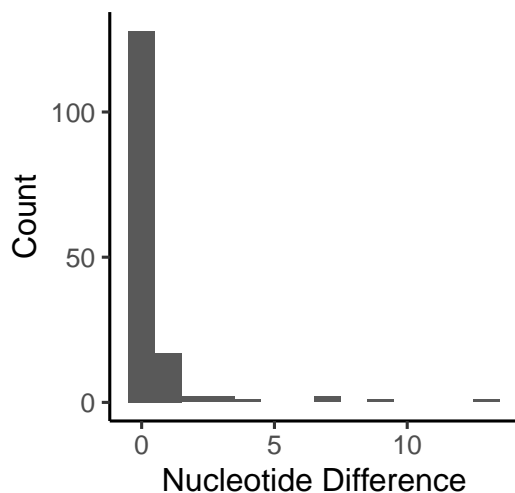


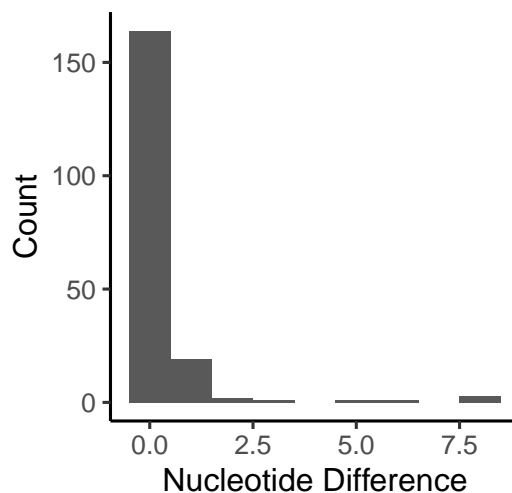
### IGHV1-2\*04

154 sequences assigned  
128 (83.1%) exact matches, in which:  
128 unique CDR3  
6 unique J



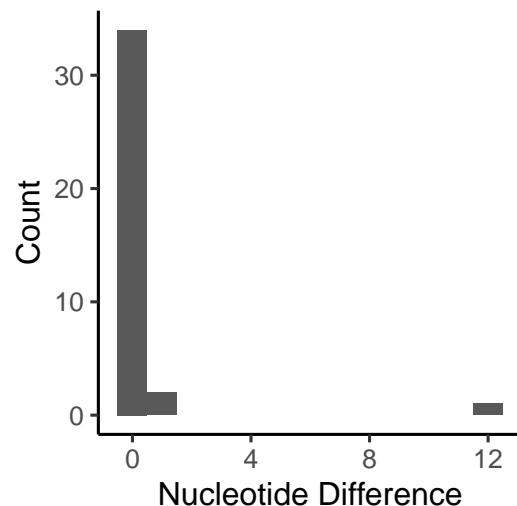
### IGHV1-24\*01

191 sequences assigned  
164 (85.9%) exact matches, in which:  
164 unique CDR3  
6 unique J



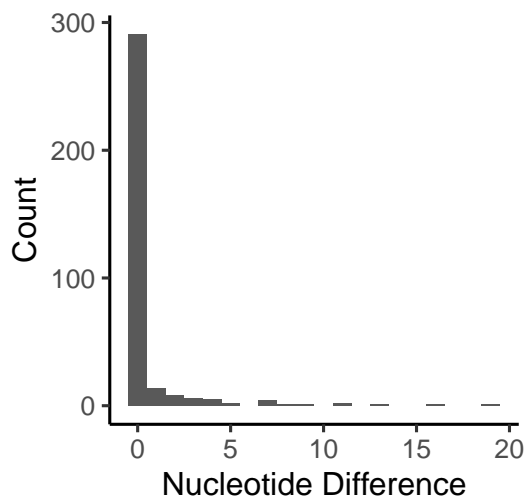
### IGHV1-46\*04

41 sequences assigned  
34 (82.9%) exact matches, in which:  
34 unique CDR3  
5 unique J



