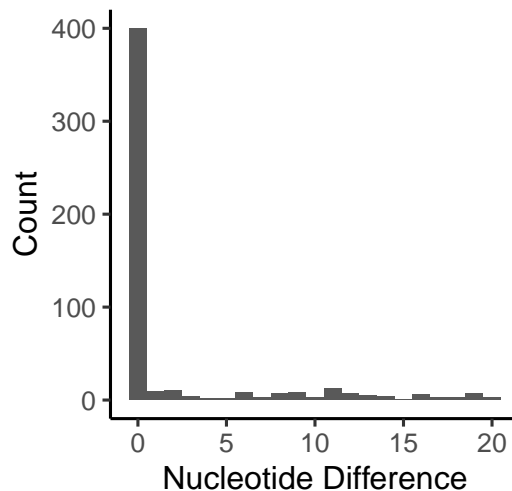
### IGHV3-64D\*06

1339 sequences assigned  
615 (45.9%) exact matches, in which:  
608 unique CDR3  
7 unique J



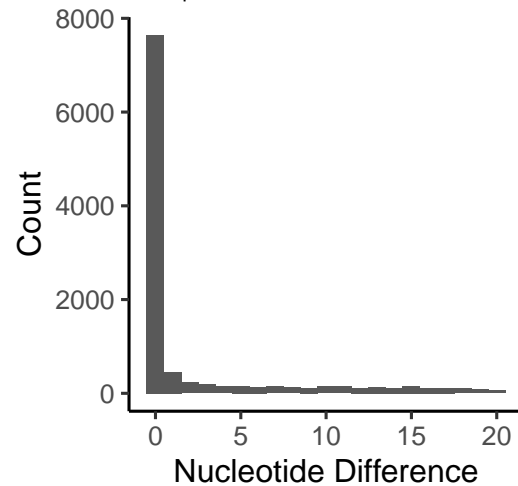
### IGHV4-30-2\*01

556 sequences assigned  
400 (71.9%) exact matches, in which:  
396 unique CDR3  
6 unique J



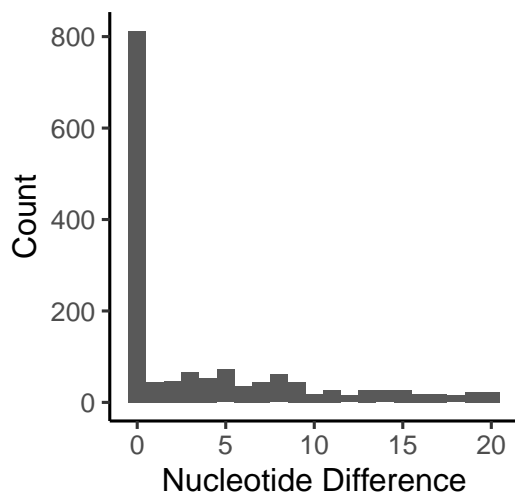
### IGHV4-34\*01\_02

11215 sequences assigned  
7643 (68.1%) exact matches, in which:  
7499 unique CDR3  
7 unique J



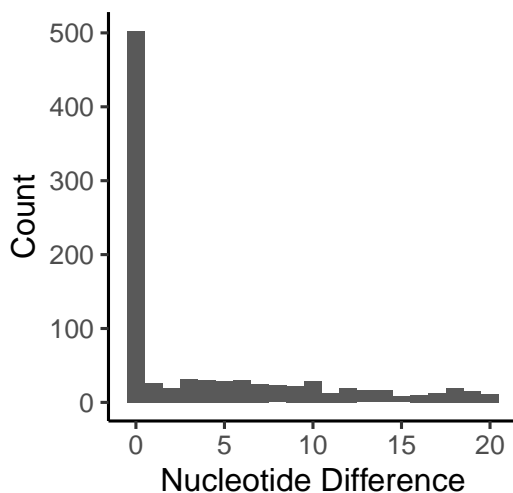
### IGHV4–38–2\*02

1653 sequences assigned  
813 (49.2%) exact matches, in which:  
798 unique CDR3  
6 unique J



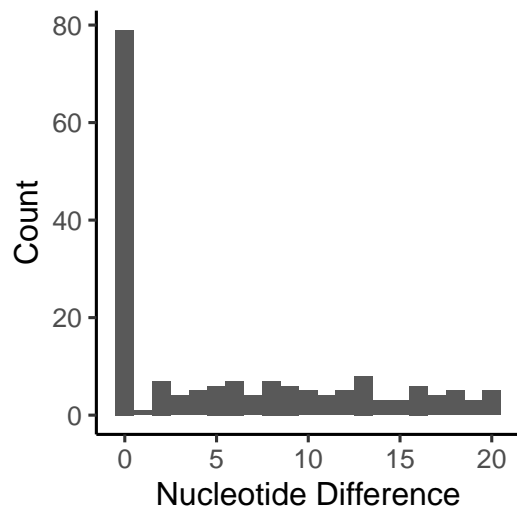
### IGHV4–61\*01

1008 sequences assigned  
503 (49.9%) exact matches, in which:  
499 unique CDR3  
6 unique J



