

Gene IGHV1-69\*04\_09\_G112A



Gene IGHV3-66\*01\_A193G



Gene IGHV4-38-2\*02\_A70G



Gene IGHV1-69\*04\_09\_G112A



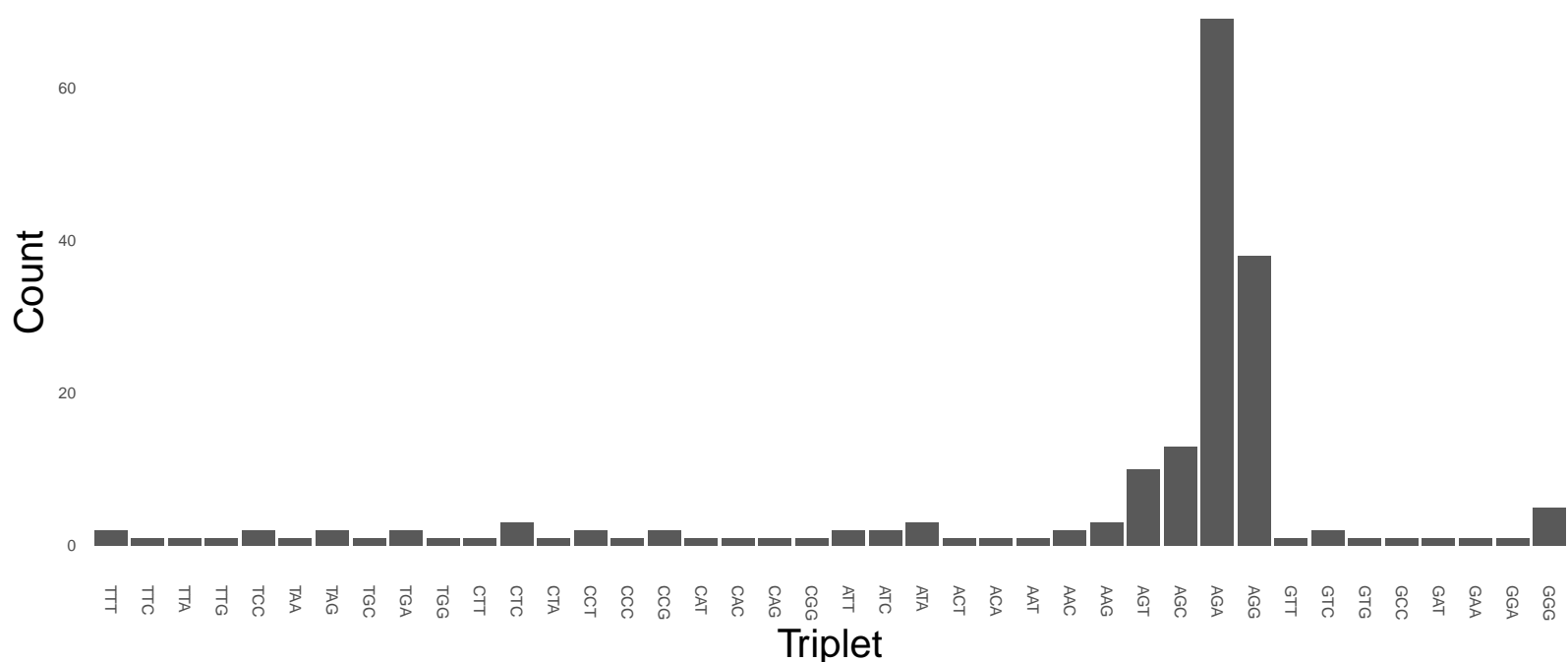
Gene IGHV3-66\*01\_A193G



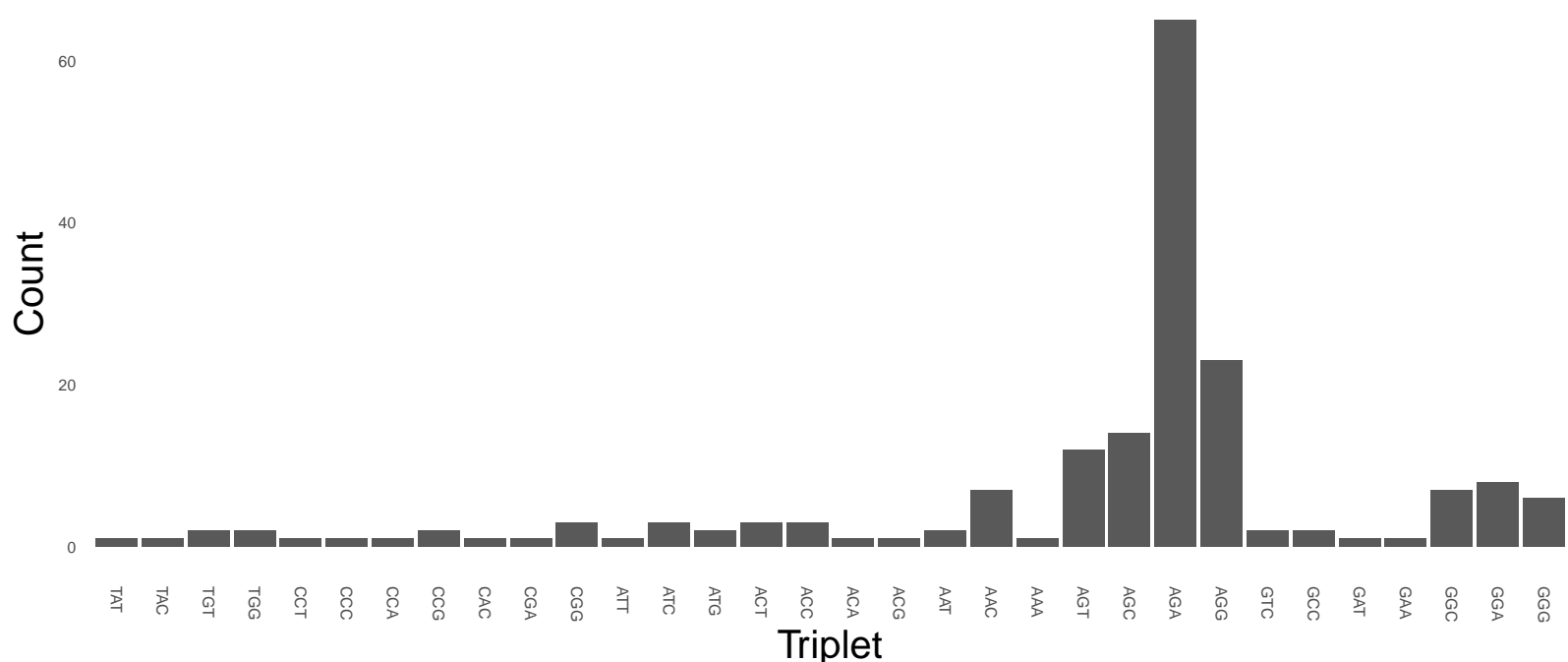
Gene IGHV4-38-2\*02\_A70G



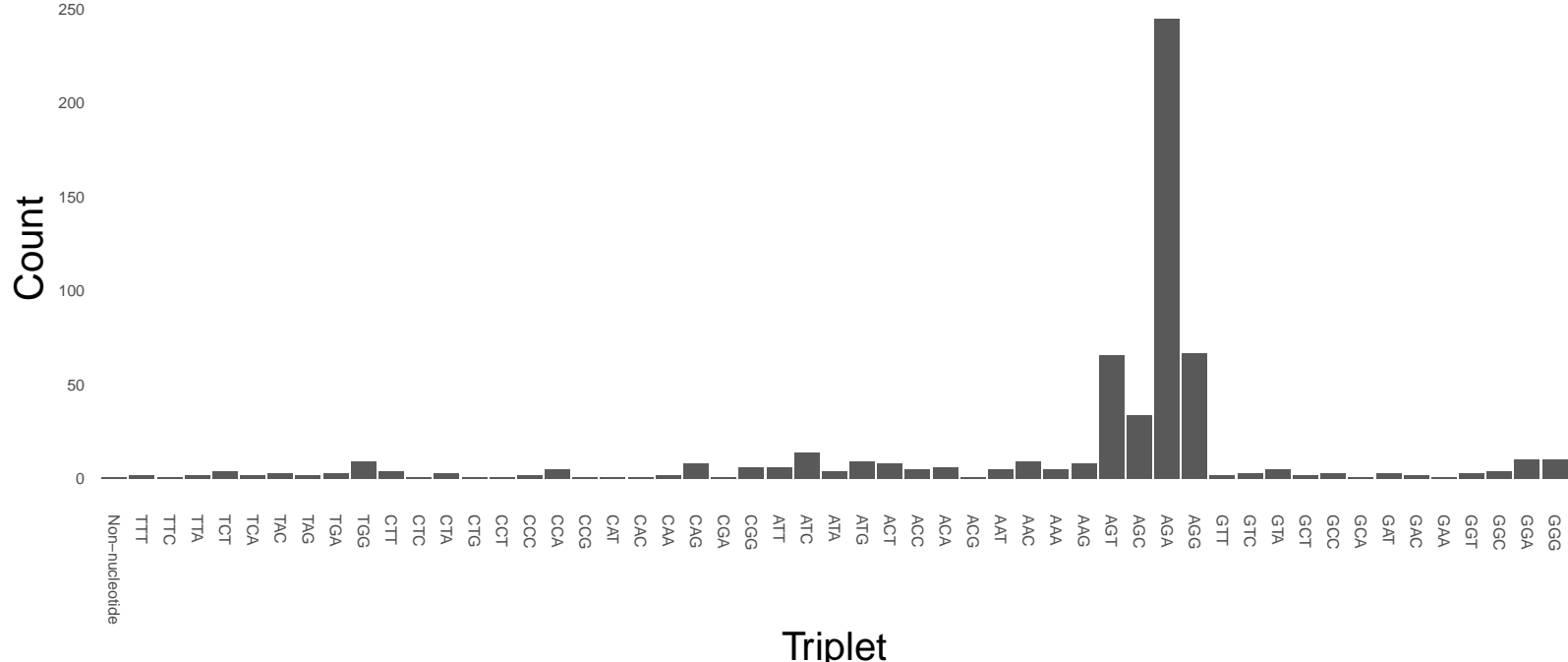
IGHV1–69\*04\_09\_G112A– Final 3 nucleotides as a triplet



IGHV3–66\*01\_A193G– Final 3 nucleotides as a triplet

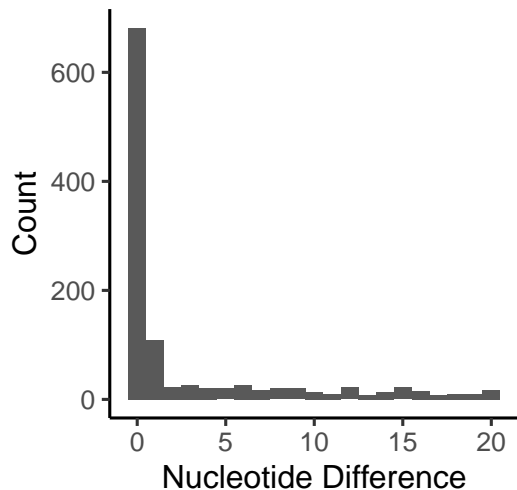


IGHV4–38–2\*02\_A70G– Final 3 nucleotides as a triplet



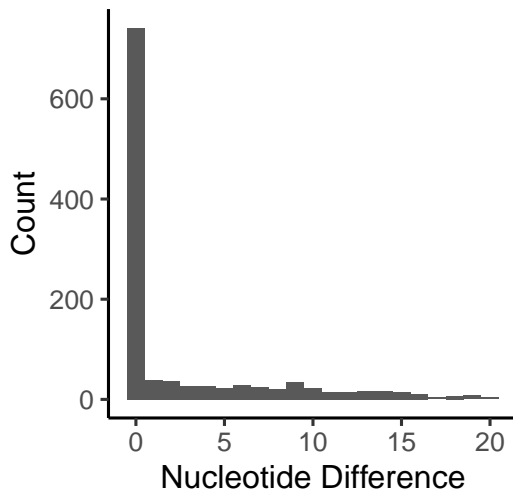
### IGHV1-2\*02

1197 sequences assigned  