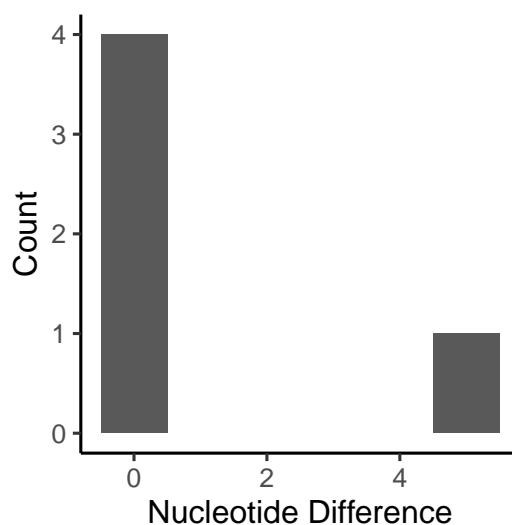
### IGHV1-3\*01

339 sequences assigned  
291 (85.8%) exact matches, in which:  
291 unique CDR3  
6 unique J



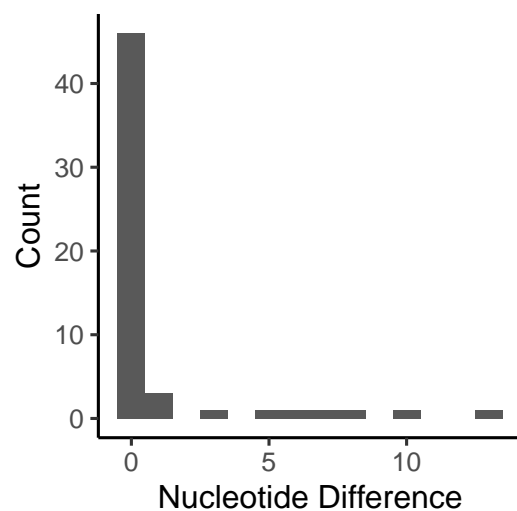
### IGHV1-45\*02

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
2 unique J



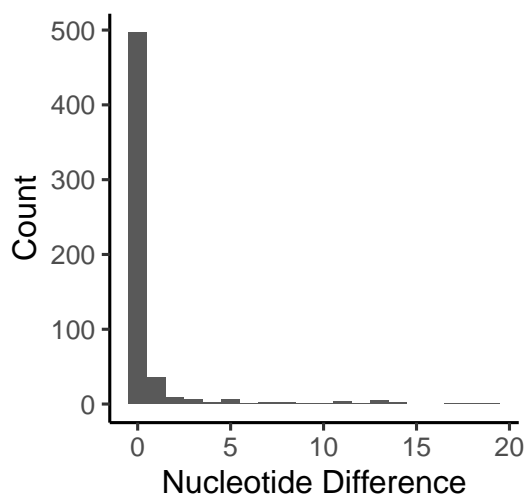
### IGHV1-58\*01

56 sequences assigned  
46 (82.1%) exact matches, in which:  
46 unique CDR3  
6 unique J



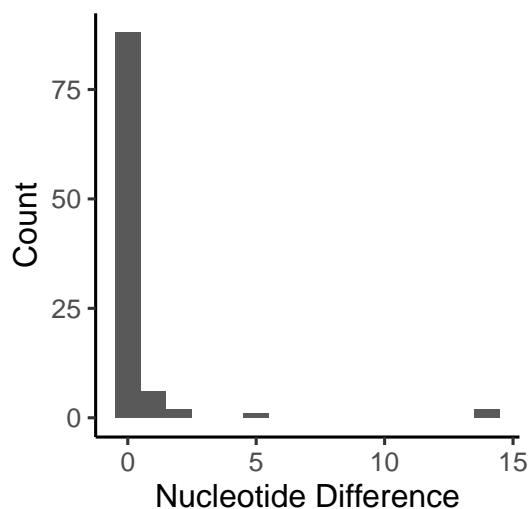
### IGHV1-18\*04

579 sequences assigned  
497 (85.8%) exact matches, in which:  
496 unique CDR3  
6 unique J



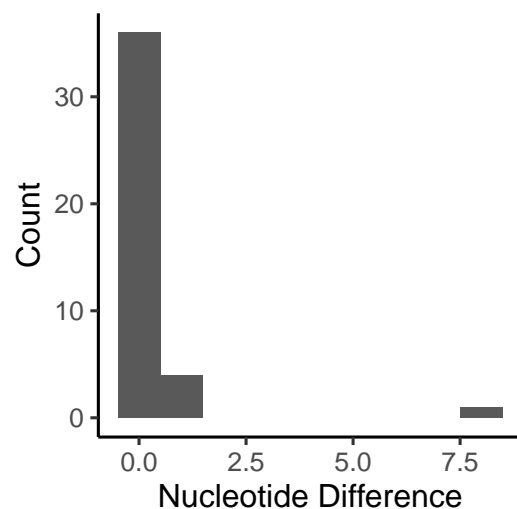
### IGHV1-46\*01

100 sequences assigned  
88 (88%) exact matches, in which:  
88 unique CDR3  
6 unique J



