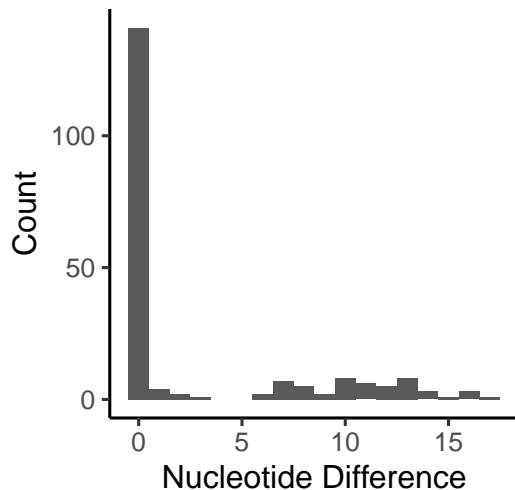


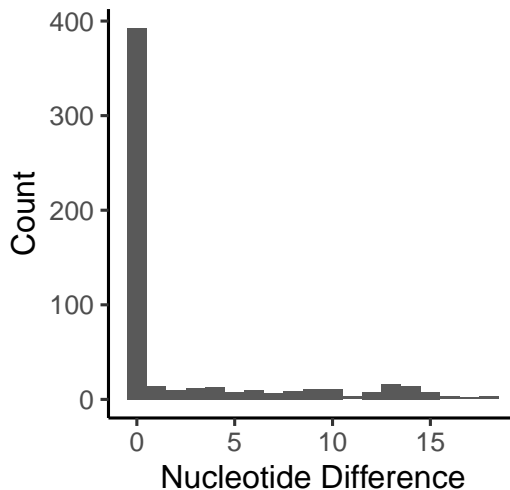
### IGHV1-2\*04

202 sequences assigned  
141 (69.8%) exact matches, in which:  
139 unique CDR3  
4 unique J



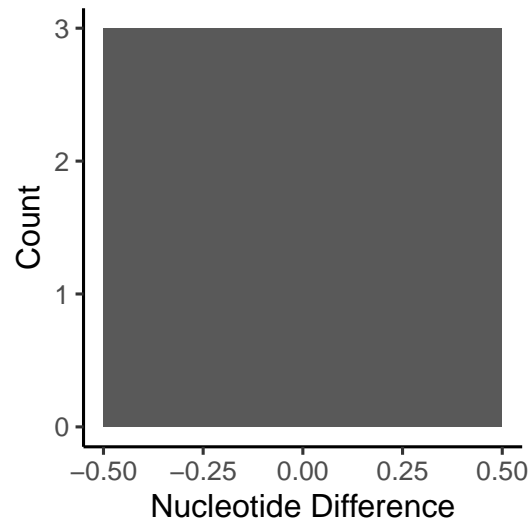
### IGHV1-8\*01

572 sequences assigned  
393 (68.7%) exact matches, in which:  
389 unique CDR3  
5 unique J



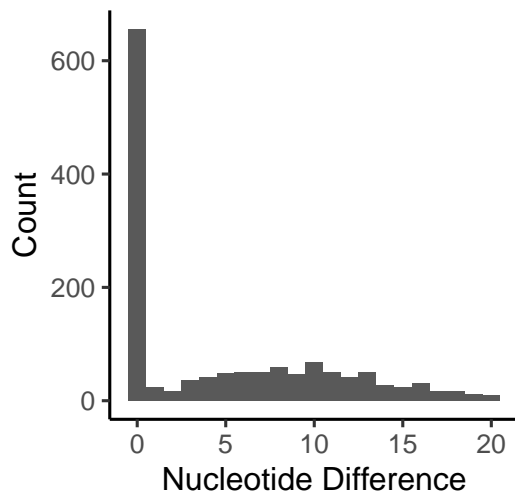
### IGHV1-45\*02

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



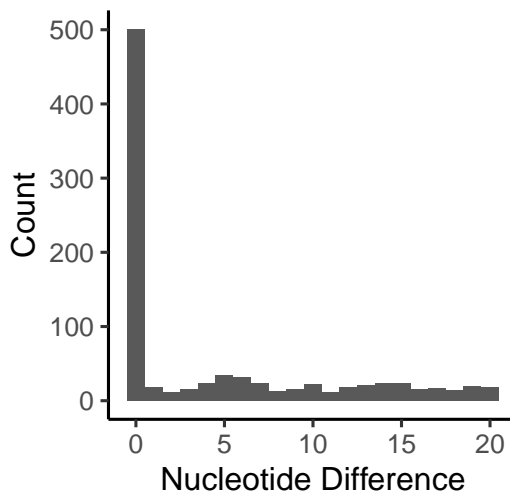
### IGHV1-2\*02\_C135T

1444 sequences assigned  
656 (45.4%) exact matches, in which:  
654 unique CDR3  
6 unique J



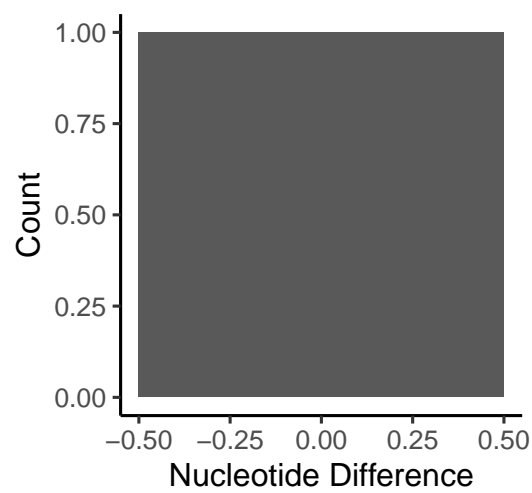
### IGHV1-18\*01

1091 sequences assigned  
501 (45.9%) exact matches, in which:  
497 unique CDR3  
6 unique J



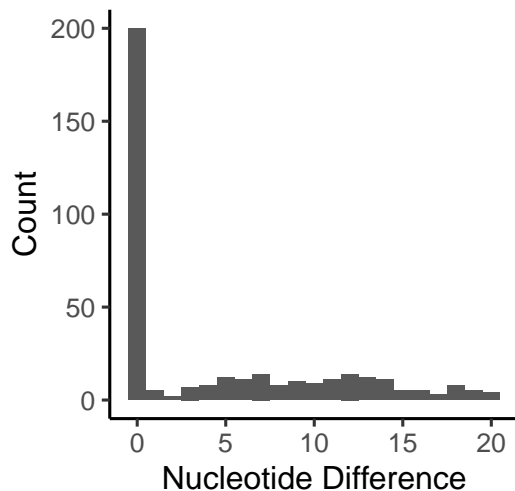
### IGHV1-45\*03

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



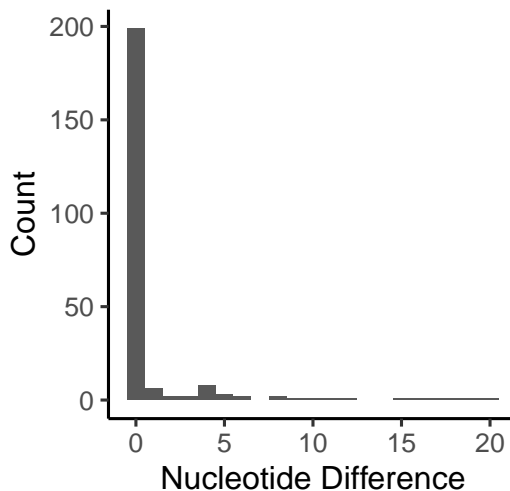
### IGHV1-3\*01\_05

418 sequences assigned  
200 (47.8%) exact matches, in which:  
199 unique CDR3  
6 unique J