682 (57%) exact matches, in which:  
682 unique CDR3  
6 unique J



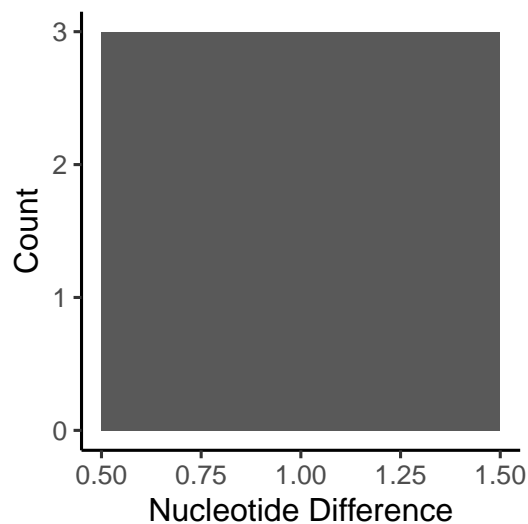
### IGHV1-18\*01

1178 sequences assigned  
742 (63%) exact matches, in which:  
741 unique CDR3  
6 unique J



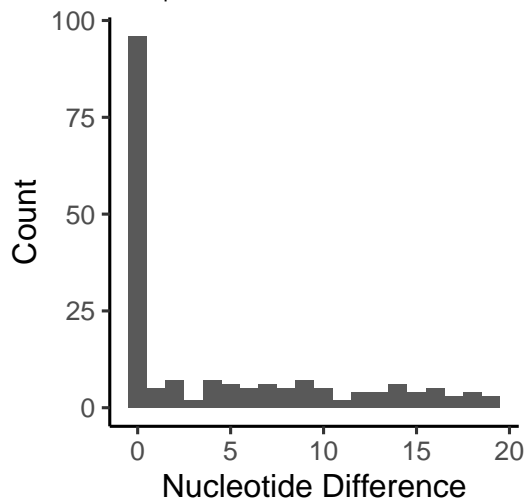
### IGHV1-38-4\*01

3 sequences assigned  
No exact matches.



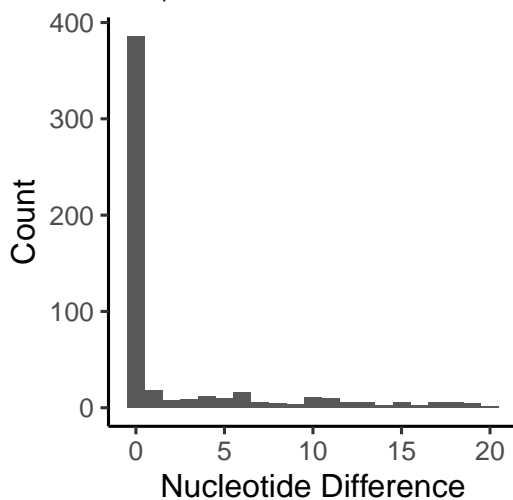
### IGHV1-3\*01\_05

199 sequences assigned  
96 (48.2%) exact matches, in which:  
94 unique CDR3  
5 unique J



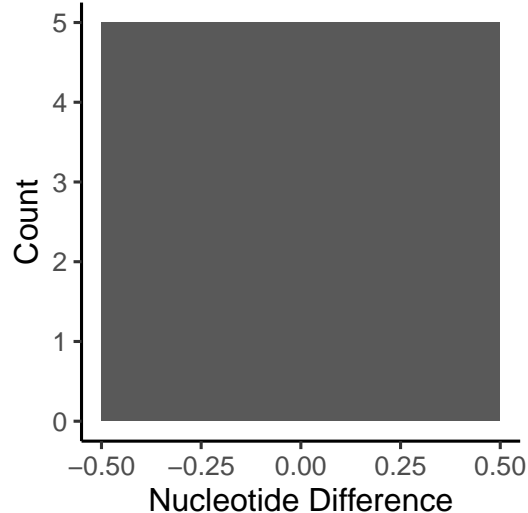
### IGHV1-18\*04

564 sequences assigned  
386 (68.4%) exact matches, in which:  
385 unique CDR3  
6 unique J