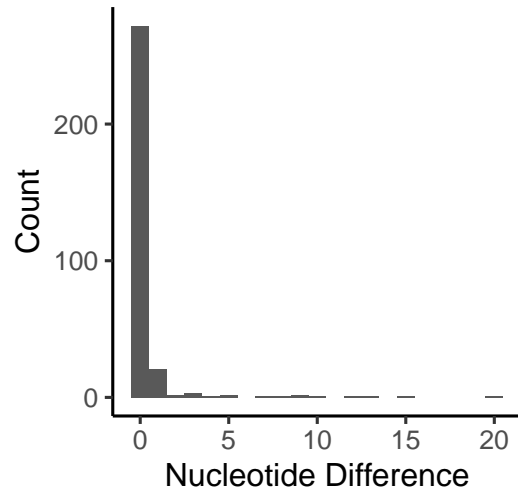
### IGHV1-69-2\*01

41 sequences assigned  
36 (87.8%) exact matches, in which:  
36 unique CDR3  
5 unique J



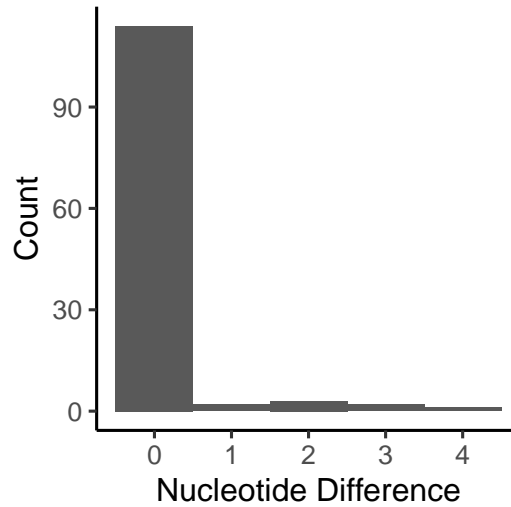
### IGHV1–69\*06

310 sequences assigned  
272 (87.7%) exact matches, in which:  
272 unique CDR3  
6 unique J



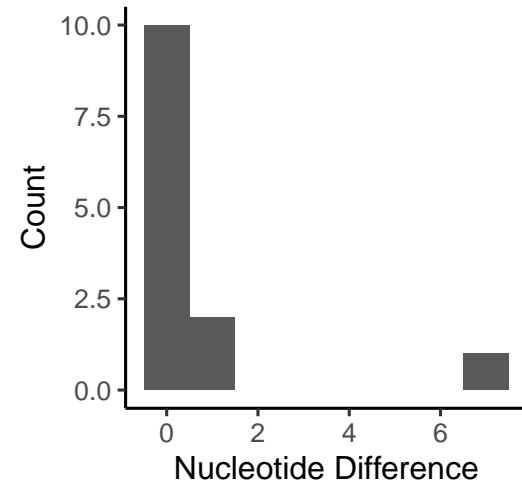
### IGHV2–70\*01

122 sequences assigned  
114 (93.4%) exact matches, in which:  
114 unique CDR3  
6 unique J



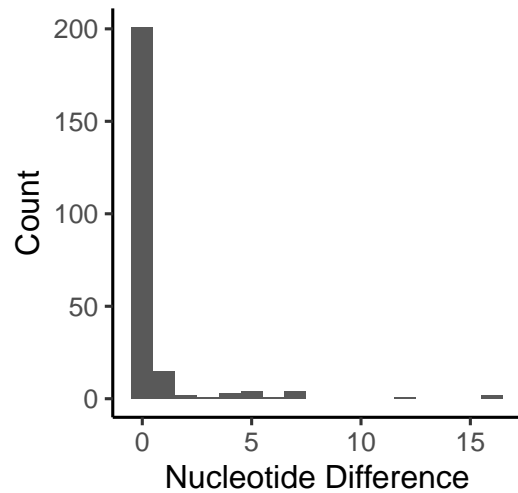
### IGHV3–13\*05

13 sequences assigned  
10 (76.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