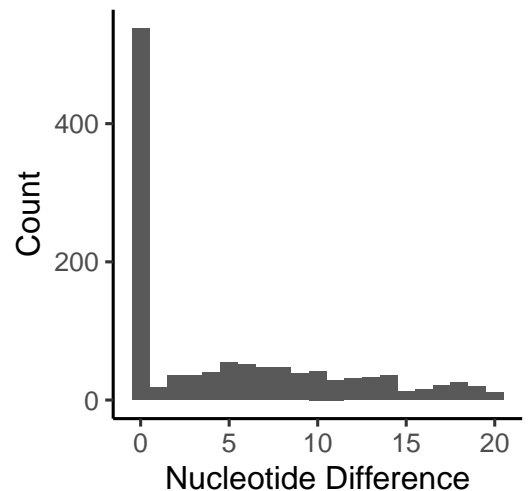
### IGHV1-24\*01

249 sequences assigned  
199 (79.9%) exact matches, in which:  
196 unique CDR3  
6 unique J



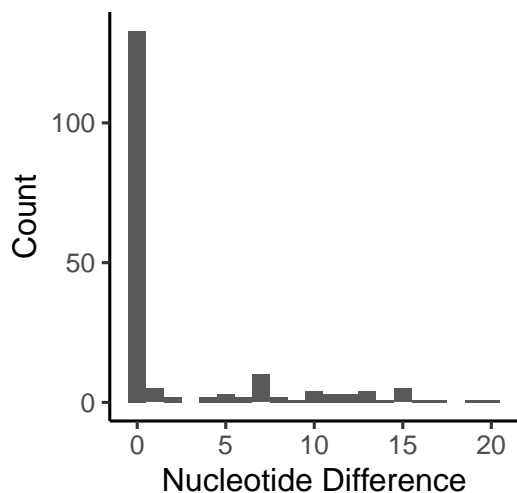
### IGHV1-46\*01

1268 sequences assigned  
538 (42.4%) exact matches, in which:  
535 unique CDR3  
6 unique J



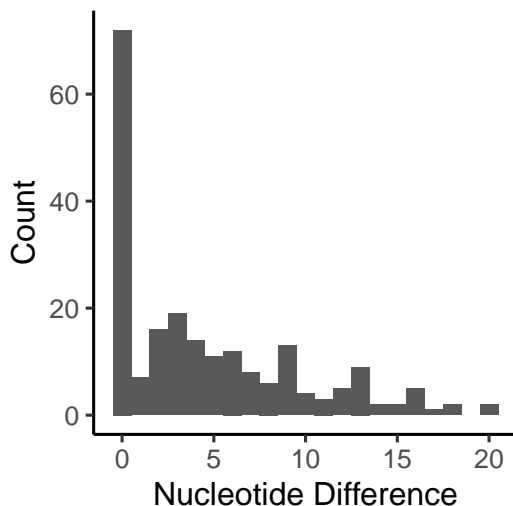
### IGHV1–58\*01\_03

188 sequences assigned  
133 (70.7%) exact matches, in which:  
132 unique CDR3  
6 unique J



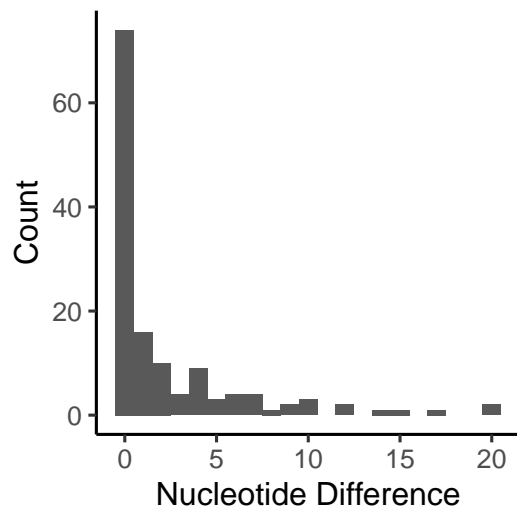
### IGHV2–5\*02

230 sequences assigned  
72 (31.3%) exact matches, in which:  
71 unique CDR3  
6 unique J



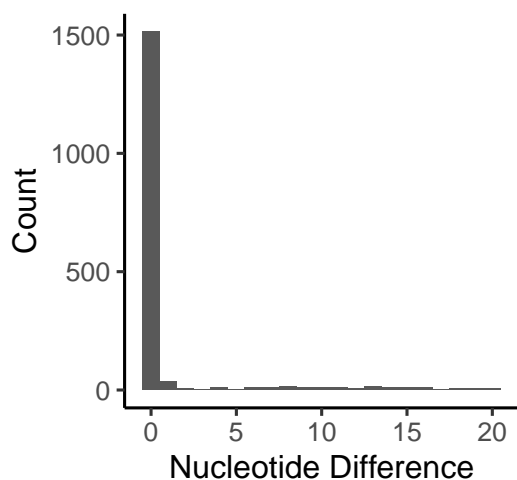
### IGHV2–70\*11\_15

142 sequences assigned  
74 (52.1%) exact matches, in which:  
73 unique CDR3  
5 unique J



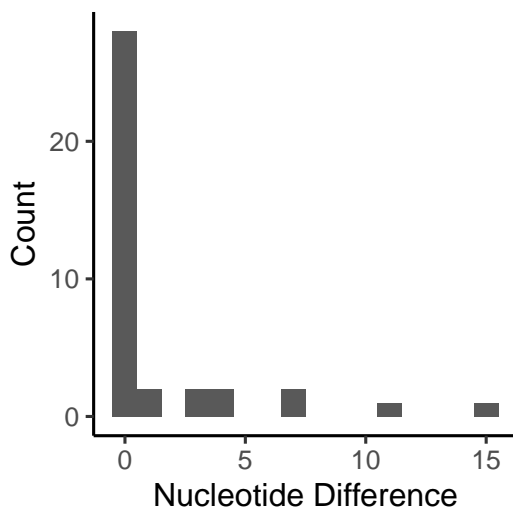
### IGHV1–69\*04\_09

1782 sequences assigned  
1514 (85%) exact matches, in which:  
1507 unique CDR3  
6 unique J



