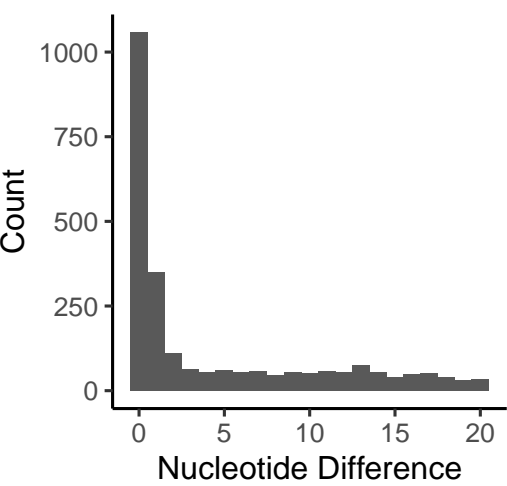


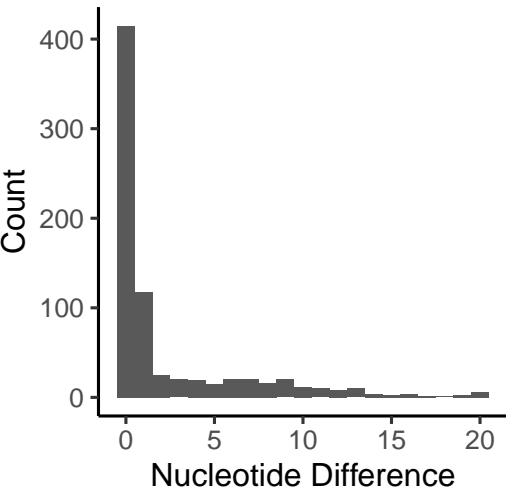
IGHV1-2\*02

2699 sequences assigned  
1058 (39.2%) exact matches, in which:  
1049 unique CDR3  
6 unique J



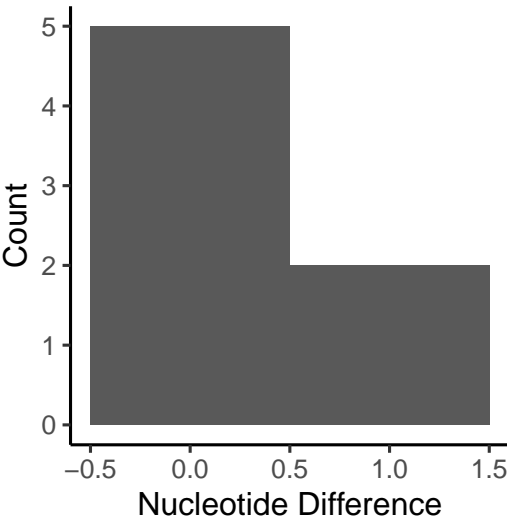
IGHV1-8\*01

801 sequences assigned  
415 (51.8%) exact matches, in which:  
407 unique CDR3  
6 unique J



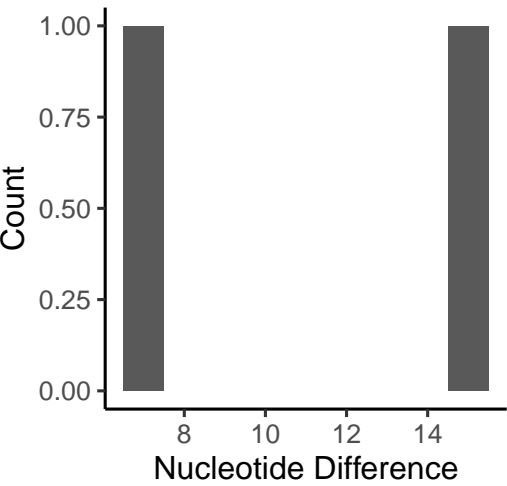
IGHV1-45\*02

7 sequences assigned  
5 (71.4%) exact matches, in which:  
4 unique CDR3  
2 unique J



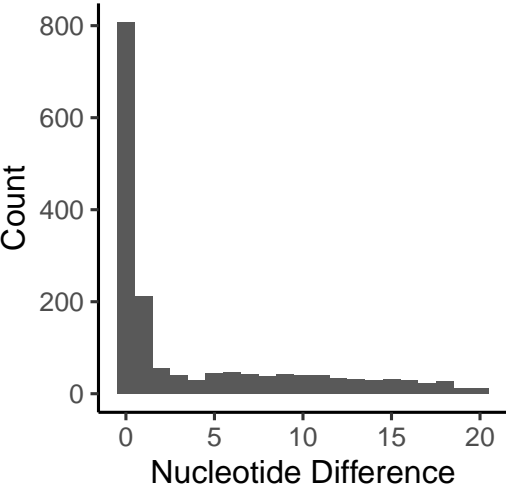
IGHV1-3\*01

3 sequences assigned  
No exact matches.



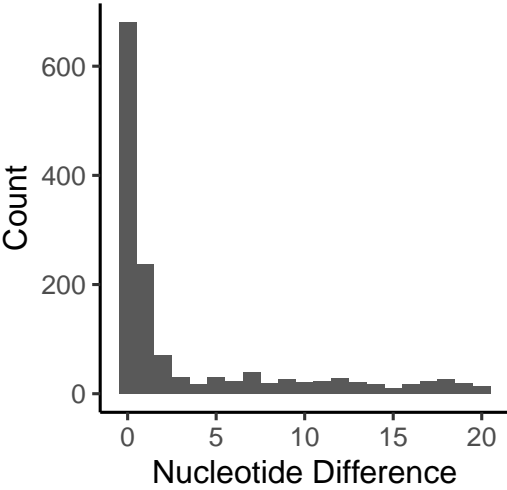
IGHV1-18\*01

1865 sequences assigned  
808 (43.3%) exact matches, in which:  
790 unique CDR3  
6 unique J



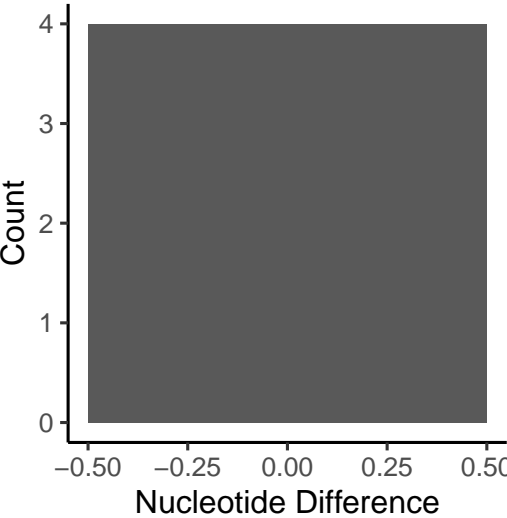
IGHV1-46\*01

1536 sequences assigned  
681 (44.3%) exact matches, in which:  
669 unique CDR3  
6 unique J



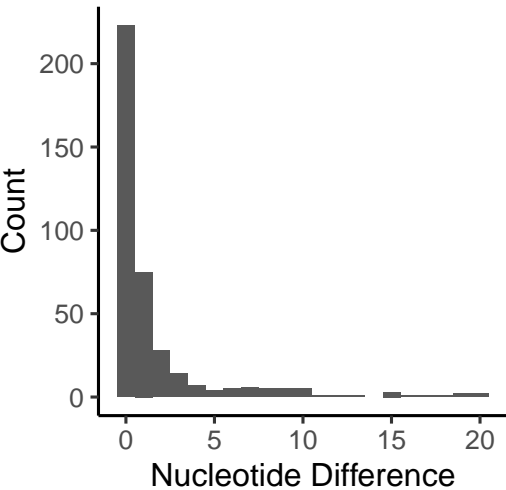
IGHV1-3\*02

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



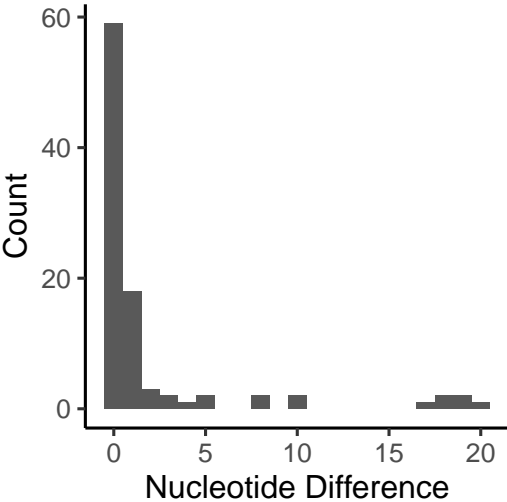
IGHV1-24\*01

441 sequences assigned  
223 (50.6%) exact matches, in which:  
215 unique CDR3  
6 unique J