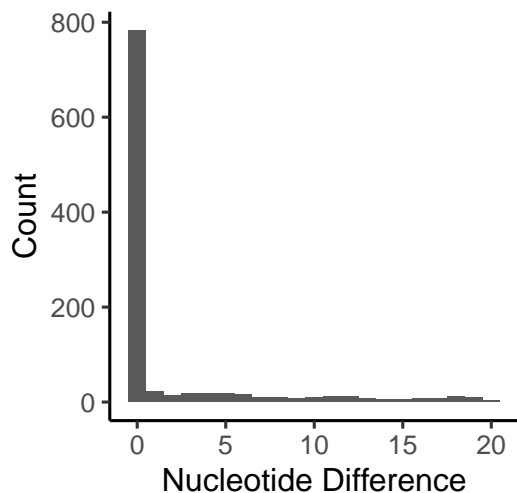
### IGHV1-45\*02

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



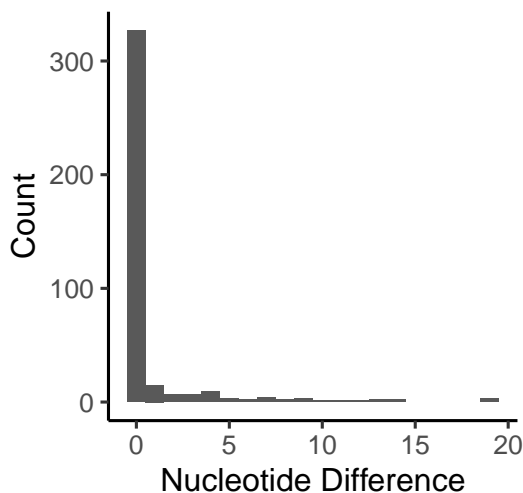
### IGHV1-8\*01

1035 sequences assigned  
783 (75.7%) exact matches, in which:  
783 unique CDR3  
6 unique J



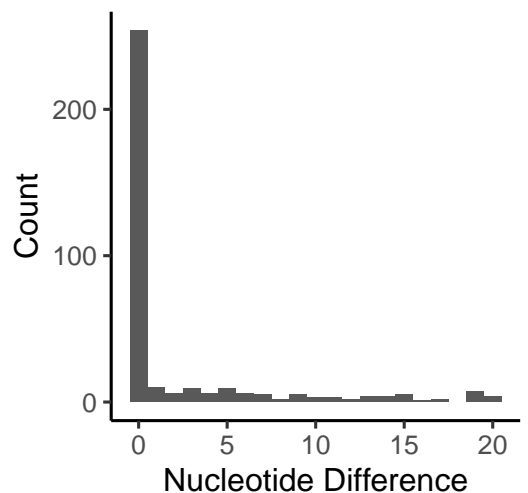
### IGHV1-24\*01

403 sequences assigned  
327 (81.1%) exact matches, in which:  
327 unique CDR3  
6 unique J



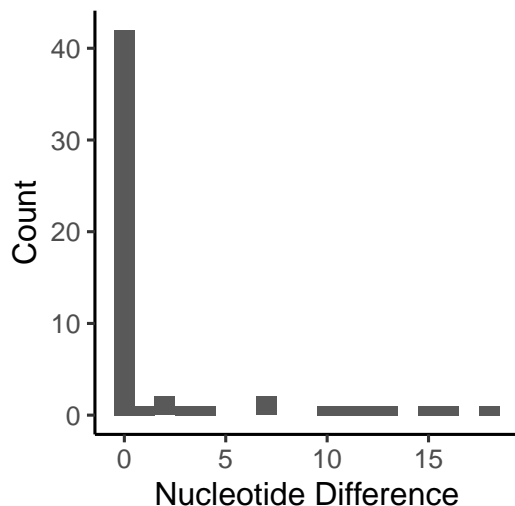
### IGHV1-46\*03

375 sequences assigned  
254 (67.7%) exact matches, in which:  
254 unique CDR3  
6 unique J



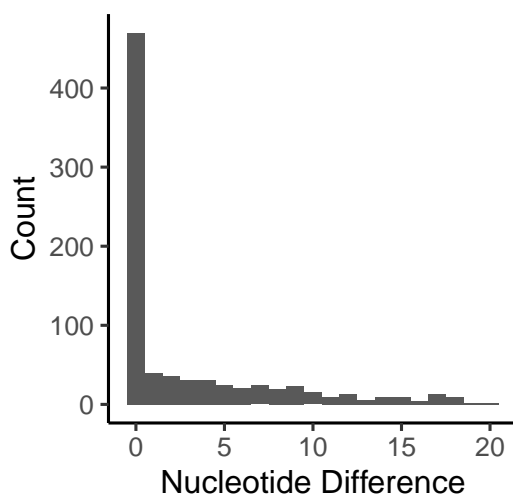
## IGHV1-58\*02

60 sequences assigned  
42 (70%) exact matches, in which:  
42 unique CDR3  
5 unique J



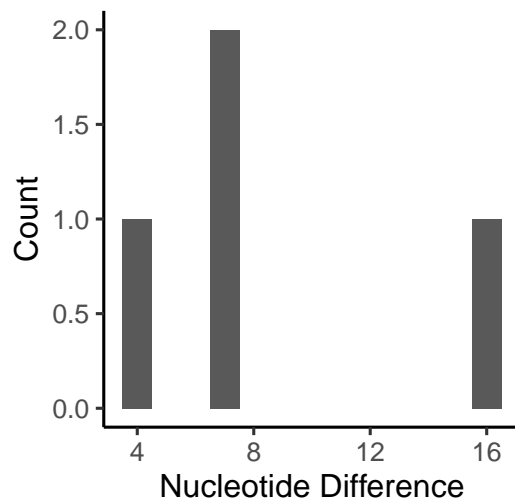
## IGHV2-5\*01

824 sequences assigned  
470 (57%) exact matches, in which:  
466 unique CDR3  
6 unique J



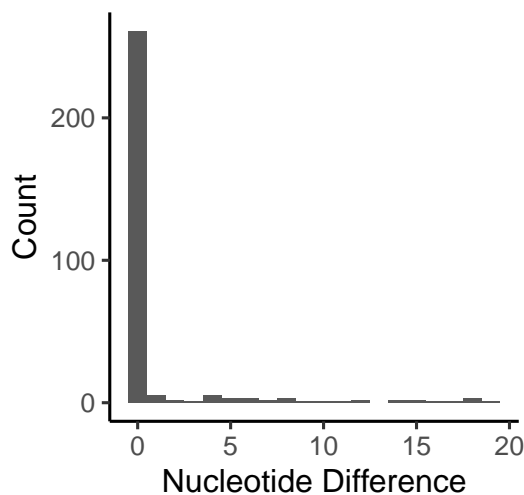
## IGHV2-70D\*04

5 sequences assigned  
No exact matches.