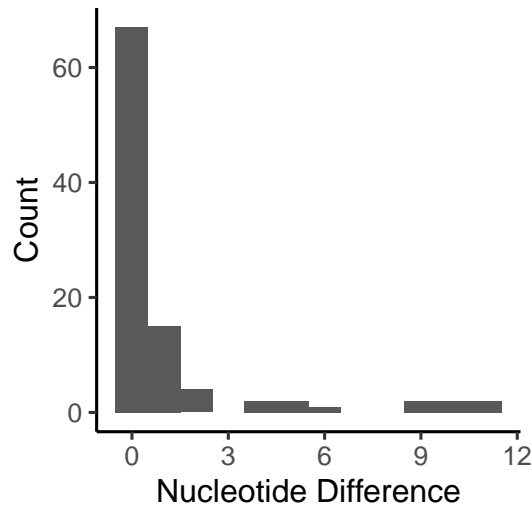
### IGHV2–5\*02

235 sequences assigned  
201 (85.5%) exact matches, in which:  
201 unique CDR3  
6 unique J



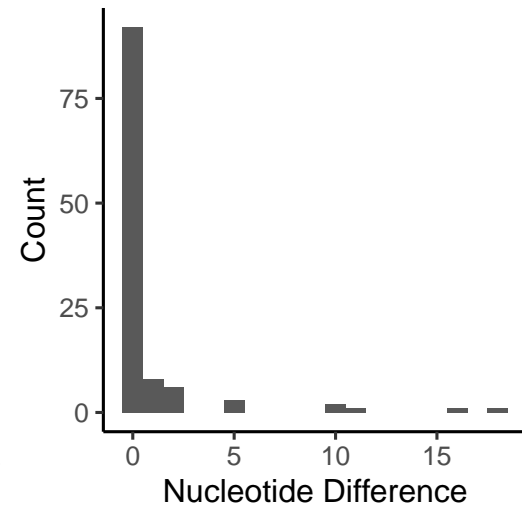
### IGHV3–7\*03

98 sequences assigned  
67 (68.4%) exact matches, in which:  
67 unique CDR3  
5 unique J



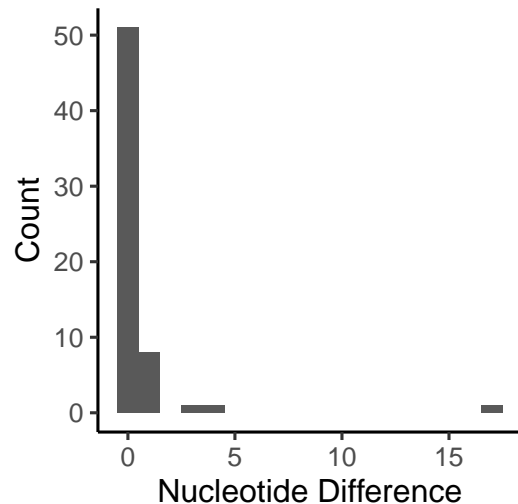
### IGHV3–15\*01

114 sequences assigned  
92 (80.7%) exact matches, in which:  
92 unique CDR3  
5 unique J



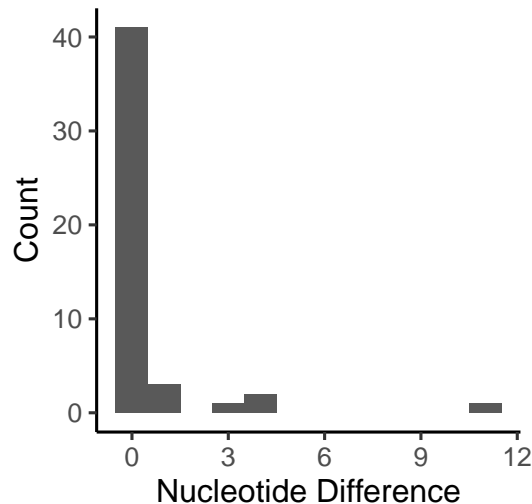
### IGHV2–26\*01

62 sequences assigned  
51 (82.3%) exact matches, in which:  
51 unique CDR3  
6 unique J