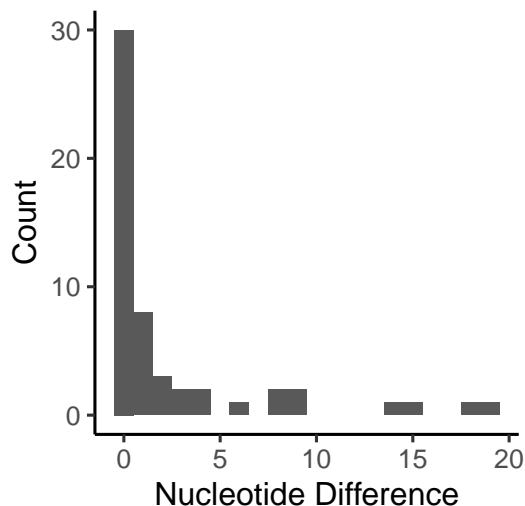
IGHV1-58\*01

106 sequences assigned  
59 (55.7%) exact matches, in which:  
59 unique CDR3  
4 unique J



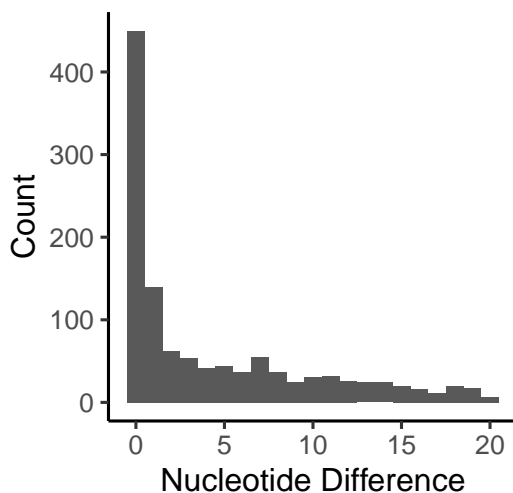
## IGHV1–58\*02

55 sequences assigned  
30 (54.5%) exact matches, in which:  
29 unique CDR3  
5 unique J



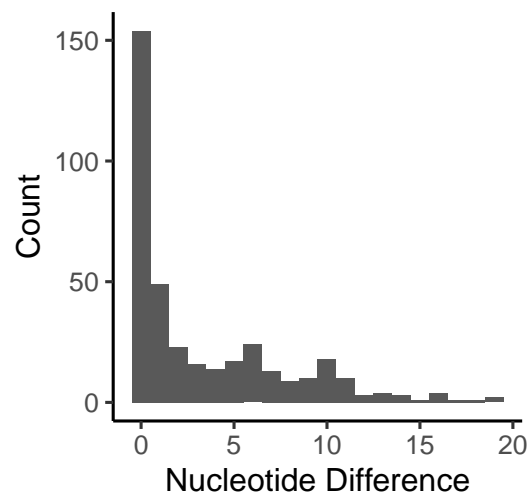
## IGHV2–5\*02

1252 sequences assigned  
450 (35.9%) exact matches, in which:  
443 unique CDR3  
6 unique J



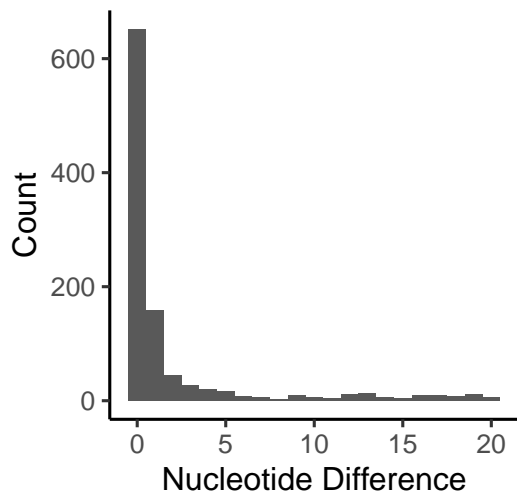
## IGHV2–70\*15

392 sequences assigned  
154 (39.3%) exact matches, in which:  
152 unique CDR3  
5 unique J



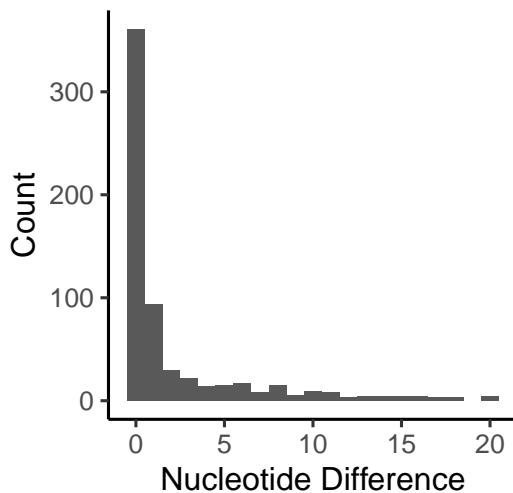
## IGHV1–69\*04

1110 sequences assigned  
652 (58.7%) exact matches, in which:  
620 unique CDR3  
6 unique J



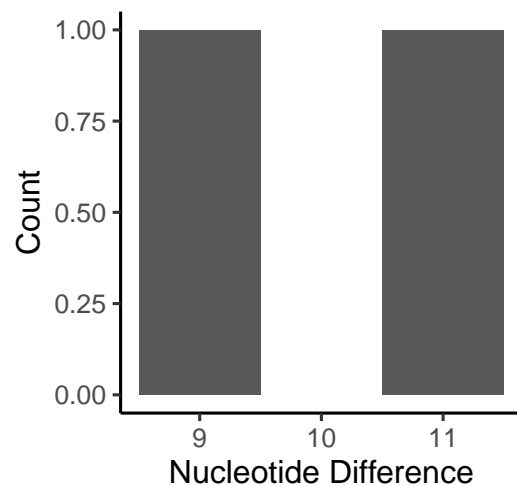
## IGHV2–26\*01

665 sequences assigned  
361 (54.3%) exact matches, in which:  
356 unique CDR3  
6 unique J



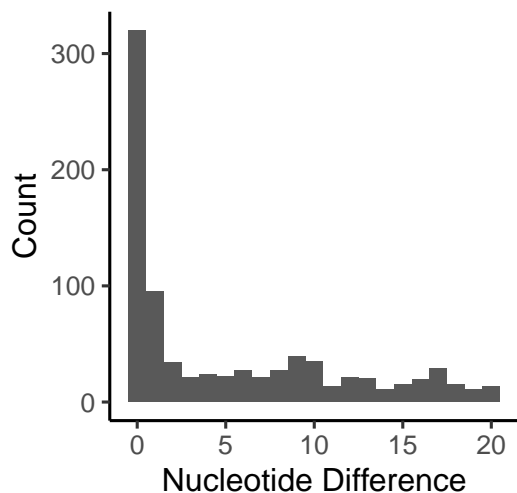
## IGHV2–70D\*04

2 sequences assigned  
No exact matches.



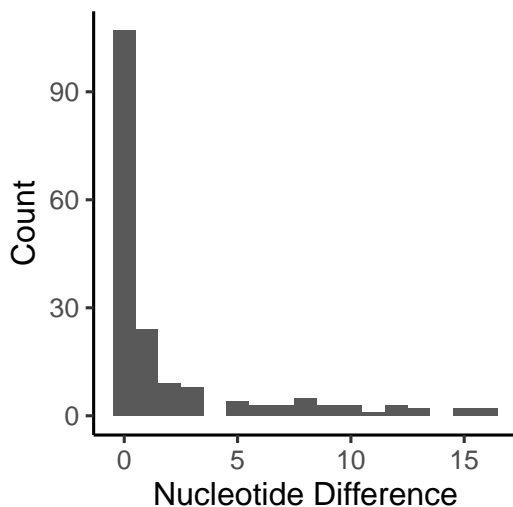
## IGHV2–5\*01

907 sequences assigned  
320 (35.3%) exact matches, in which:  
308 unique CDR3  
6 unique J