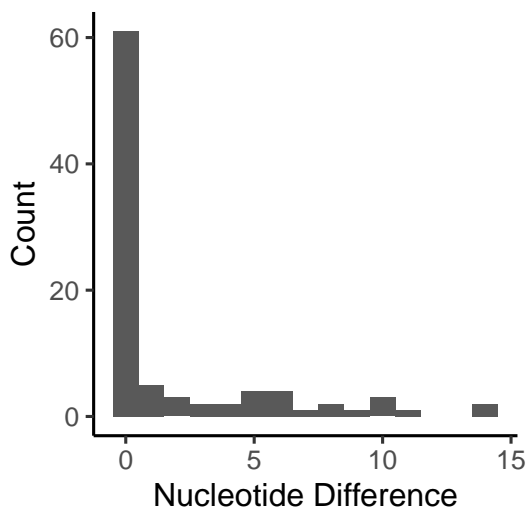
## IGHV1-69\*05

313 sequences assigned  
261 (83.4%) exact matches, in which:  
261 unique CDR3  
6 unique J



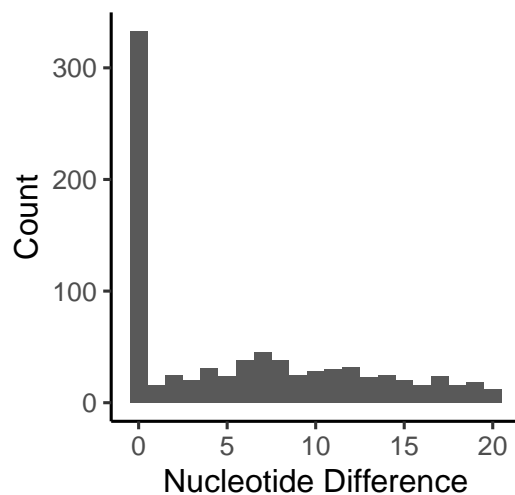
## IGHV2-26\*01

91 sequences assigned  
61 (67%) exact matches, in which:  
61 unique CDR3  
4 unique J



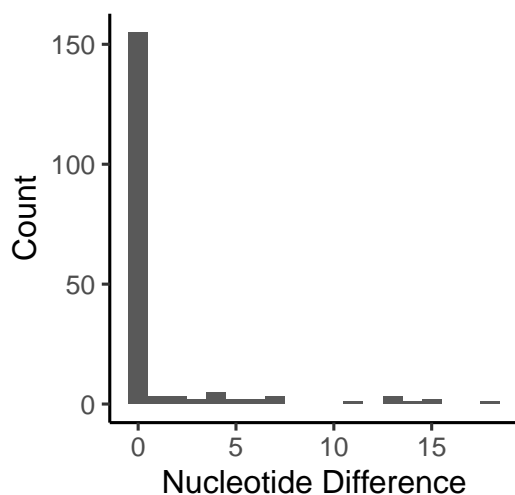
## IGHV3-7\*01

914 sequences assigned  
333 (36.4%) exact matches, in which:  
323 unique CDR3  
6 unique J



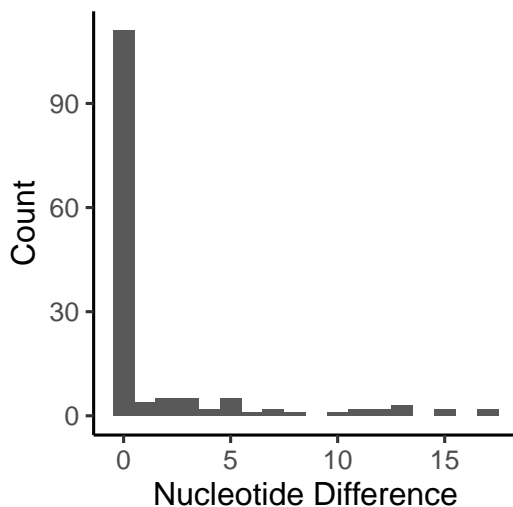
## IGHV1-69\*04\_09\_G112A

186 sequences assigned  
155 (83.3%) exact matches, in which:  
155 unique CDR3  
6 unique J



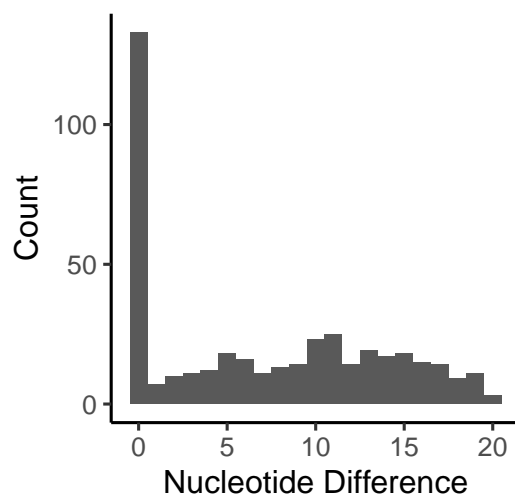
## IGHV2-70\*11\_15

149 sequences assigned  
111 (74.5%) exact matches, in which:  
109 unique CDR3  
5 unique J



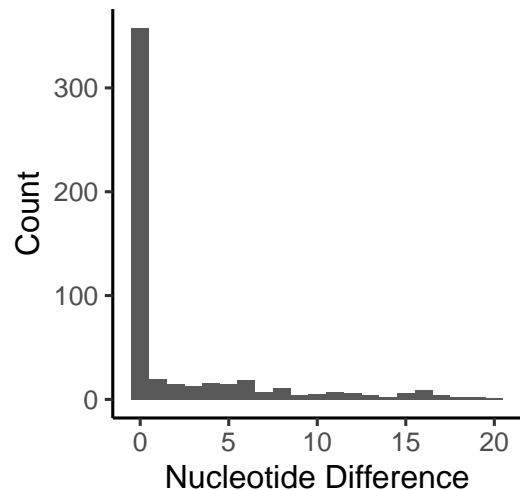
## IGHV3-7\*05

428 sequences assigned  
133 (31.1%) exact matches, in which:  
128 unique CDR3  
5 unique J



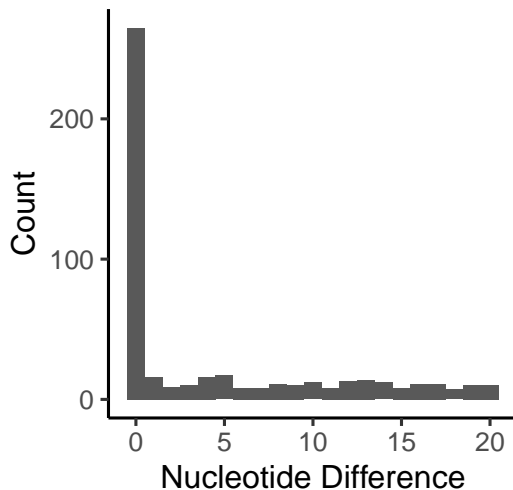
### IGHV3–9\*01

538 sequences assigned  
358 (66.5%) exact matches, in which:  
346 unique CDR3  
6 unique J



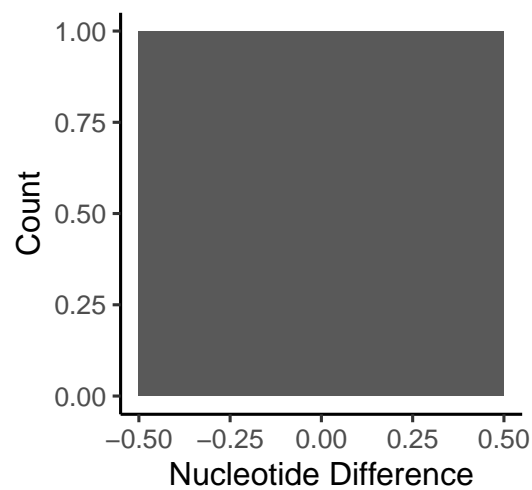
### IGHV3–15\*01\_02

558 sequences assigned  
265 (47.5%) exact matches, in which:  
263 unique CDR3  
6 unique J