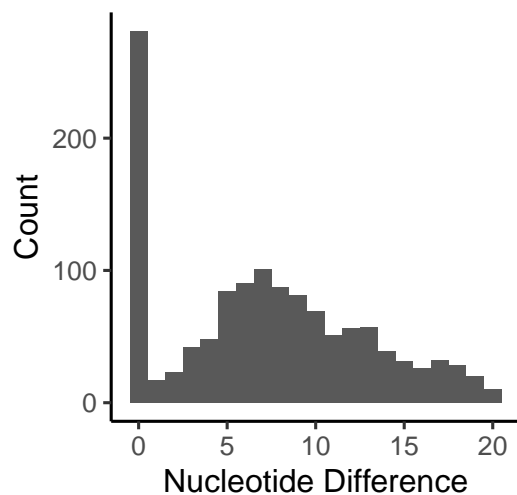
### IGHV2–26\*01

41 sequences assigned  
28 (68.3%) exact matches, in which:  
28 unique CDR3  
5 unique J



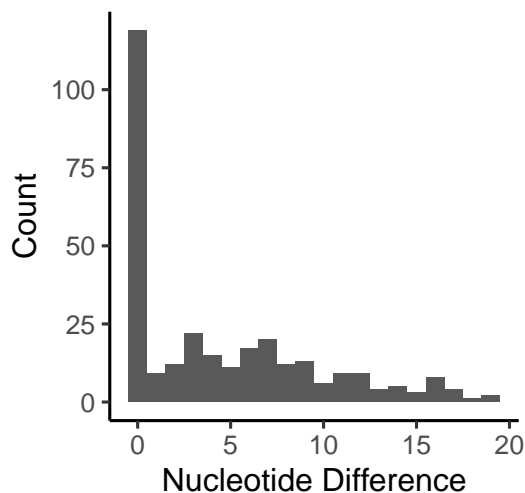
### IGHV3–7\*01

1367 sequences assigned  
281 (20.6%) exact matches, in which:  
261 unique CDR3  
6 unique J



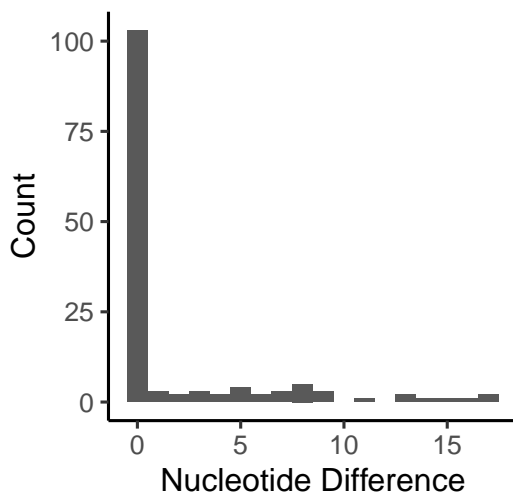
### IGHV2–5\*01

312 sequences assigned  
119 (38.1%) exact matches, in which:  
119 unique CDR3  
5 unique J



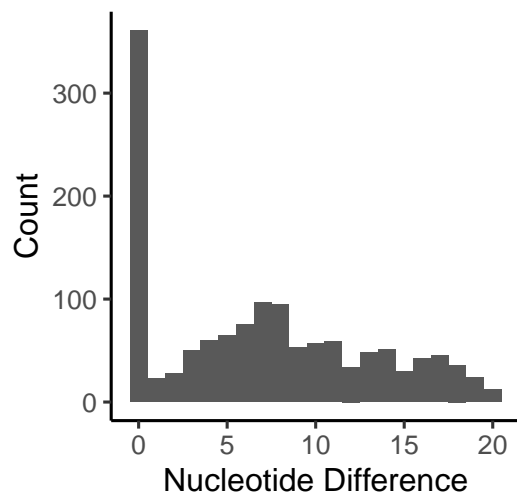
### IGHV2–70\*01

143 sequences assigned  
103 (72%) exact matches, in which:  
103 unique CDR3  
6 unique J



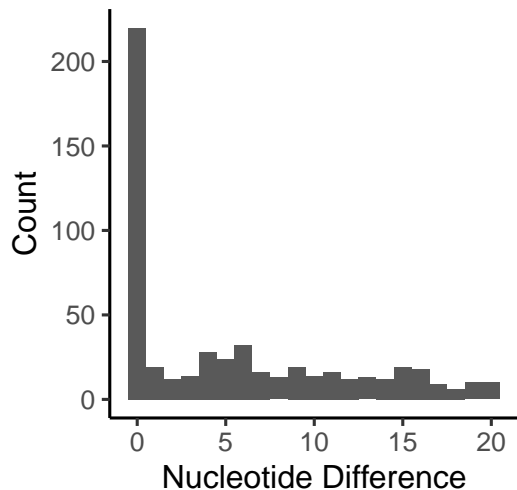
### IGHV3–7\*03

1450 sequences assigned  
361 (24.9%) exact matches, in which:  
330 unique CDR3  
6 unique J



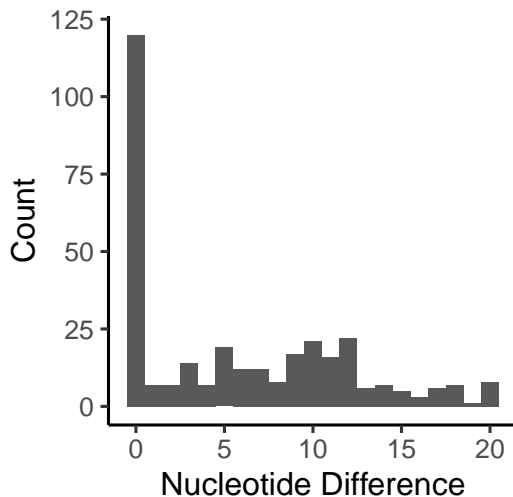
### IGHV3-9\*01

577 sequences assigned  
220 (38.1%) exact matches, in which:  
213 unique CDR3  
6 unique J



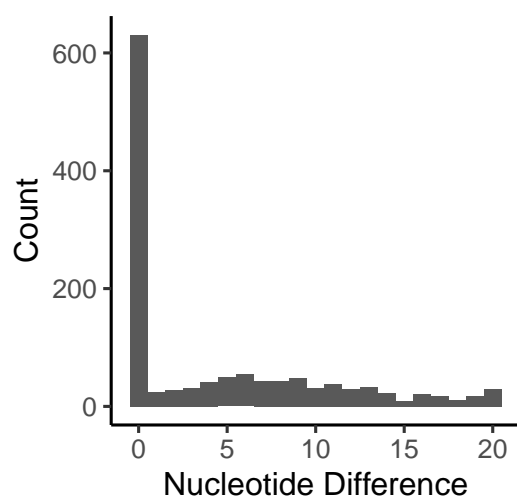
### IGHV3-15\*01\_02

348 sequences assigned  
120 (34.5%) exact matches, in which:  
116 unique CDR3  
6 unique J