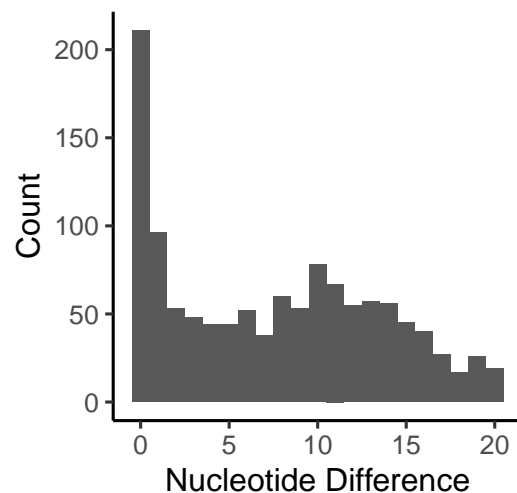
## IGHV2–70\*01

191 sequences assigned  
107 (56%) exact matches, in which:  
106 unique CDR3  
6 unique J



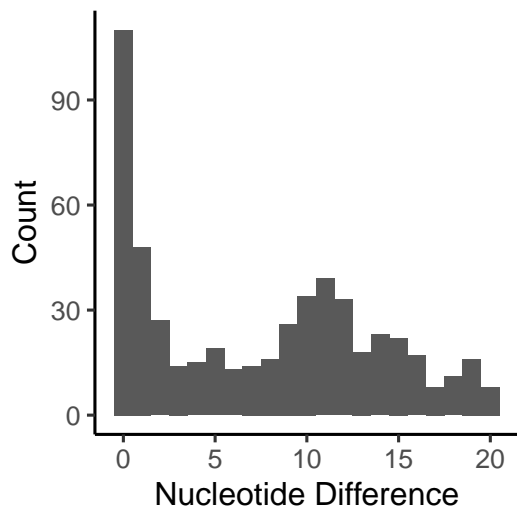
## IGHV3–7\*01

1336 sequences assigned  
211 (15.8%) exact matches, in which:  
207 unique CDR3  
6 unique J



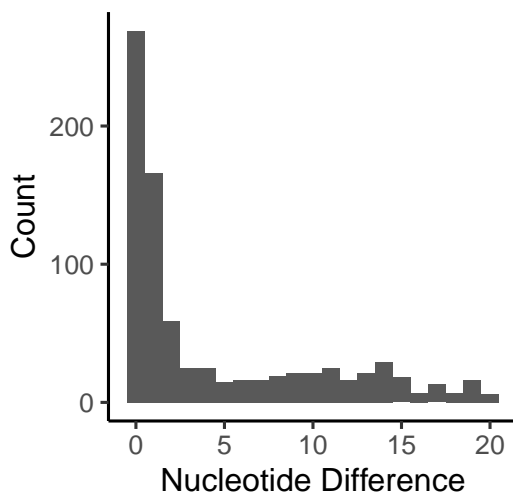
### IGHV3-7\*04

605 sequences assigned  
110 (18.2%) exact matches, in which:  
107 unique CDR3  
5 unique J



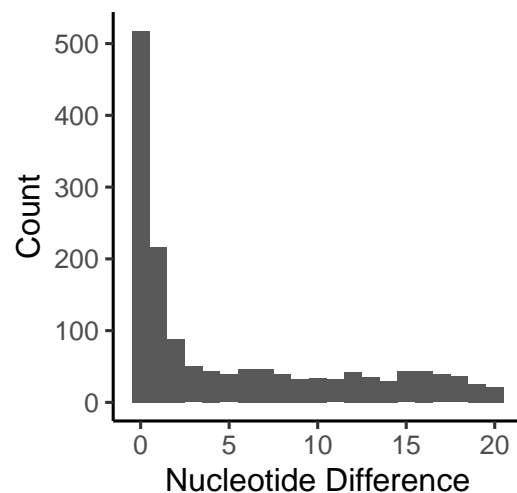
### IGHV3-11\*05

868 sequences assigned  
269 (31%) exact matches, in which:  
266 unique CDR3  
6 unique J



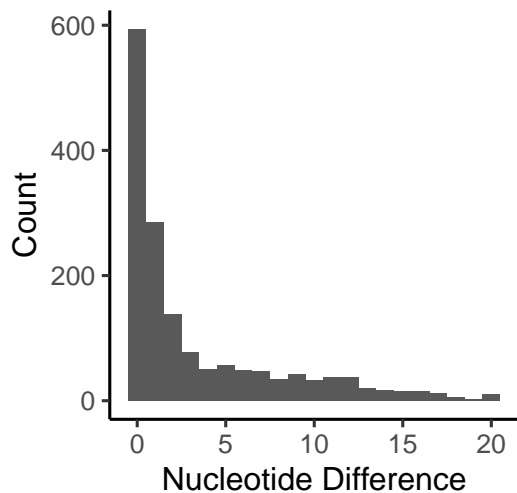
### IGHV3-15\*01

1668 sequences assigned  
518 (31.1%) exact matches, in which:  
510 unique CDR3  
6 unique J



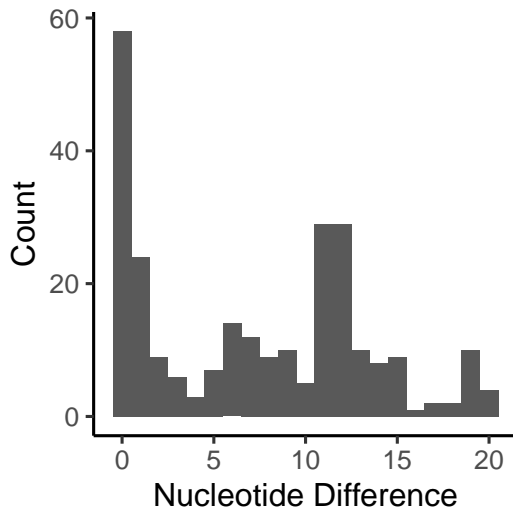
### IGHV3-9\*01

1653 sequences assigned  
594 (35.9%) exact matches, in which:  
575 unique CDR3  
6 unique J



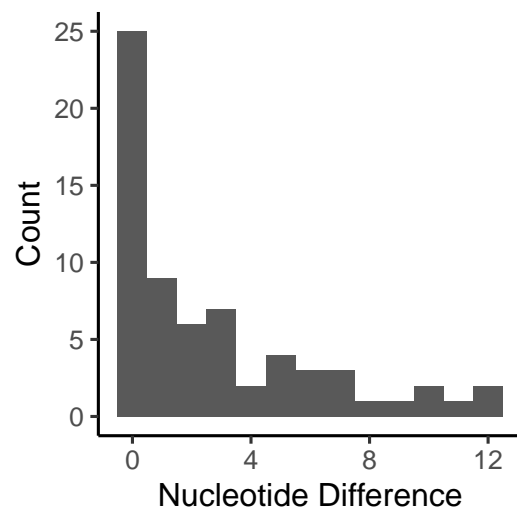
### IGHV3-13\*01

289 sequences assigned  
58 (20.1%) exact matches, in which:  
57 unique CDR3  
6 unique J



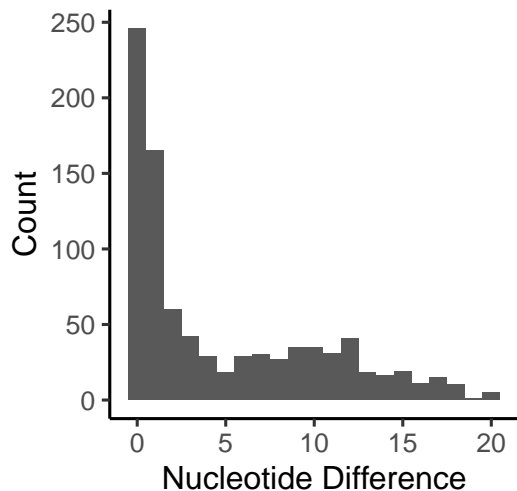
### IGHV3-20\*01

81 sequences assigned  
25 (30.9%) exact matches, in which:  
25 unique CDR3  
5 unique J



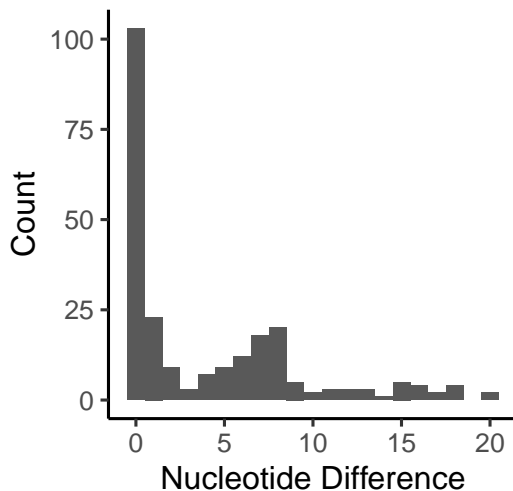
### IGHV3-11\*01

1000 sequences assigned  
246 (24.6%) exact matches, in which:  
243 unique CDR3  
6 unique J