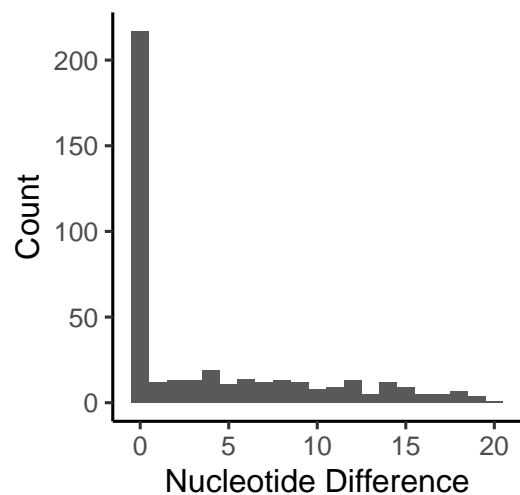
### IGHV3–38–3\*01

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



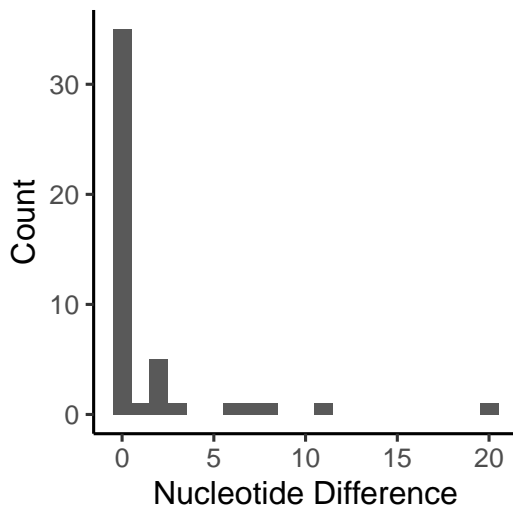
### IGHV3–11\*01

447 sequences assigned  
217 (48.5%) exact matches, in which:  
211 unique CDR3  
6 unique J



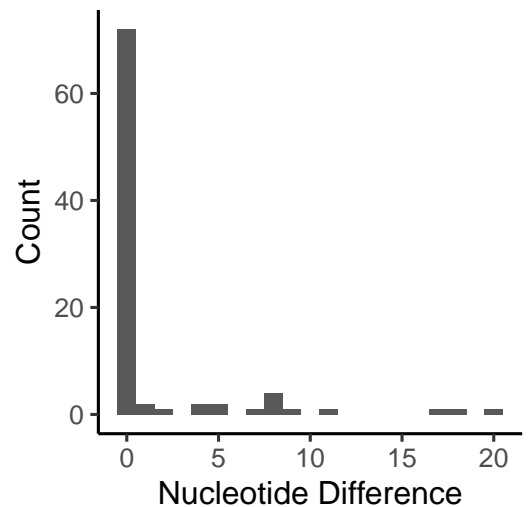
### IGHV3–20\*01\_02

47 sequences assigned  
35 (74.5%) exact matches, in which:  
34 unique CDR3  
5 unique J



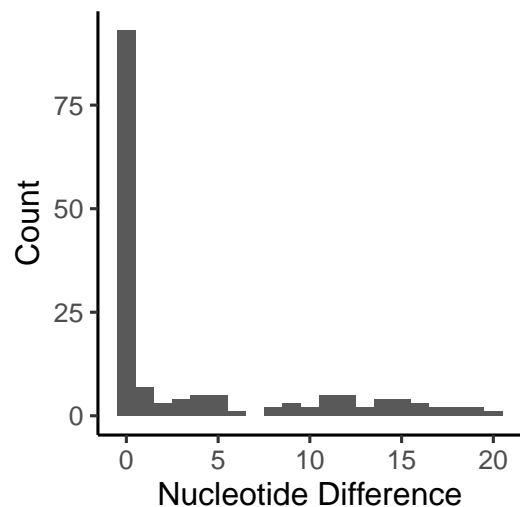
### IGHV3–43\*01

94 sequences assigned  
72 (76.6%) exact matches, in which:  
70 unique CDR3  
6 unique J



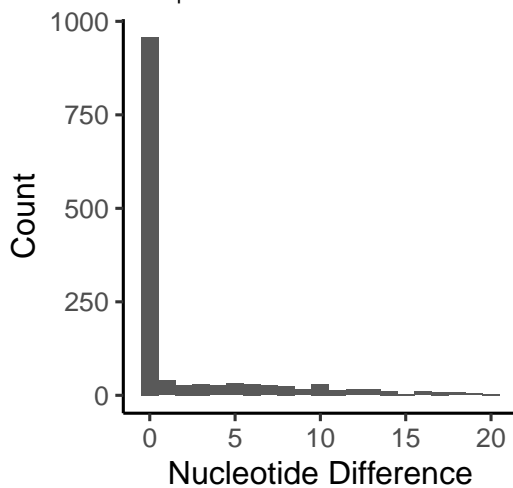
### IGHV3–13\*01

166 sequences assigned  
93 (56%) exact matches, in which:  
89 unique CDR3  
5 unique J



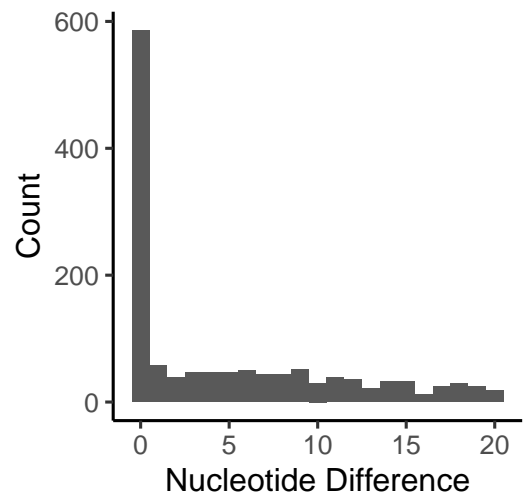
### IGHV3–21\*01\_02

1403 sequences assigned  
958 (68.3%) exact matches, in which:  
908 unique CDR3  
6 unique J



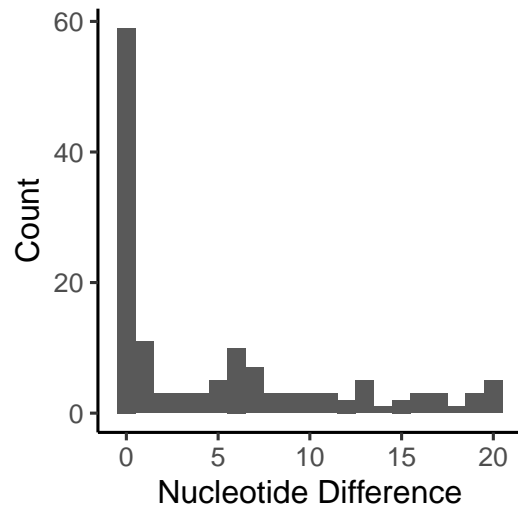
### IGHV3–48\*01

1444 sequences assigned  
586 (40.6%) exact matches, in which:  
565 unique CDR3  
6 unique J



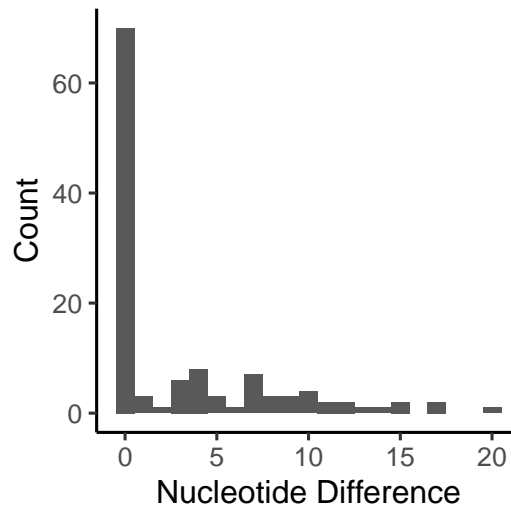
### IGHV3-49\*03\_05

147 sequences assigned  
59 (40.1%) exact matches, in which:  
59 unique CDR3  
5 unique J



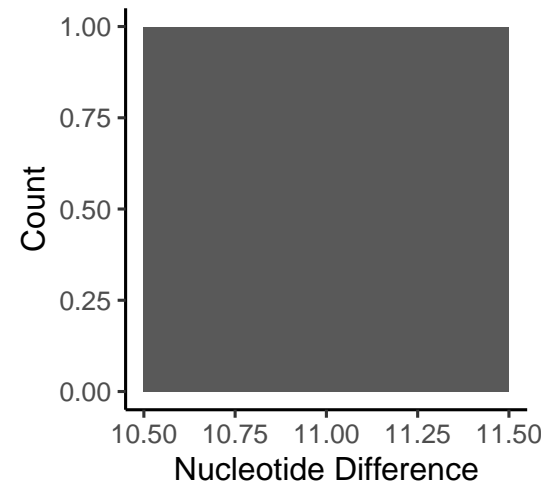
### IGHV3-64\*01

121 sequences assigned  
70 (57.9%) exact matches, in which:  
67 unique CDR3  
5 unique J