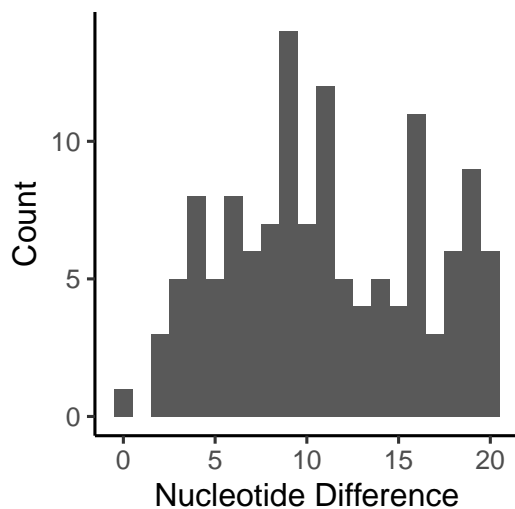
### IGHV5–10–1\*01\_03

204 sequences assigned  
79 (38.7%) exact matches, in which:  
79 unique CDR3  
7 unique J



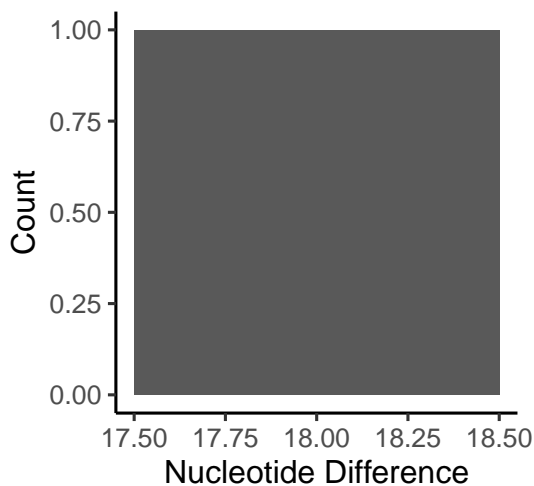
### IGHV4–39\*02

245 sequences assigned  
1 (0.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



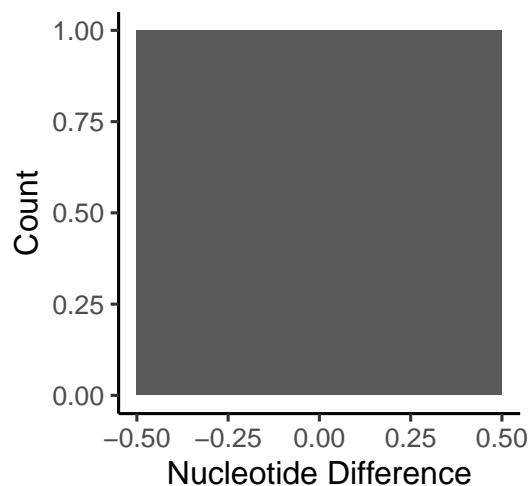
### IGHV4/OR15–8\*01

2 sequences assigned  
No exact matches.



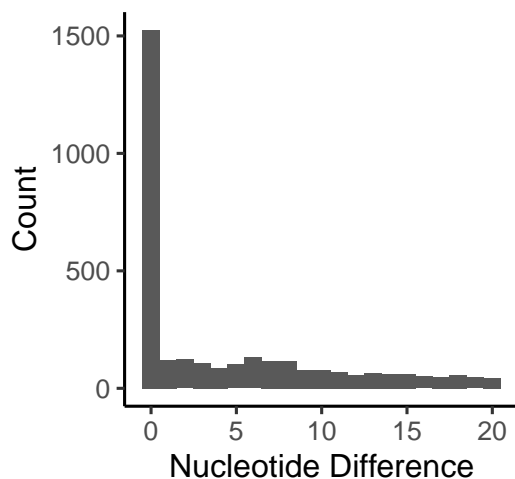
### IGHV5–51\*01\_03

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



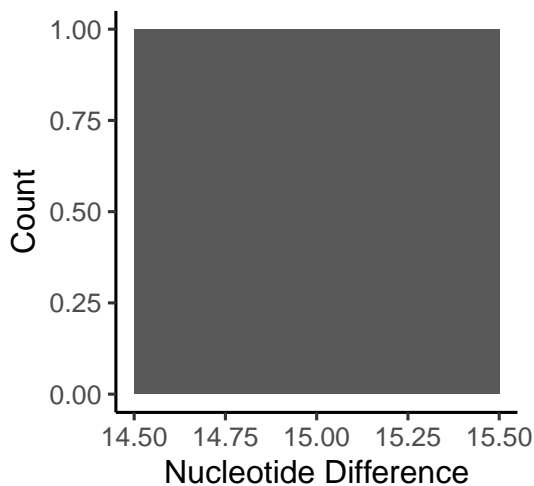
### IGHV4–59\*08

3548 sequences assigned  
1525 (43%) exact matches, in which:  
1494 unique CDR3  
7 unique J