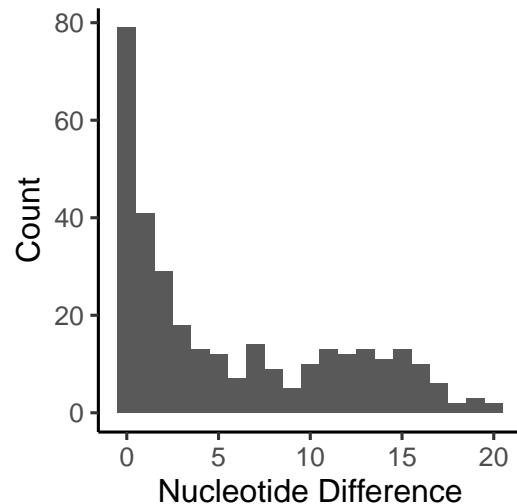
### IGHV3-13\*04

261 sequences assigned  
103 (39.5%) exact matches, in which:  
102 unique CDR3  
5 unique J



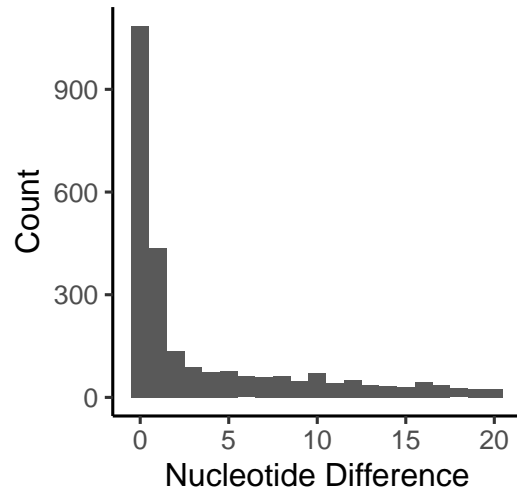
### IGHV3-20\*04

362 sequences assigned  
79 (21.8%) exact matches, in which:  
79 unique CDR3  
5 unique J



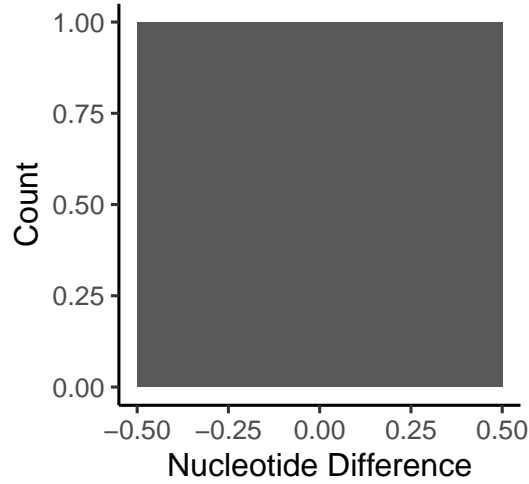
### IGHV3-21\*01

2820 sequences assigned  
1086 (38.5%) exact matches, in which:  
1067 unique CDR3  
6 unique J



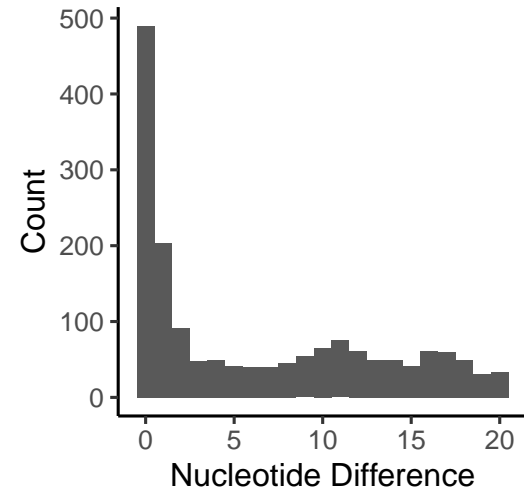
### IGHV3-35\*01

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



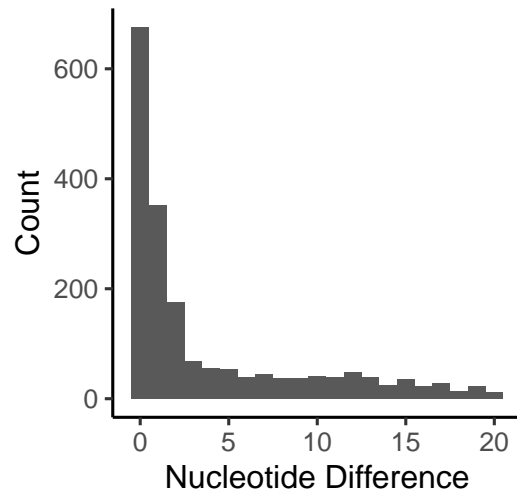
### IGHV3-48\*02

1944 sequences assigned  
490 (25.2%) exact matches, in which:  
482 unique CDR3  
6 unique J



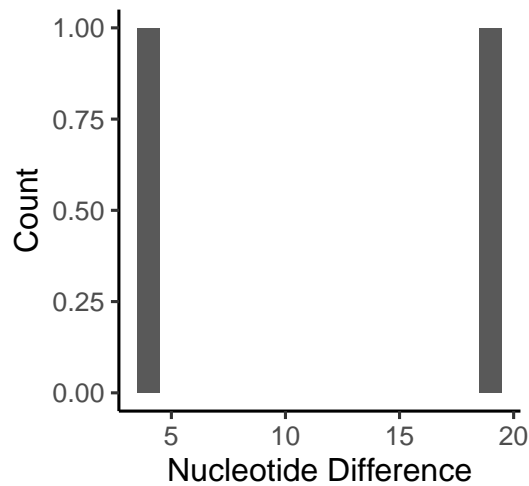
### IGHV3-30-3\*01

2069 sequences assigned  
676 (32.7%) exact matches, in which:  
659 unique CDR3  
6 unique J



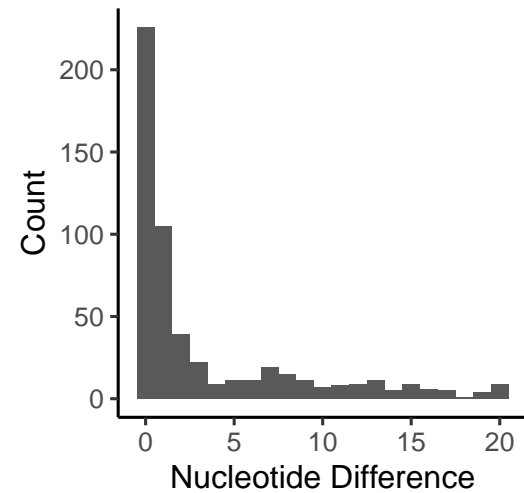
### IGHV3-41\*02

3 sequences assigned  
No exact matches.



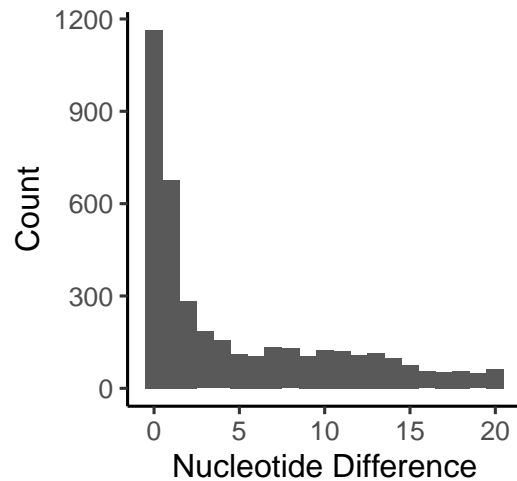
### IGHV3-49\*05

607 sequences assigned  
226 (37.2%) exact matches, in which:  
220 unique CDR3  
6 unique J