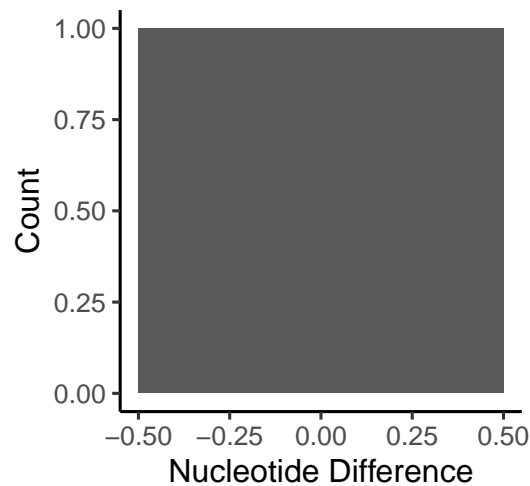
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



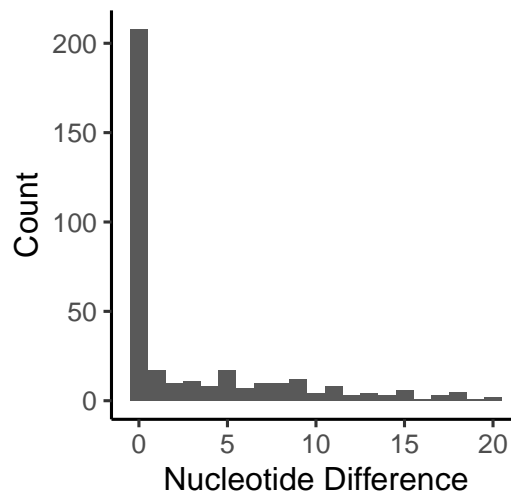
### IGHV3-52\*02

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



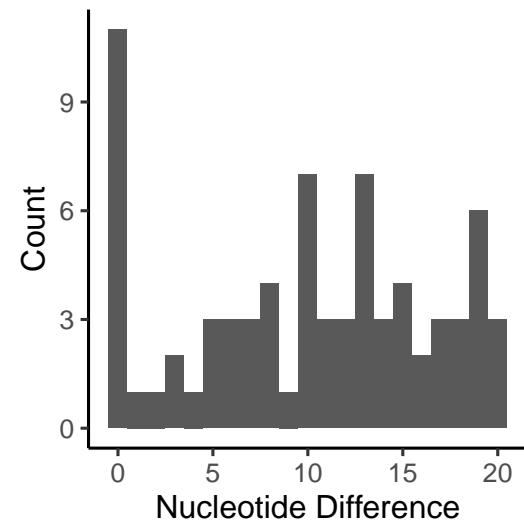
### IGHV3-66\*02

369 sequences assigned  
208 (56.4%) exact matches, in which:  
199 unique CDR3  
6 unique J



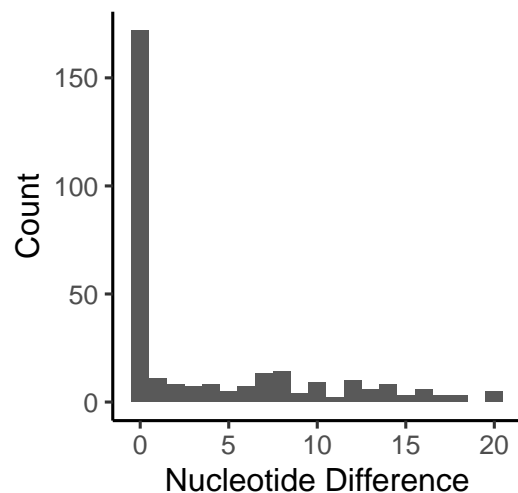
### IGHV3-72\*01

78 sequences assigned  
11 (14.1%) exact matches, in which:  
11 unique CDR3  
5 unique J



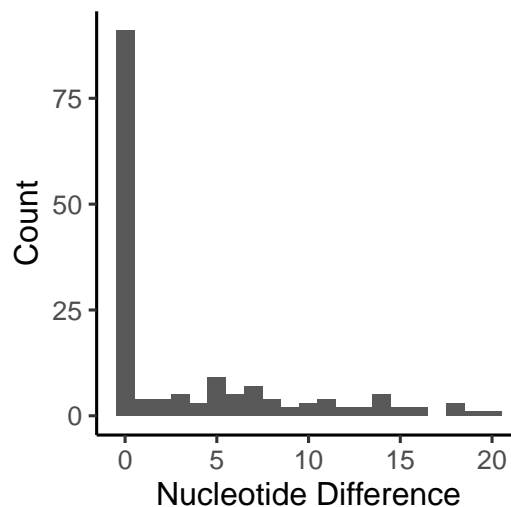
### IGHV3-53\*01\_02

322 sequences assigned  
172 (53.4%) exact matches, in which:  
164 unique CDR3  
6 unique J



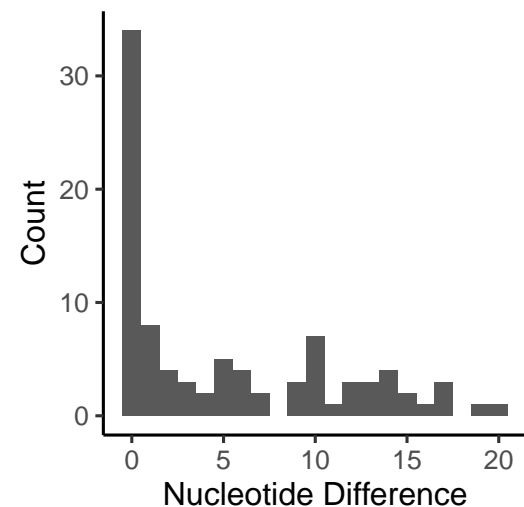
### IGHV3-66\*01\_A193G

181 sequences assigned  
91 (50.3%) exact matches, in which:  
86 unique CDR3  
6 unique J



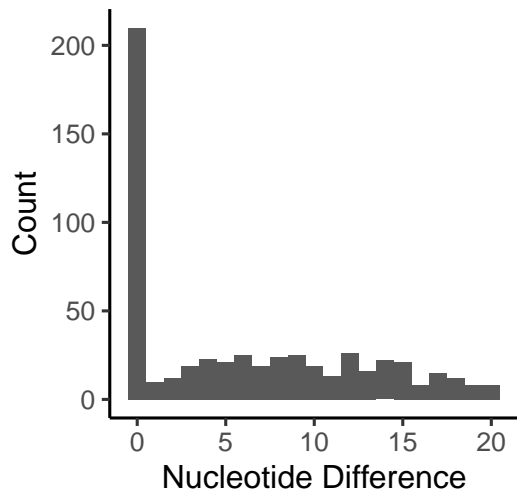
### IGHV3-73\*01\_02

94 sequences assigned  
34 (36.2%) exact matches, in which:  
34 unique CDR3  
5 unique J



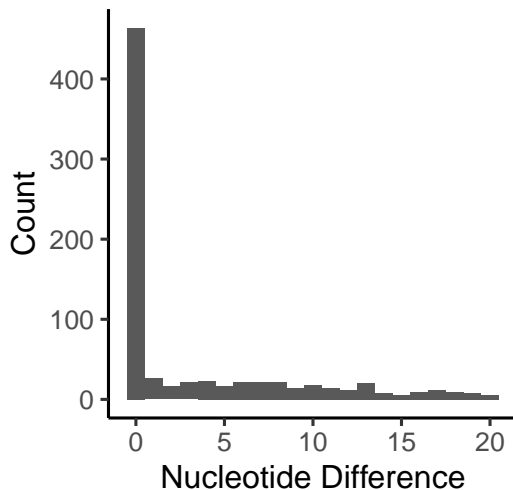
### IGHV3-74\*01\_02

609 sequences assigned  
210 (34.5%) exact matches, in which:  
204 unique CDR3  
6 unique J