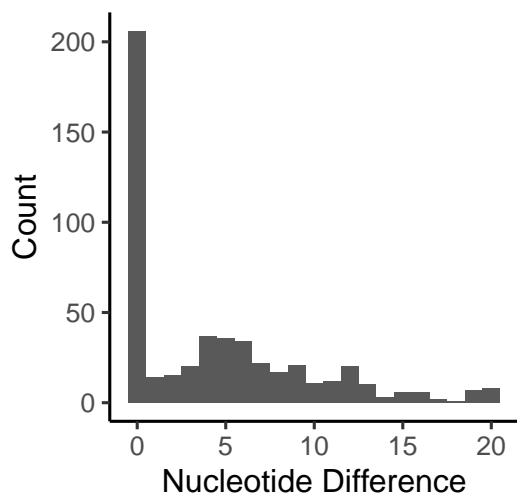
### IGHV3-21\*01\_02

1337 sequences assigned  
631 (47.2%) exact matches, in which:  
584 unique CDR3  
6 unique J



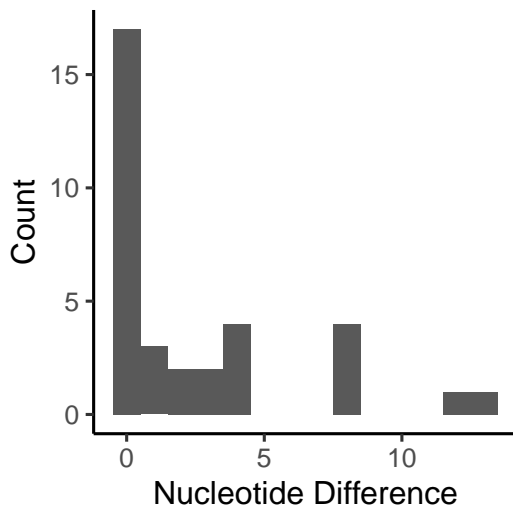
### IGHV3-11\*01

558 sequences assigned  
206 (36.9%) exact matches, in which:  
196 unique CDR3  
5 unique J



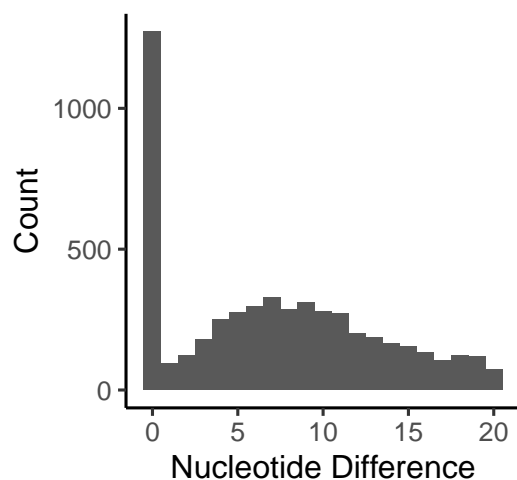
### IGHV3-20\*01\_02

34 sequences assigned  
17 (50%) exact matches, in which:  
17 unique CDR3  
5 unique J



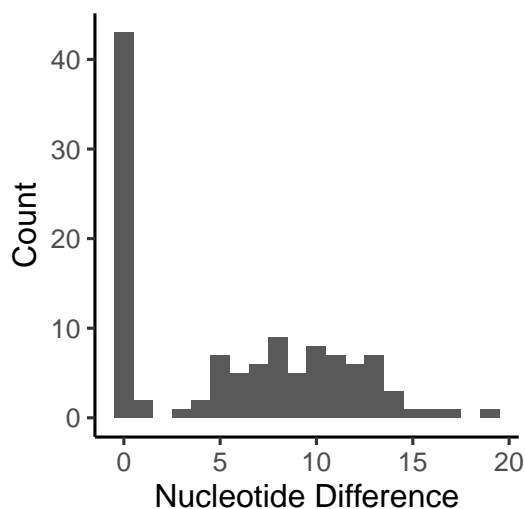
### IGHV3-23\*01\_04

5639 sequences assigned  
1272 (22.6%) exact matches, in which:  
1184 unique CDR3  
6 unique J



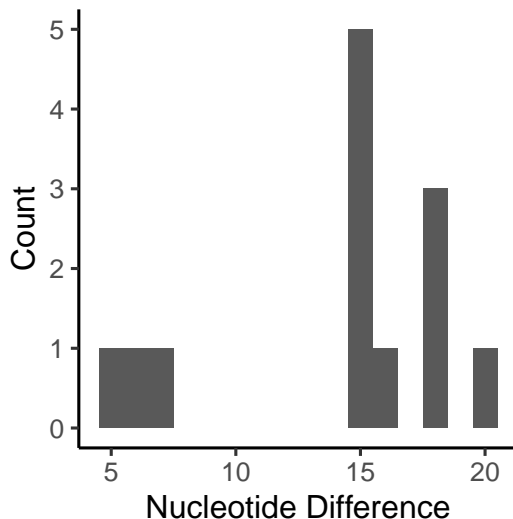
### IGHV3-13\*01

135 sequences assigned  
43 (31.9%) exact matches, in which:  
38 unique CDR3  
5 unique J



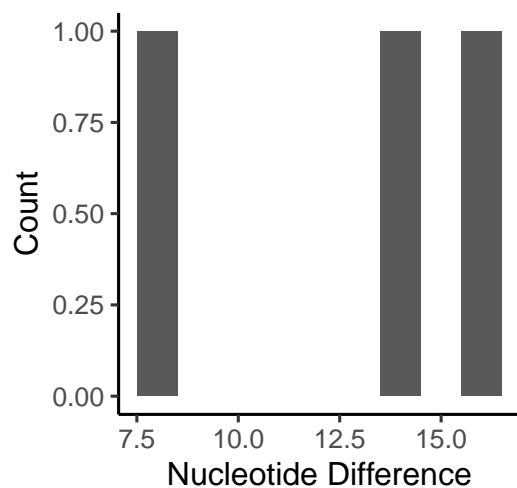
### IGHV3-20\*03\_04

17 sequences assigned  
No exact matches.



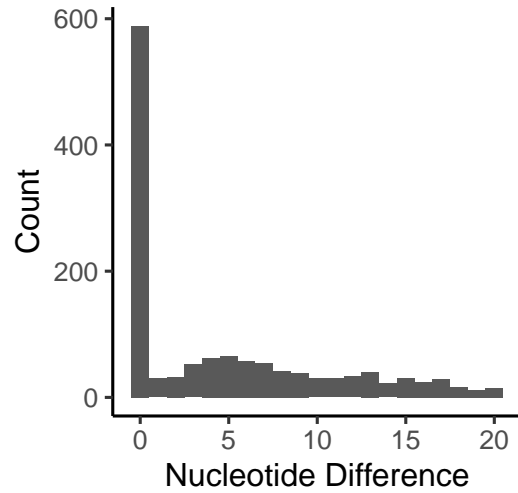
### IGHV3-30-3\*03

5 sequences assigned  
No exact matches.