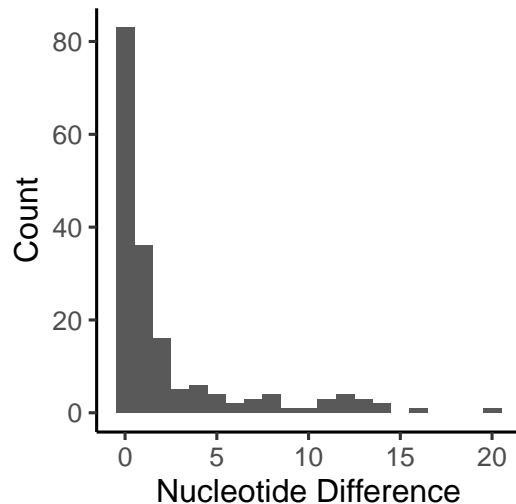
### IGHV3-33\*01

4256 sequences assigned  
1164 (27.3%) exact matches, in which:  
1130 unique CDR3  
6 unique J



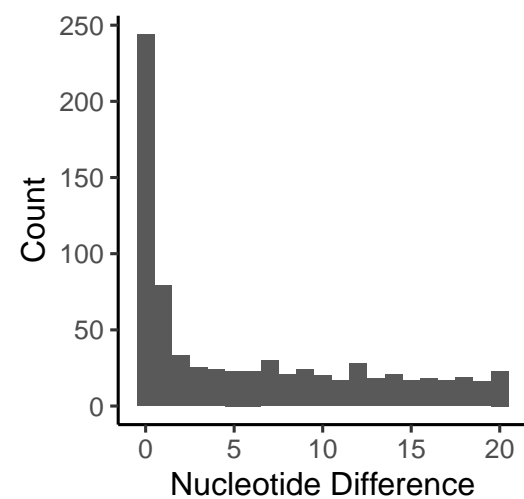
### IGHV3-43\*01

188 sequences assigned  
83 (44.1%) exact matches, in which:  
81 unique CDR3  
5 unique J



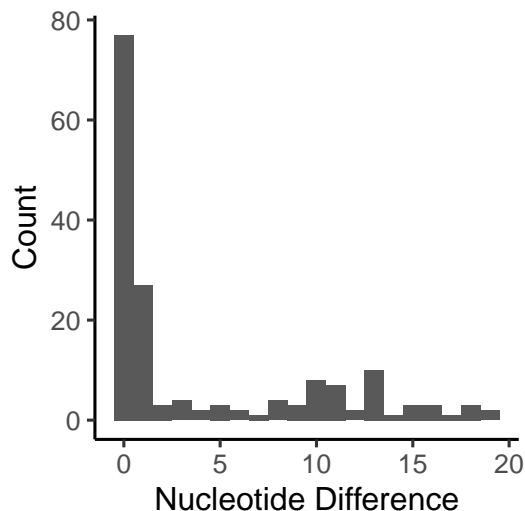
### IGHV3-53\*01

904 sequences assigned  
244 (27%) exact matches, in which:  
240 unique CDR3  
6 unique J



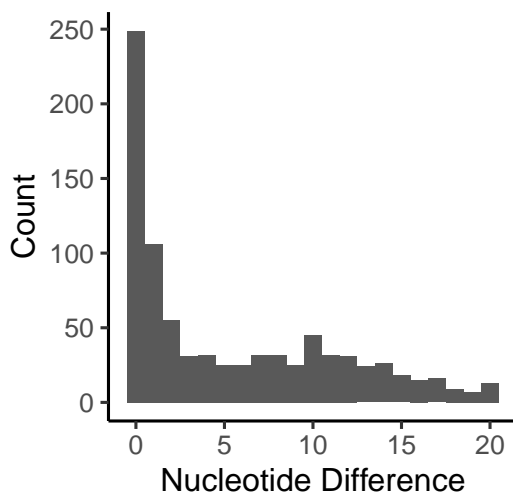
### IGHV3-53\*04\_G81A

178 sequences assigned  
77 (43.3%) exact matches, in which:  
76 unique CDR3  
5 unique J



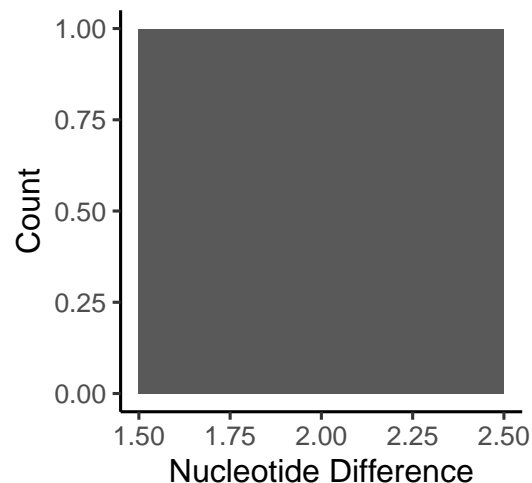
### IGHV3-66\*01

935 sequences assigned  
249 (26.6%) exact matches, in which:  
247 unique CDR3  
6 unique J



### IGHV3-71\*03

1 sequences assigned  
No exact matches.



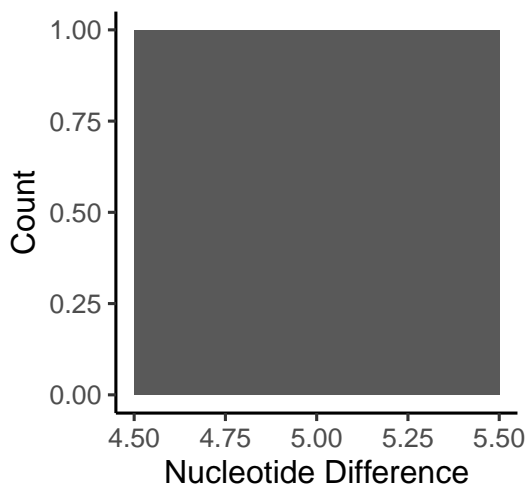
### IGHV3-54\*02

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



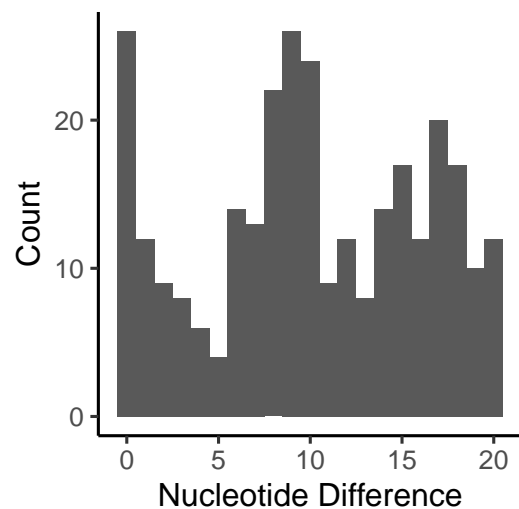
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



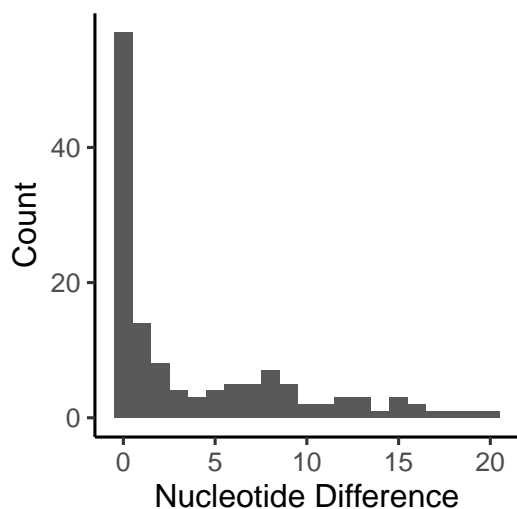
### IGHV3-72\*01

340 sequences assigned  
26 (7.6%) exact matches, in which:  
24 unique CDR3  
6 unique J



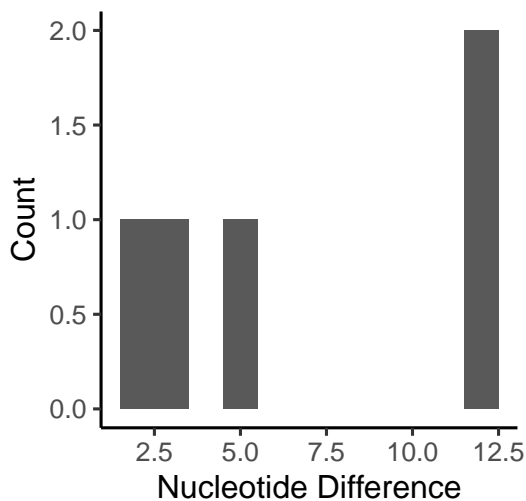
### IGHV3-64\*01

150 sequences assigned  
57 (38%) exact matches, in which:  
55 unique CDR3  
6 unique J



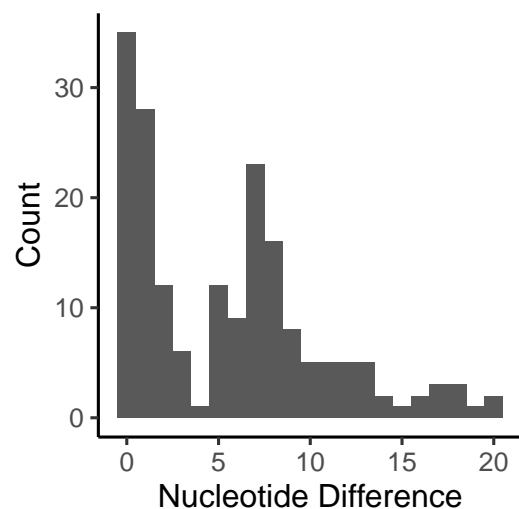
### IGHV3-69-1\*02

6 sequences assigned  
No exact matches.