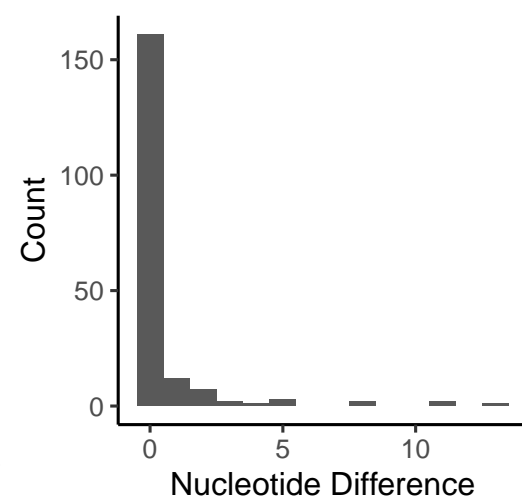
### IGHV3–11\*06

48 sequences assigned  
41 (85.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



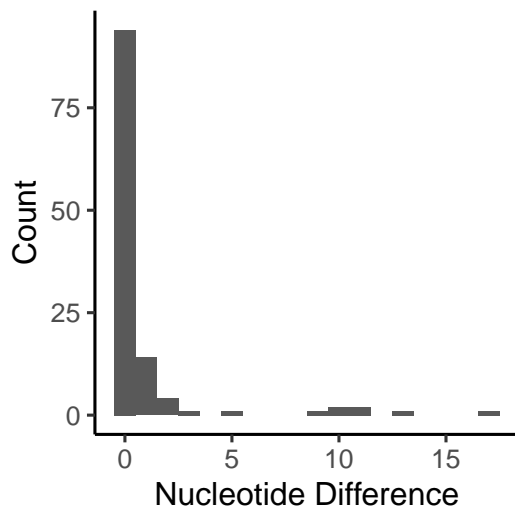
### IGHV3–21\*01

192 sequences assigned  
161 (83.9%) exact matches, in which:  
161 unique CDR3  
6 unique J



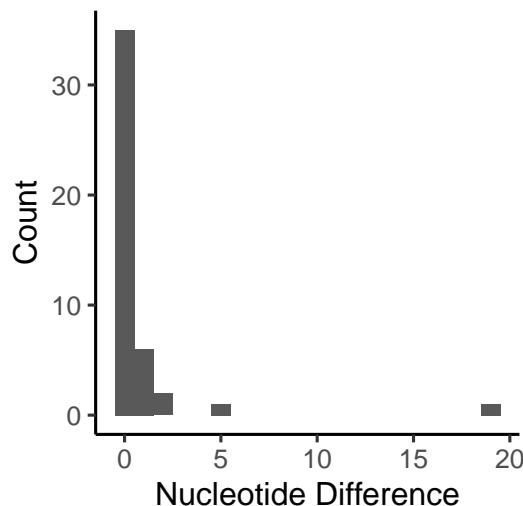
### IGHV3-30-3\*01

121 sequences assigned  
94 (77.7%) exact matches, in which:  
93 unique CDR3  
5 unique J



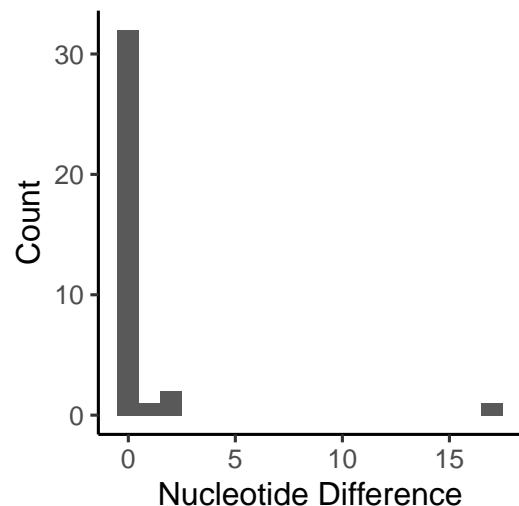
### IGHV3-48\*01

45 sequences assigned  
35 (77.8%) exact matches, in which:  
35 unique CDR3  
5 unique J



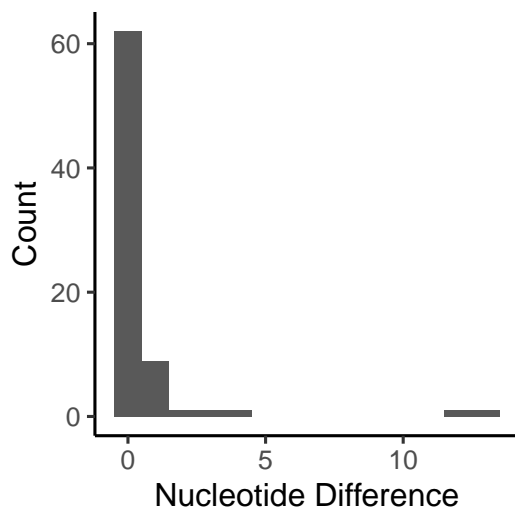
### IGHV3-49\*05

36 sequences assigned  
32 (88.9%) exact matches, in which:  
32 unique CDR3  
5 unique J