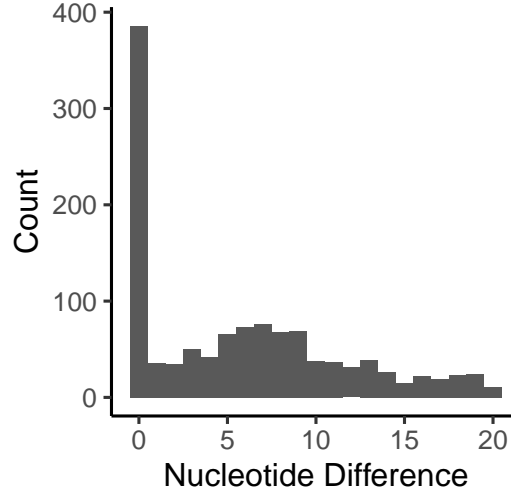
### IGHV3-33\*01

1408 sequences assigned  
589 (41.8%) exact matches, in which:  
564 unique CDR3  
6 unique J



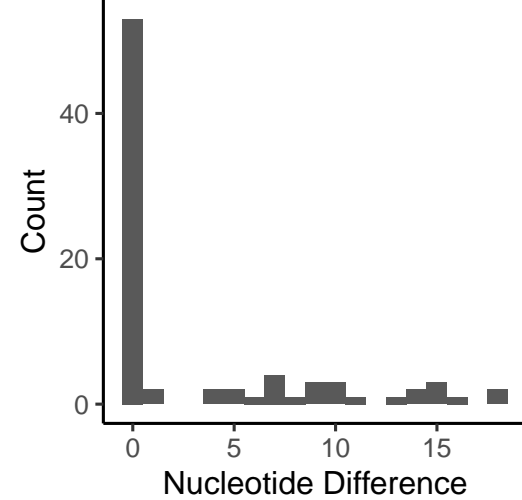
### IGHV3-48\*02

1258 sequences assigned  
386 (30.7%) exact matches, in which:  
351 unique CDR3  
6 unique J



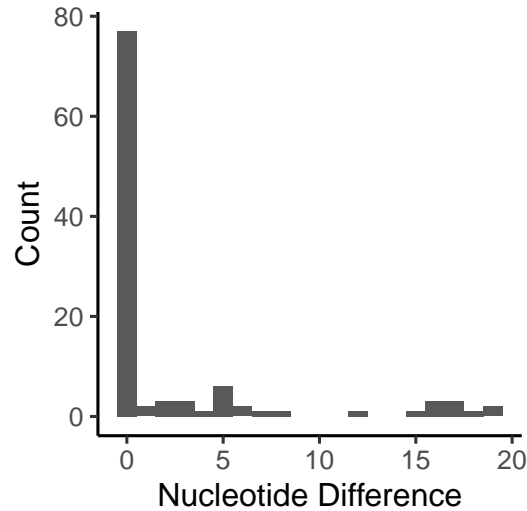
### IGHV3-49\*03\_05

87 sequences assigned  
53 (60.9%) exact matches, in which:  
52 unique CDR3  
5 unique J



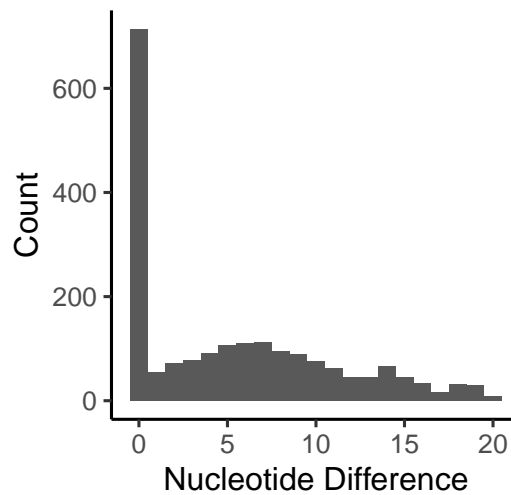
### IGHV3-43\*01

118 sequences assigned  
77 (65.3%) exact matches, in which:  
71 unique CDR3  
6 unique J



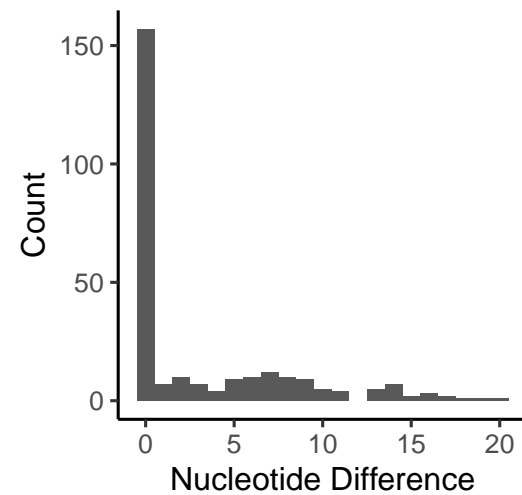
### IGHV3-48\*03

2101 sequences assigned  
714 (34%) exact matches, in which:  
672 unique CDR3  
6 unique J



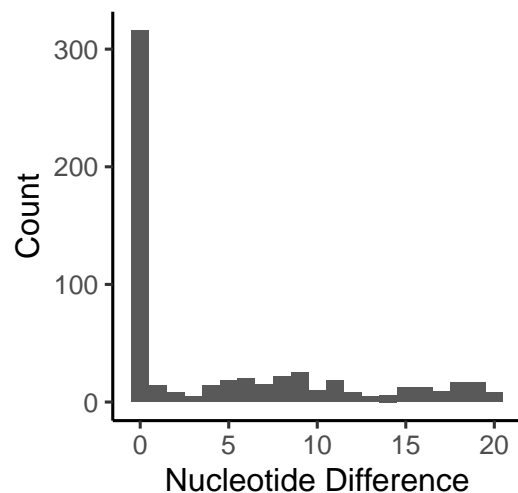
### IGHV3-53\*04

273 sequences assigned  
157 (57.5%) exact matches, in which:  
152 unique CDR3  
6 unique J



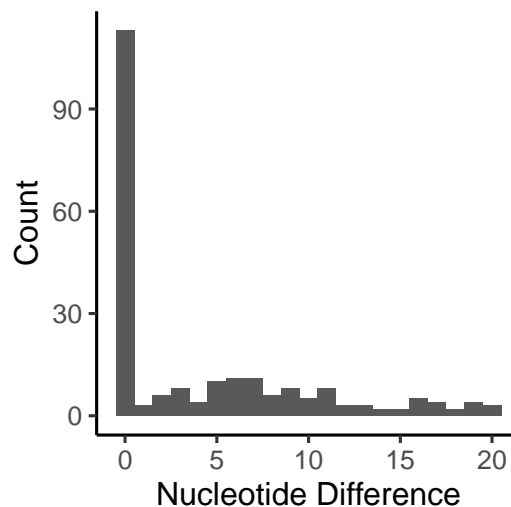
### IGHV3-43\*02

762 sequences assigned  
316 (41.5%) exact matches, in which:  
303 unique CDR3  
6 unique J