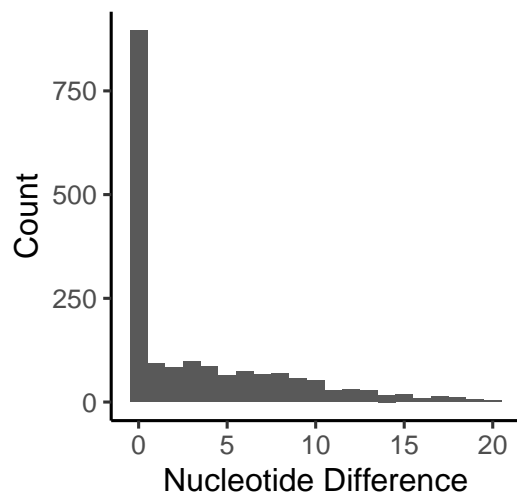
### IGHV4/OR15–8\*02

7 sequences assigned  
No exact matches.



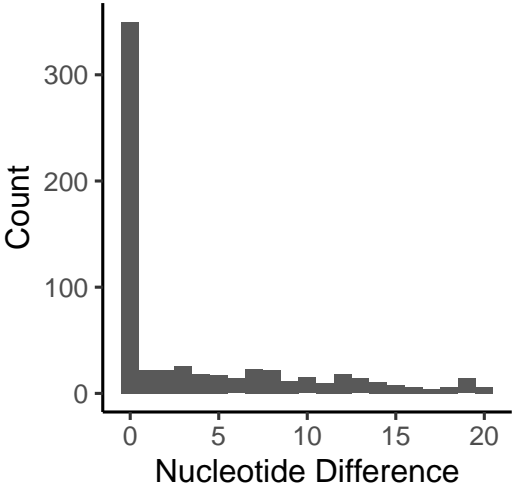
### IGHV6–1\*01\_02

1870 sequences assigned  
896 (47.9%) exact matches, in which:  
876 unique CDR3  
7 unique J

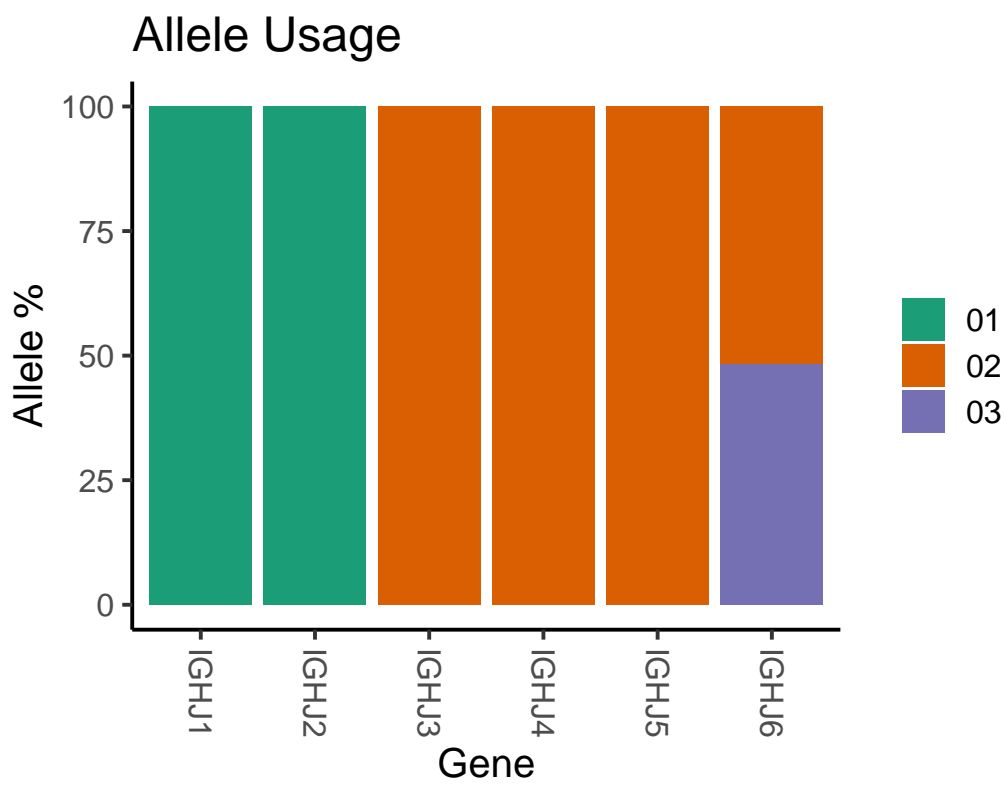


IGHV7-4-1\*02

710 sequences assigned  
350 (49.3%) exact matches, in which:  
350 unique CDR3  
7 unique J







Sequence Count by IGHJ6 allele usage