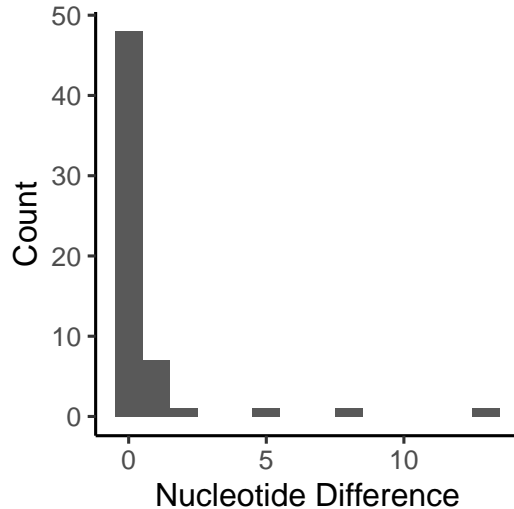
### IGHV3-33\*08

76 sequences assigned  
62 (81.6%) exact matches, in which:  
62 unique CDR3  
6 unique J



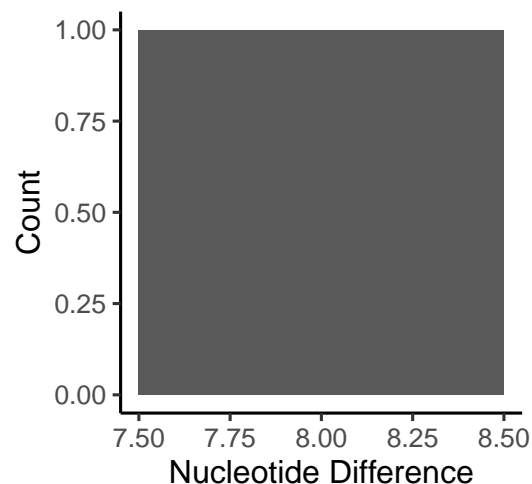
### IGHV3-48\*02

60 sequences assigned  
48 (80%) exact matches, in which:  
48 unique CDR3  
6 unique J



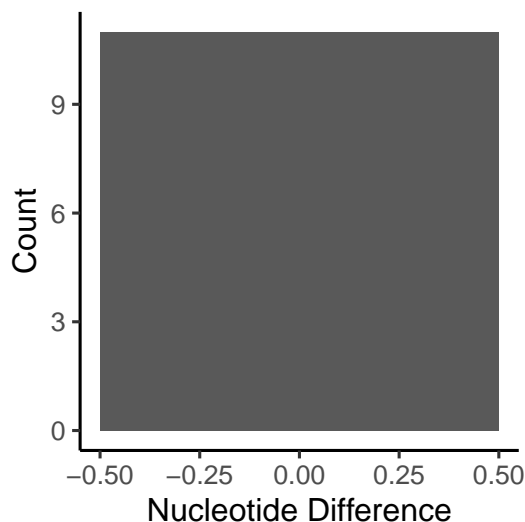
### IGHV3-52\*01

1 sequences assigned  
No exact matches.