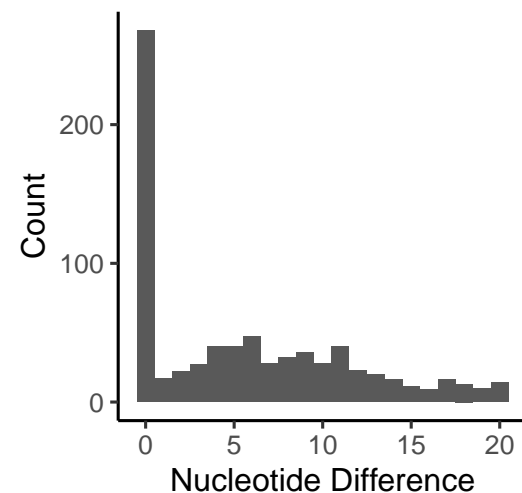
### IGHV3-49\*04

239 sequences assigned  
113 (47.3%) exact matches, in which:  
109 unique CDR3  
6 unique J



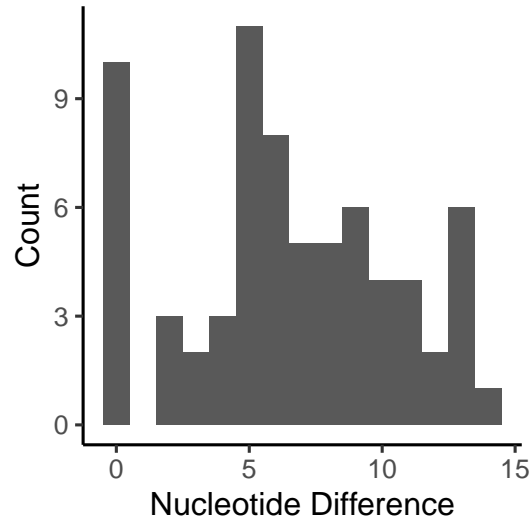
### IGHV3-53\*01\_02

928 sequences assigned  
268 (28.9%) exact matches, in which:  
252 unique CDR3  
6 unique J



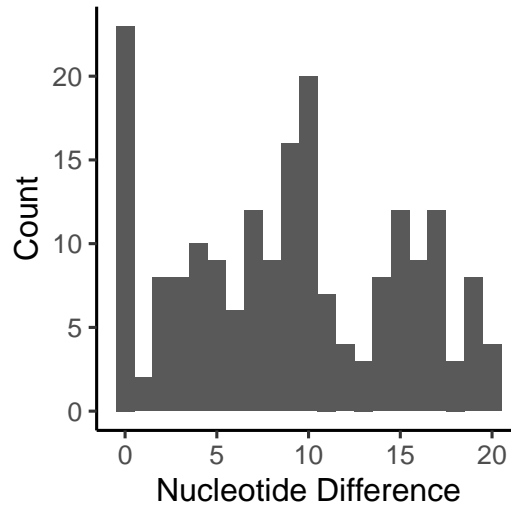
### IGHV3-64\*02\_07

71 sequences assigned  
10 (14.1%) exact matches, in which:  
9 unique CDR3  
4 unique J



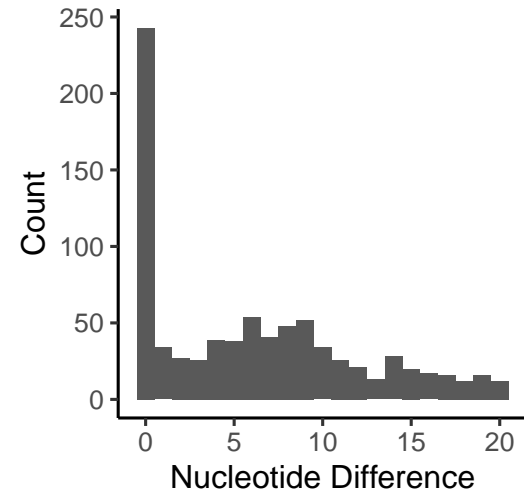
### IGHV3-72\*01

224 sequences assigned  
23 (10.3%) exact matches, in which:  
22 unique CDR3  
4 unique J



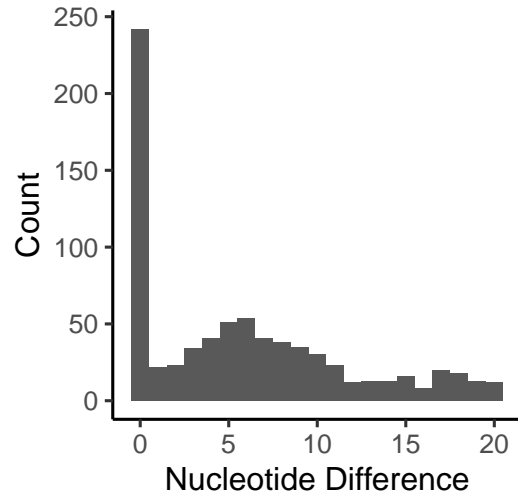
### IGHV3-74\*01\_02

911 sequences assigned  
243 (26.7%) exact matches, in which:  
229 unique CDR3  
6 unique J



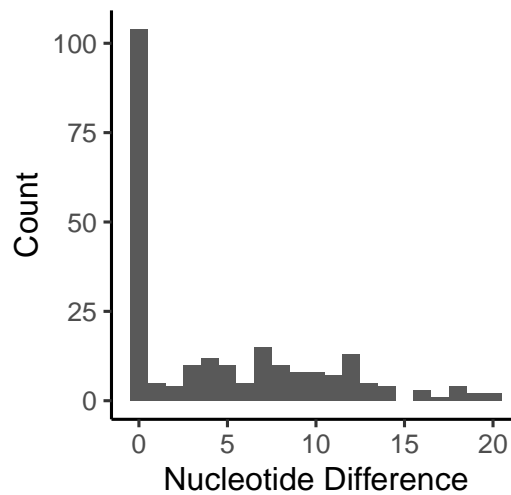
### IGHV3-66\*01

814 sequences assigned  
242 (29.7%) exact matches, in which:  
225 unique CDR3  
6 unique J