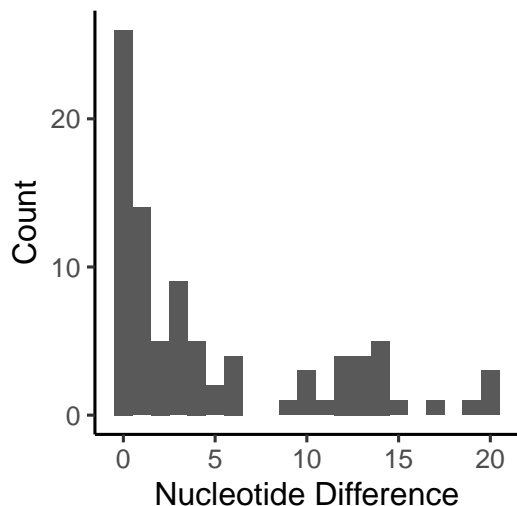
### IGHV3-73\*01

191 sequences assigned  
35 (18.3%) exact matches, in which:  
35 unique CDR3  
6 unique J



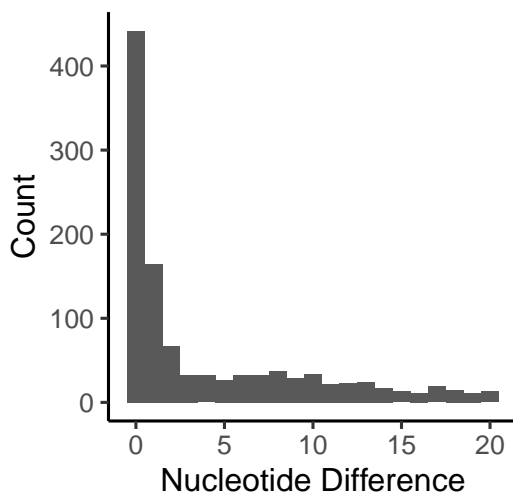
## IGHV3-73\*02

92 sequences assigned  
26 (28.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



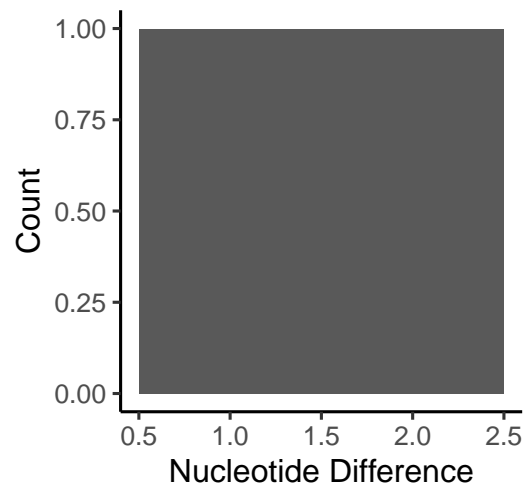
## IGHV4-4\*07

1175 sequences assigned  
442 (37.6%) exact matches, in which:  
437 unique CDR3  
6 unique J



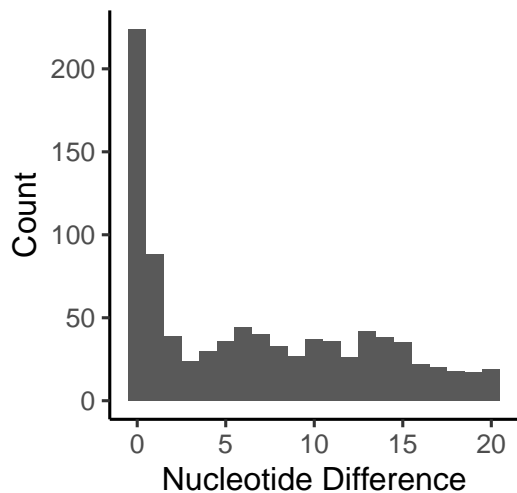
## IGHV4-28\*04

2 sequences assigned  
No exact matches.



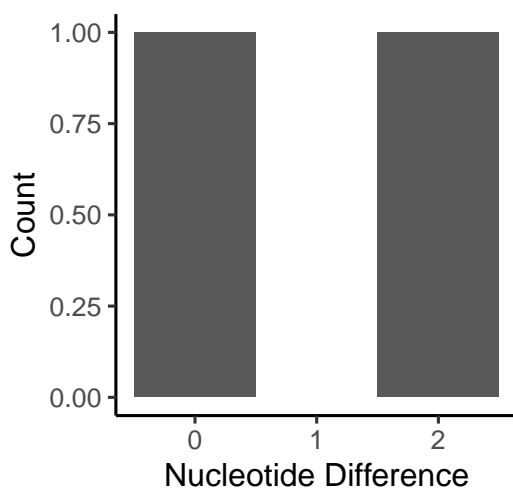
## IGHV3-74\*01

1048 sequences assigned  
224 (21.4%) exact matches, in which:  
220 unique CDR3  
6 unique J



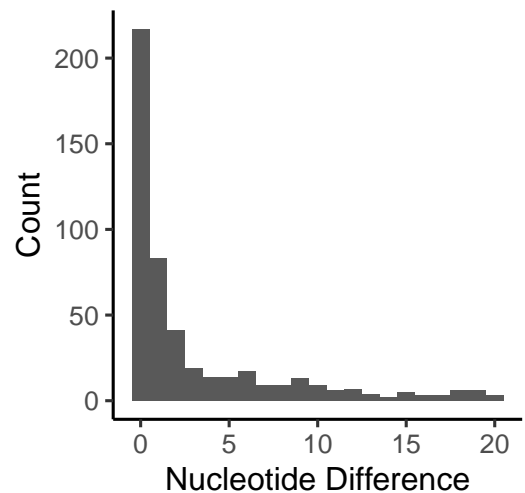
## IGHV4-28\*01

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



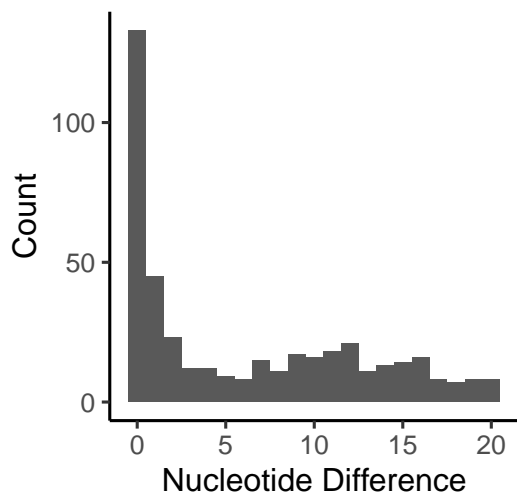
## IGHV4-30-4\*01

530 sequences assigned  
217 (40.9%) exact matches, in which:  
216 unique CDR3  
6 unique J



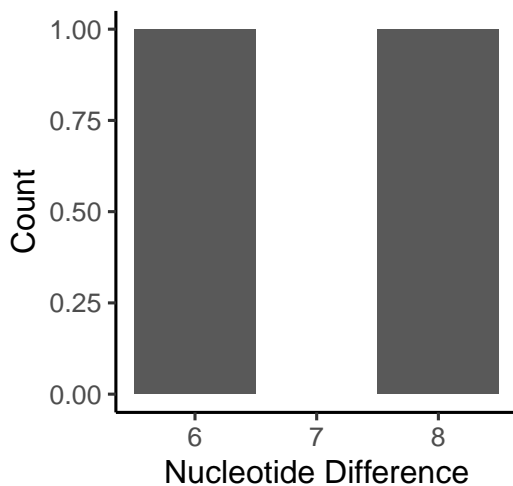
## IGHV3-64D\*06

478 sequences assigned  
133 (27.8%) exact matches, in which:  
130 unique CDR3  
6 unique J



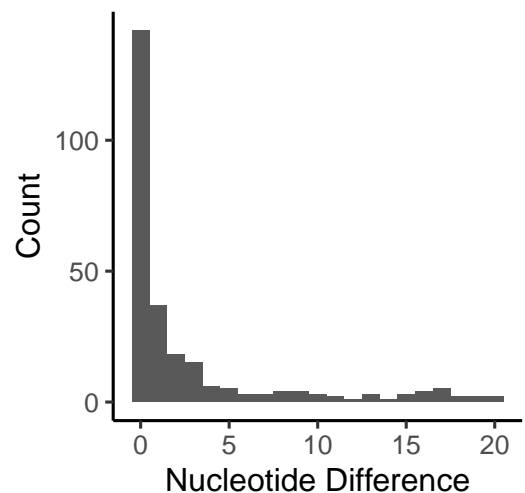
## IGHV4-28\*03

2 sequences assigned  
No exact matches.