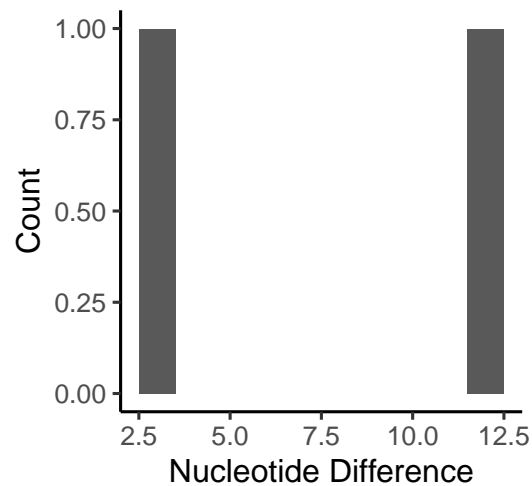
### IGHV4-4\*07

825 sequences assigned  
464 (56.2%) exact matches, in which:  
447 unique CDR3  
5 unique J



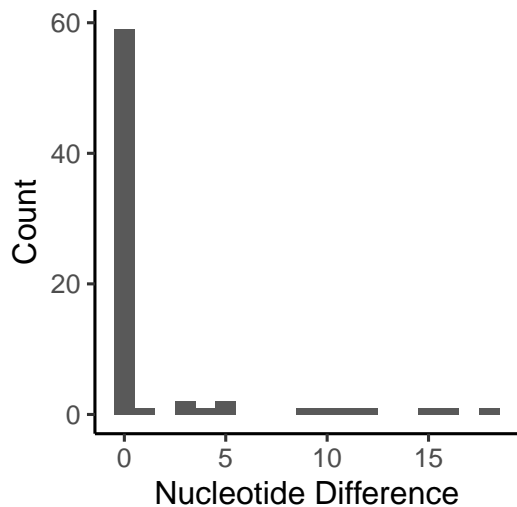
### IGHV4-28\*01\_07

3 sequences assigned  
No exact matches.



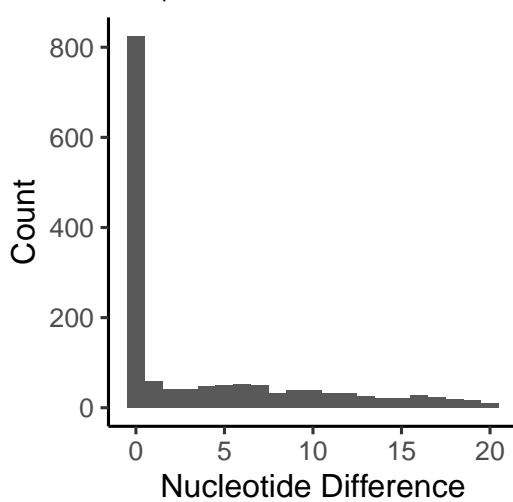
### IGHV3-43D\*04

77 sequences assigned  
59 (76.6%) exact matches, in which:  
58 unique CDR3  
4 unique J



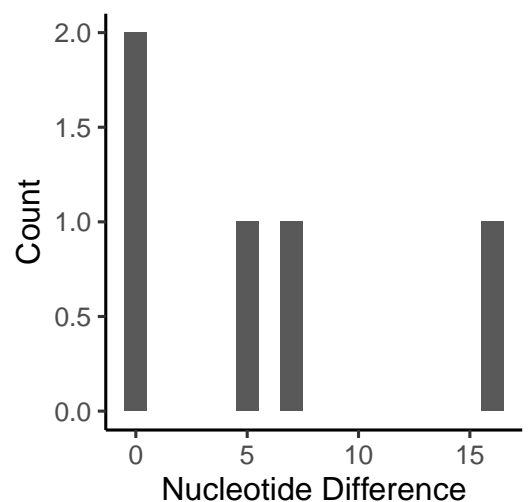
### IGHV4-4\*09

1649 sequences assigned  
825 (50%) exact matches, in which:  
803 unique CDR3  
6 unique J



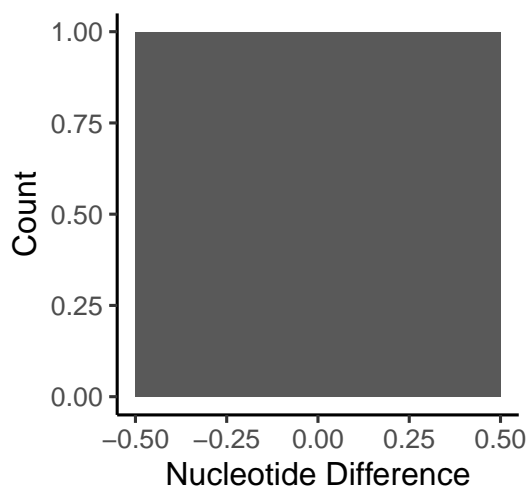
### IGHV4-28\*02\_05

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



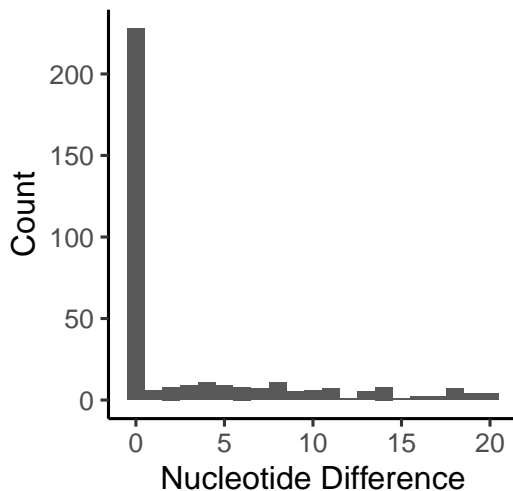
### IGHV3-64D\*06

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



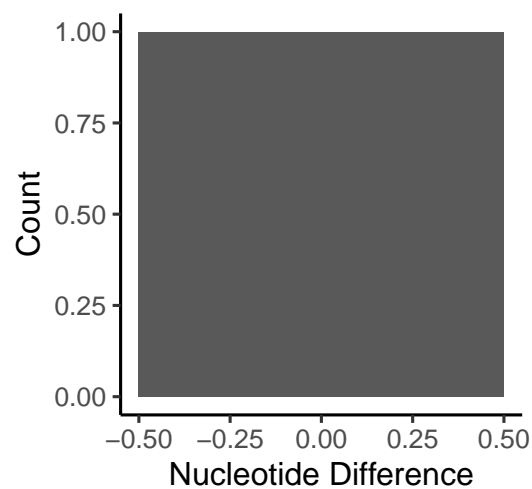
### IGHV4-4\*02\_03

397 sequences assigned  
228 (57.4%) exact matches, in which:  
221 unique CDR3  
6 unique J



### IGHV4-30-2\*01

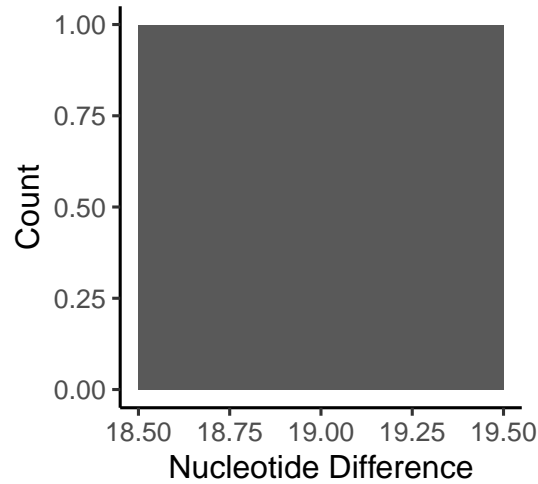
1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J





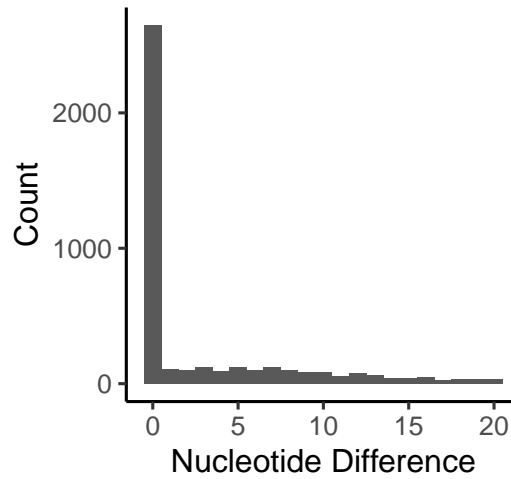
### IGHV4-31\*03\_04

1 sequences assigned  
No exact matches.