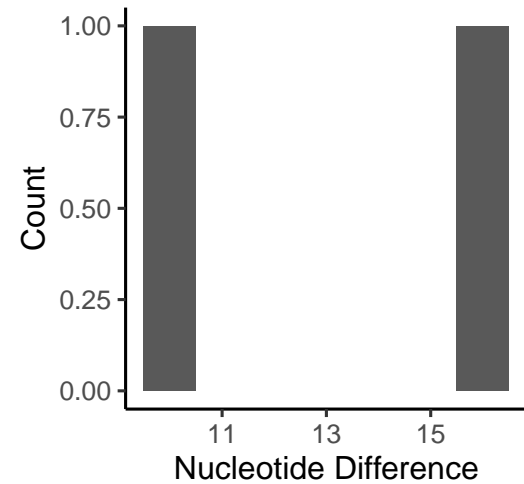
### IGHV3-73\*01\_02

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



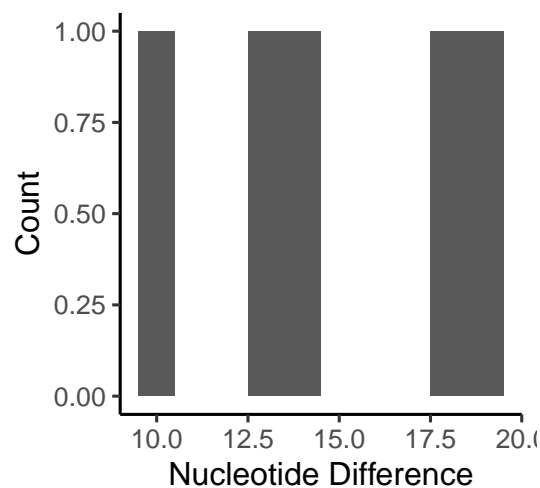
### IGHV3-64D\*06

2 sequences assigned  
No exact matches.



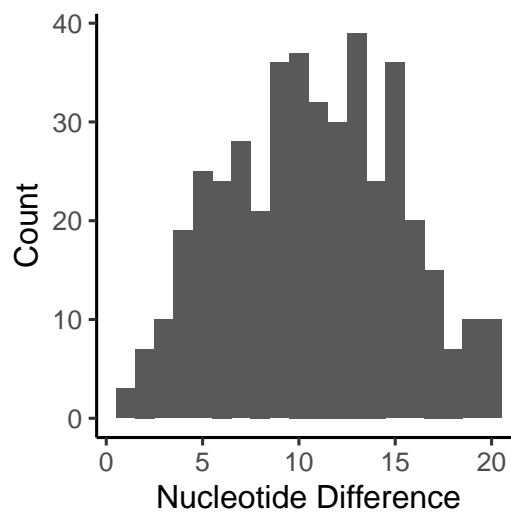
### IGHV3-69-1\*01

12 sequences assigned  
No exact matches.



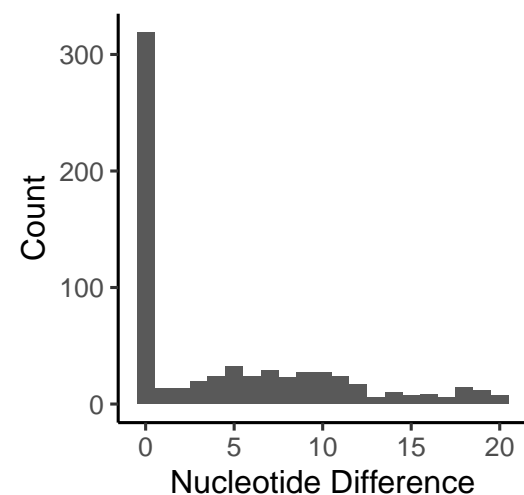
### IGHV3-74\*03

499 sequences assigned  
No exact matches.



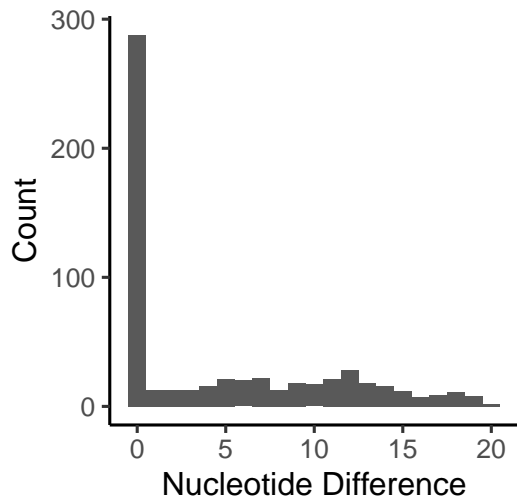
### IGHV4-4\*07

714 sequences assigned  
319 (44.7%) exact matches, in which:  
293 unique CDR3  
5 unique J



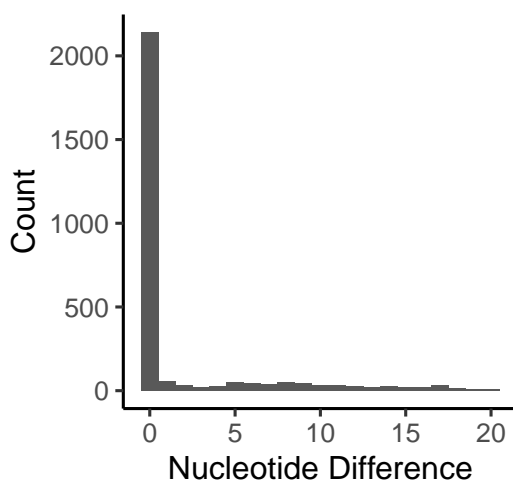
### IGHV4-4\*02\_03

619 sequences assigned  
288 (46.5%) exact matches, in which:  
275 unique CDR3  
6 unique J



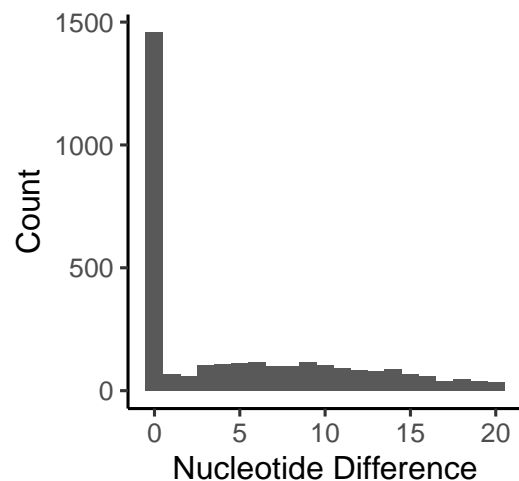
### IGHV4-34\*01\_02

3030 sequences assigned  
2140 (70.6%) exact matches, in which:  
1978 unique CDR3  
6 unique J



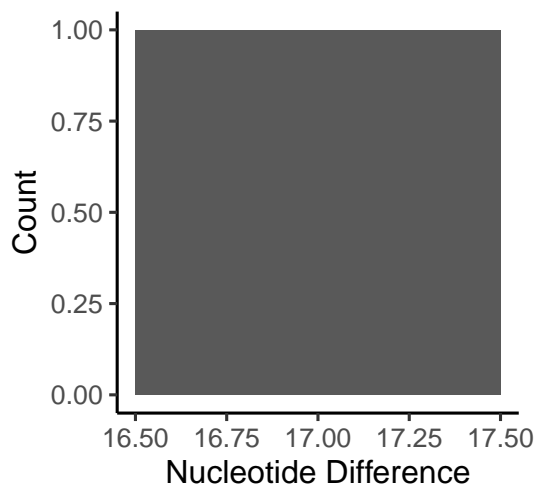
### IGHV4-59\*02\_G88A

3373 sequences assigned  
1458 (43.2%) exact matches, in which:  
1354 unique CDR3  
6 unique J