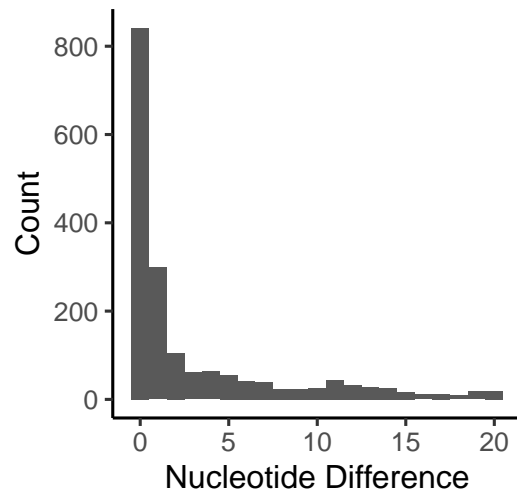
## IGHV4-30-2\*01

290 sequences assigned  
142 (49%) exact matches, in which:  
141 unique CDR3  
6 unique J



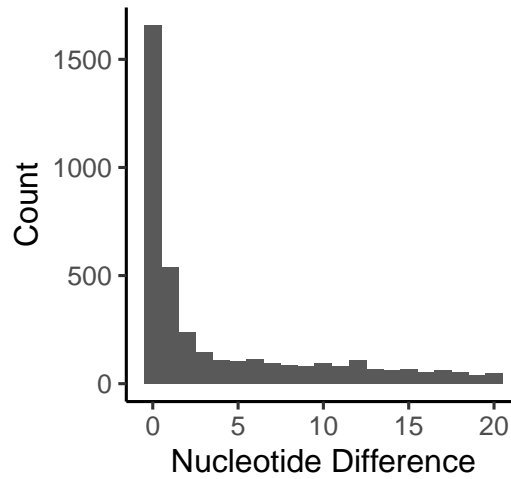
### IGHV4-31\*03

2004 sequences assigned  
842 (42%) exact matches, in which:  
822 unique CDR3  
6 unique J



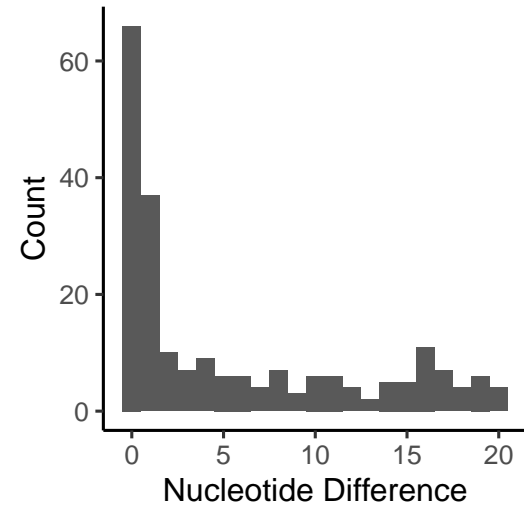
### IGHV4-39\*01

4681 sequences assigned  
1657 (35.4%) exact matches, in which:  
1617 unique CDR3  
6 unique J



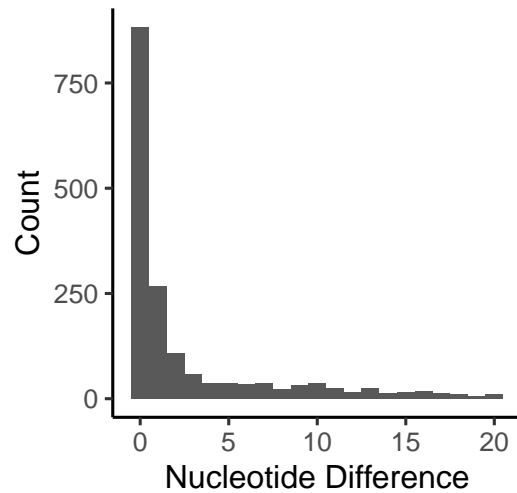
### IGHV4-61\*01

248 sequences assigned  
66 (26.6%) exact matches, in which:  
66 unique CDR3  
5 unique J



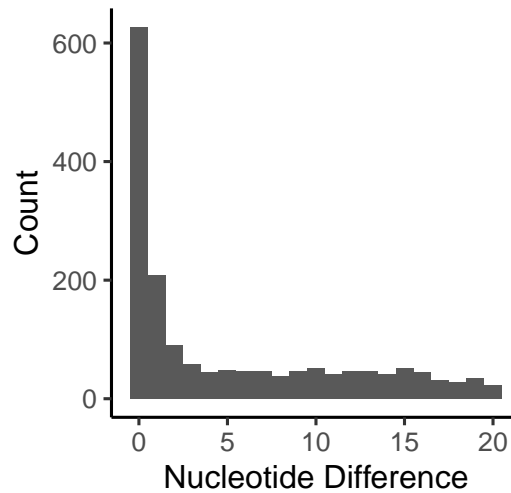
### IGHV4-34\*01

1787 sequences assigned  
883 (49.4%) exact matches, in which:  
861 unique CDR3  
6 unique J



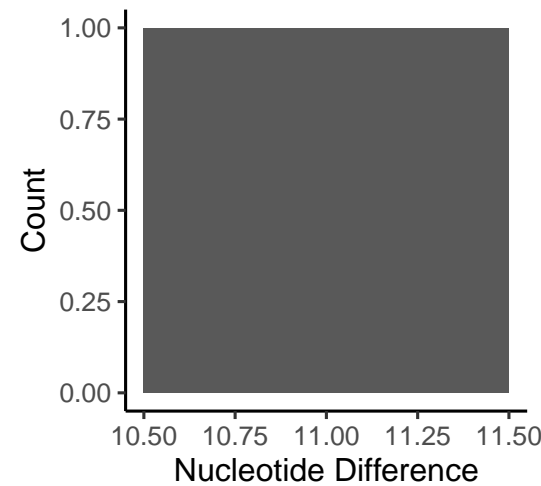
### IGHV4-59\*01

1911 sequences assigned  
627 (32.8%) exact matches, in which:  
621 unique CDR3  
6 unique J



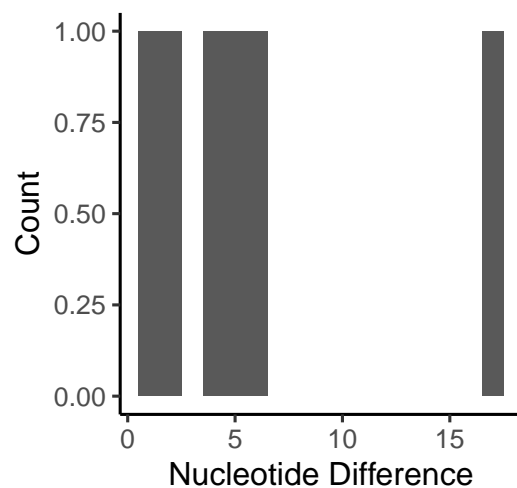
### IGHV4/OR15-8\*02

1 sequences assigned  
No exact matches.