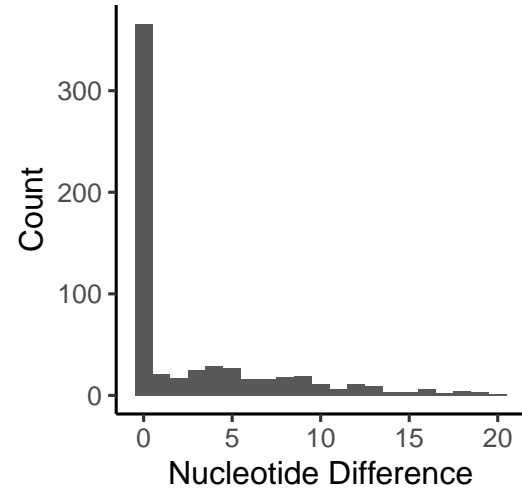
### IGHV4-39\*01\_05

4385 sequences assigned  
2646 (60.3%) exact matches, in which:  
2531 unique CDR3  
6 unique J



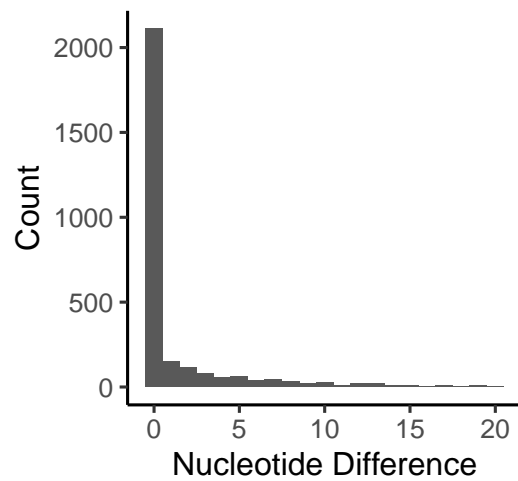
### IGHV5-51\*01\_03

642 sequences assigned  
366 (57%) exact matches, in which:  
366 unique CDR3  
6 unique J



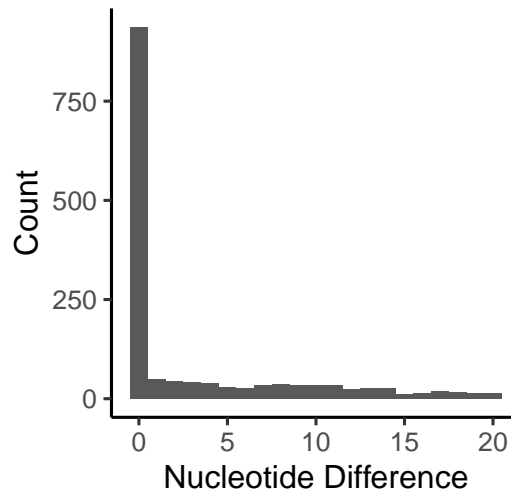
### IGHV4-34\*01\_02

2866 sequences assigned  
2111 (73.7%) exact matches, in which:  
2015 unique CDR3  
6 unique J



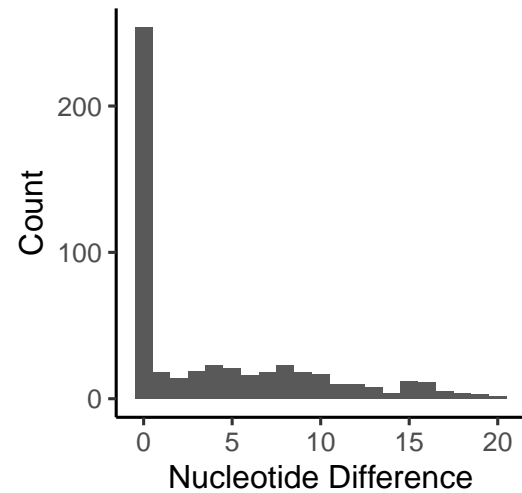
### IGHV4-59\*01\_07

1637 sequences assigned  
937 (57.2%) exact matches, in which:  
886 unique CDR3  
6 unique J



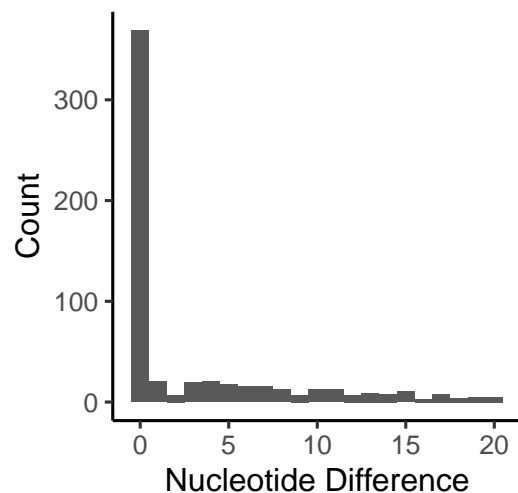
### IGHV6-1\*01\_02

521 sequences assigned  
254 (48.8%) exact matches, in which:  
254 unique CDR3  
6 unique J



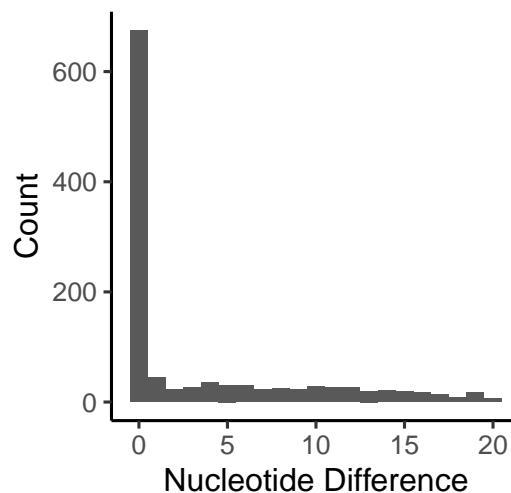
### IGHV4-38-2\*02\_A70G

607 sequences assigned  
369 (60.8%) exact matches, in which:  
353 unique CDR3  
6 unique J



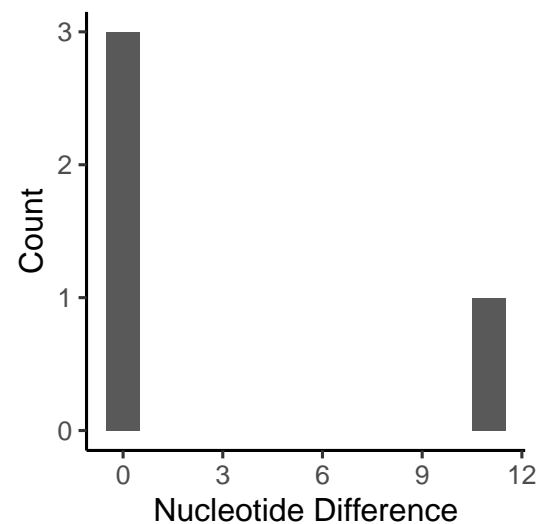
### IGHV4-61\*02

1220 sequences assigned  
675 (55.3%) exact matches, in which:  
658 unique CDR3  
6 unique J



### IGHV7-4-1\*01

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





Warning: the inserted sequence is not