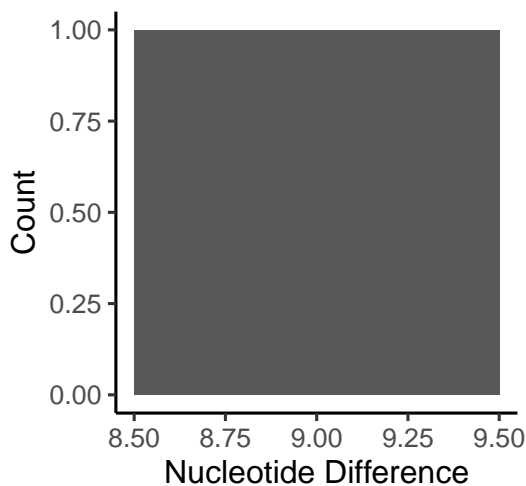
### IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



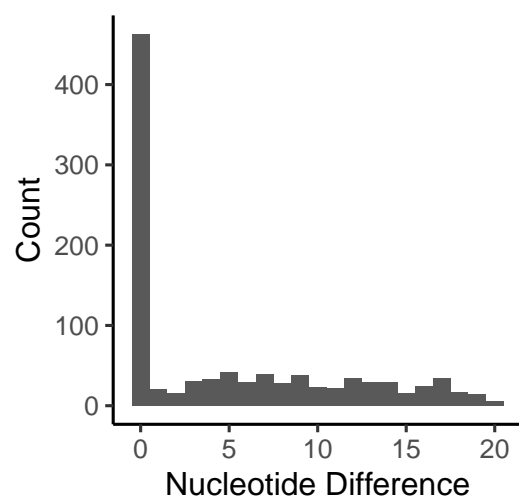
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



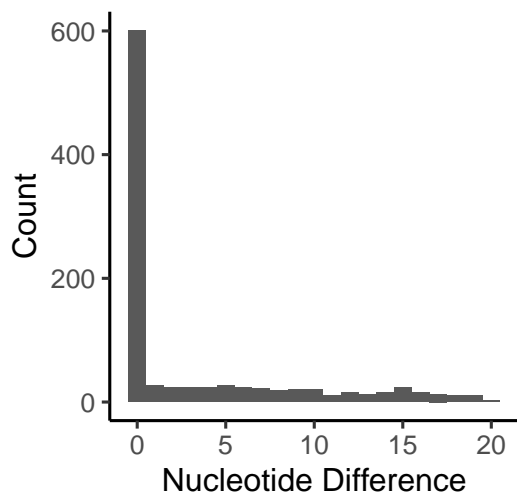
### IGHV4-61\*01

1090 sequences assigned  
463 (42.5%) exact matches, in which:  
441 unique CDR3  
6 unique J



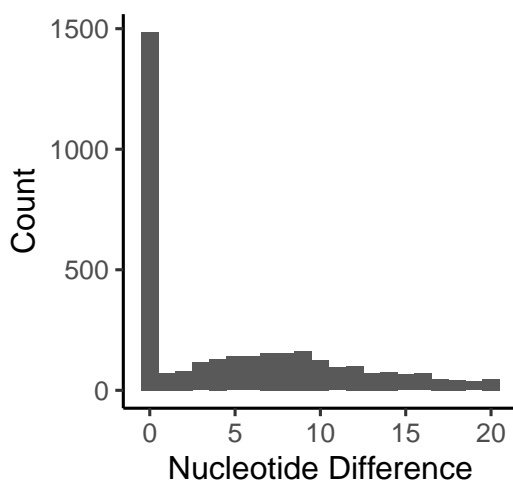
### IGHV4-31\*02

1043 sequences assigned  
601 (57.6%) exact matches, in which:  
580 unique CDR3  
6 unique J



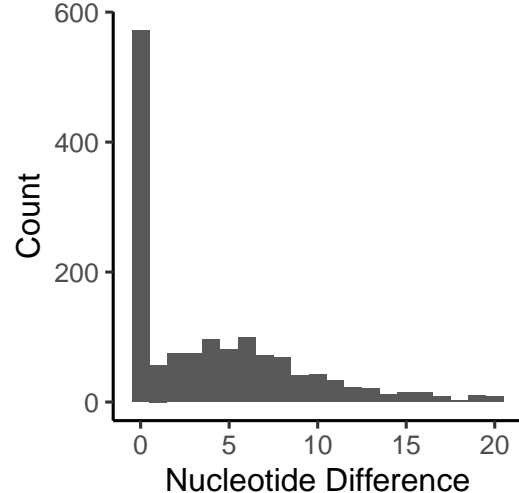
### IGHV4-39\*02\_C258G

3724 sequences assigned  
1486 (39.9%) exact matches, in which:  
1398 unique CDR3  
6 unique J



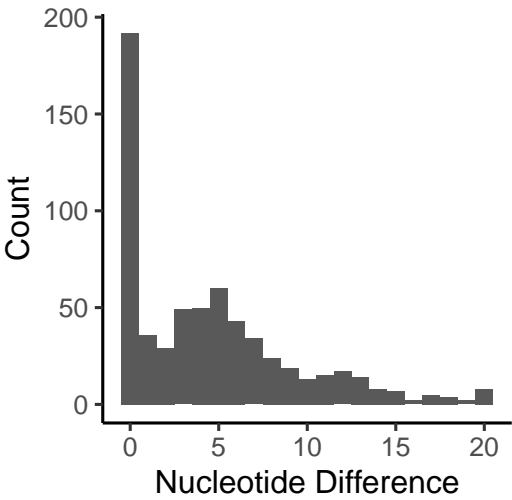
### IGHV5-51\*07\_A128G

1469 sequences assigned  
572 (38.9%) exact matches, in which:  
570 unique CDR3  
6 unique J



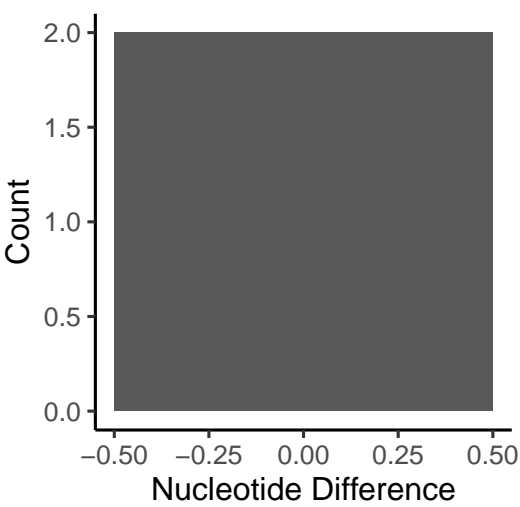
IGHV6-1\*01\_02

642 sequences assigned  
192 (29.9%) exact matches, in which:  
192 unique CDR3  
6 unique J



IGHV7-4-1\*01

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







Warning – no inferred sequences found.