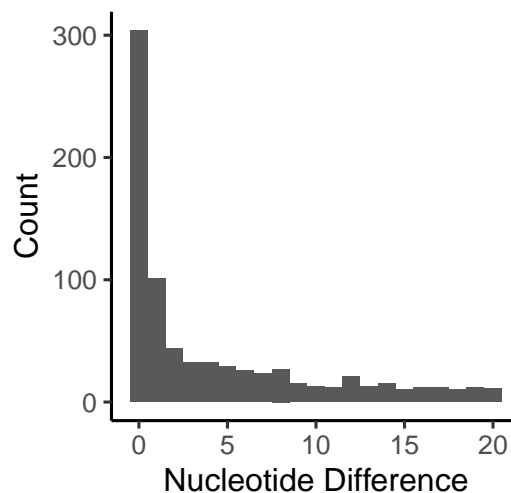
### IGHV4-38-2\*02

16 sequences assigned  
No exact matches.



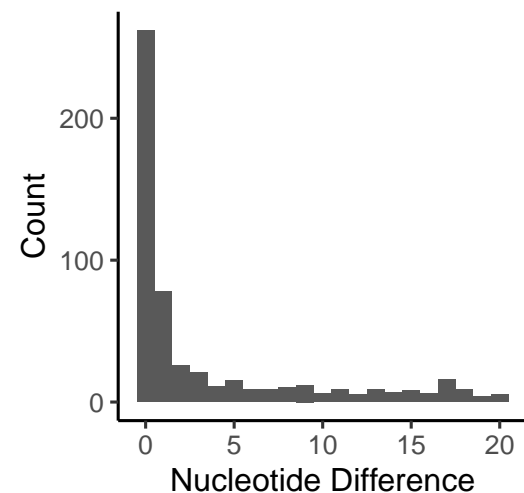
### IGHV4-59\*08

857 sequences assigned  
304 (35.5%) exact matches, in which:  
300 unique CDR3  
6 unique J



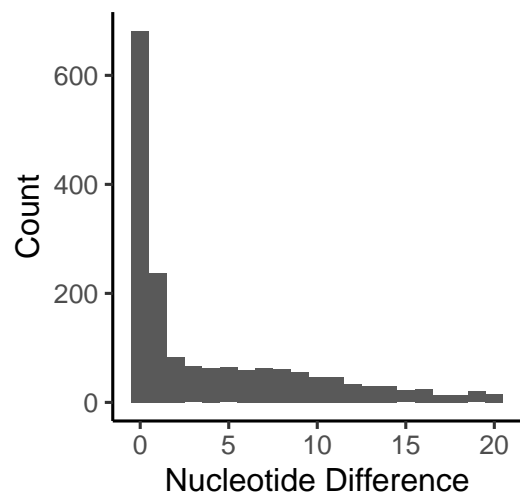
### IGHV5-10-1\*01

556 sequences assigned  
262 (47.1%) exact matches, in which:  
252 unique CDR3  
6 unique J



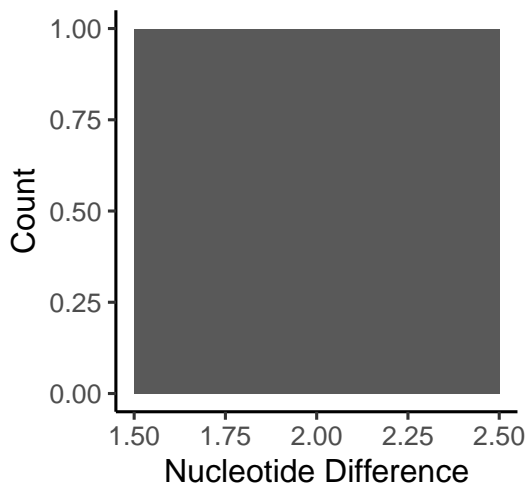
### IGHV5–51\*01

1878 sequences assigned  
682 (36.3%) exact matches, in which:  
662 unique CDR3  
6 unique J



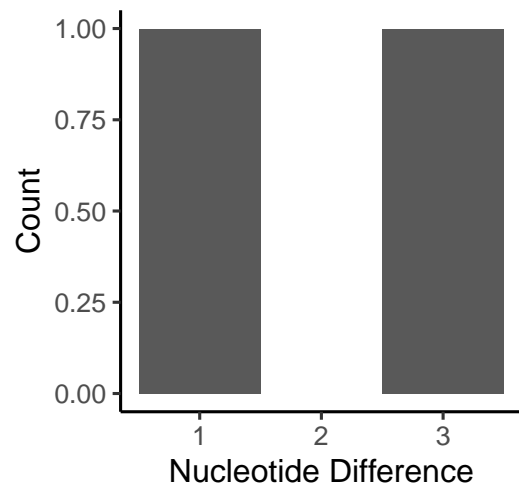
### IGHV3/OR16–6\*02

1 sequences assigned  
No exact matches.



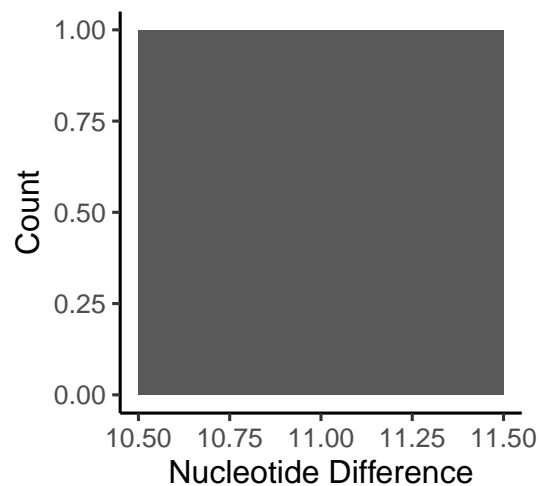
### IGHV7–4–1\*01

2 sequences assigned  
No exact matches.



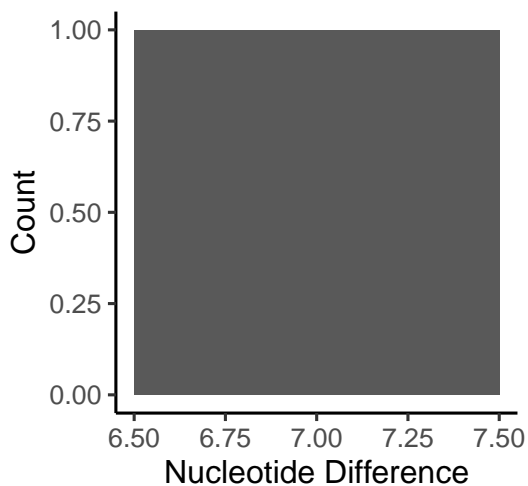
### IGHV5–78\*01

2 sequences assigned  
No exact matches.



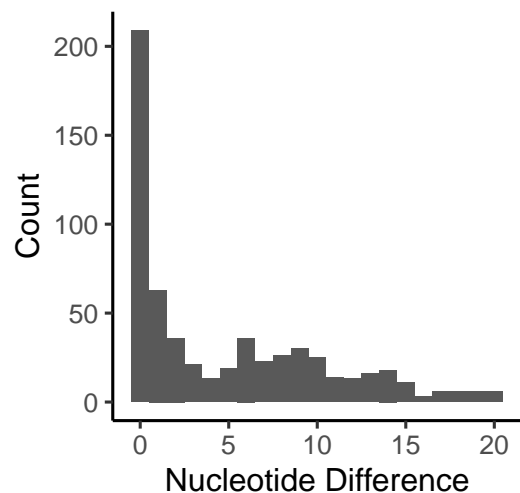
### IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.



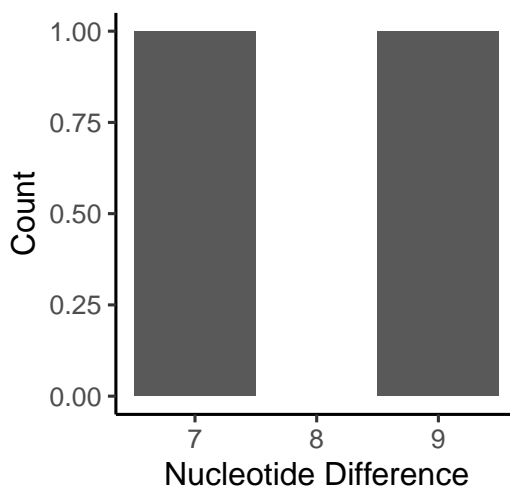
### IGHV6–1\*01

618 sequences assigned  
209 (33.8%) exact matches, in which:  
201 unique CDR3  
5 unique J



### IGHV3/OR16–12\*01

4 sequences assigned  
No exact matches.







Warning – no inferred sequences found.