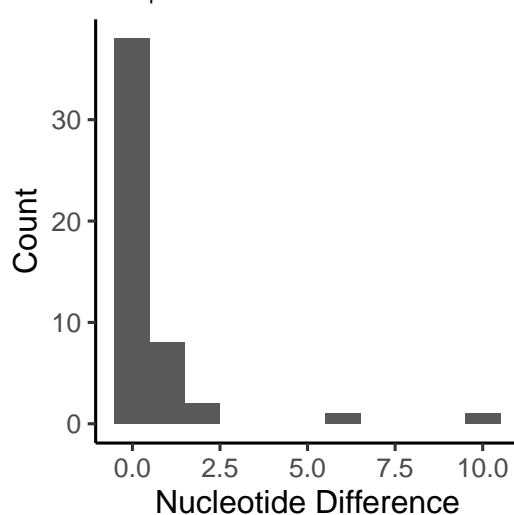
### IGHV3-43\*01

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



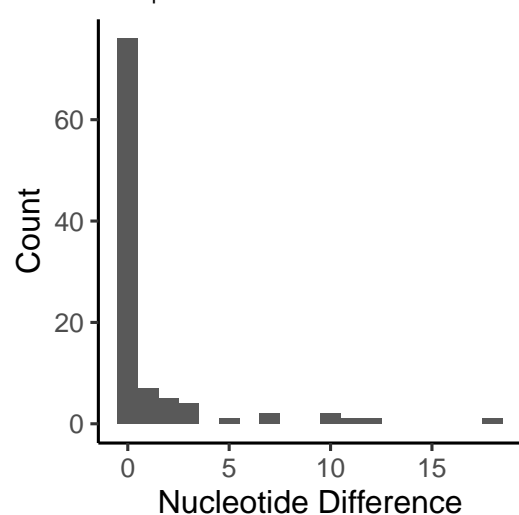
### IGHV3-49\*03

50 sequences assigned  
38 (76%) exact matches, in which:  
38 unique CDR3  
6 unique J



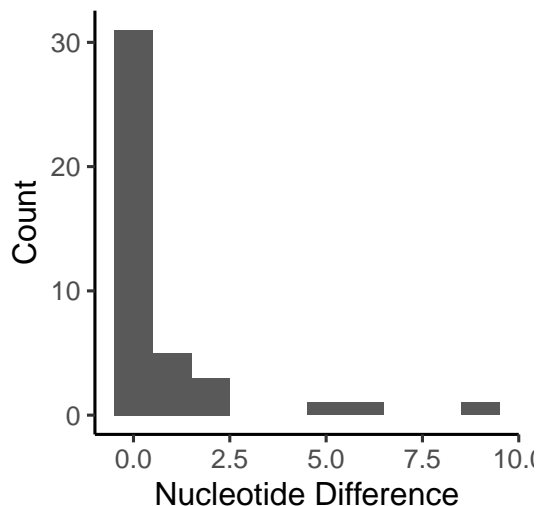
### IGHV3-53\*01

102 sequences assigned  
76 (74.5%) exact matches, in which:  
76 unique CDR3  
6 unique J



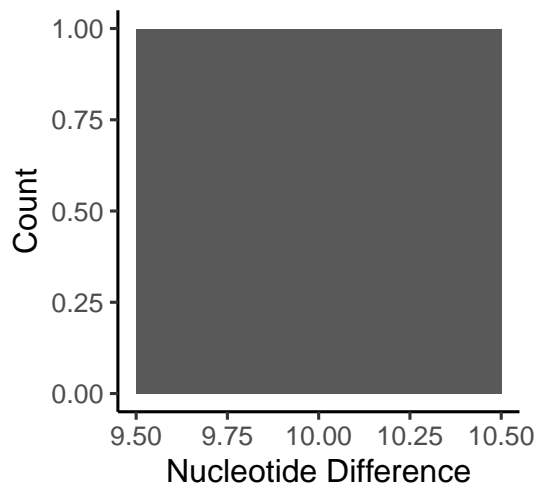
### IGHV3-53\*02

43 sequences assigned  
31 (72.1%) exact matches, in which:  
31 unique CDR3  
5 unique J



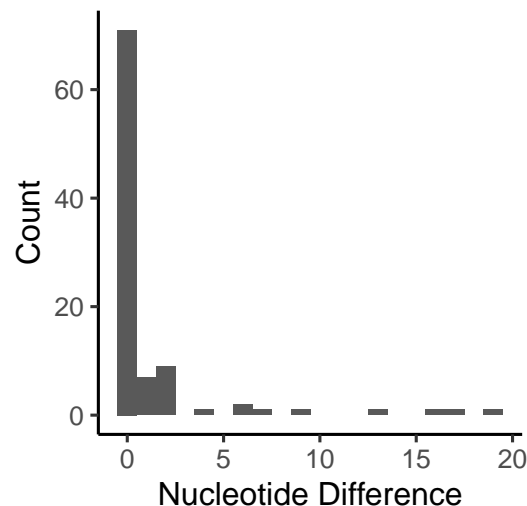
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



### IGHV3-74\*01

96 sequences assigned  
71 (74%) exact matches, in which:  
71 unique CDR3  
6 unique J



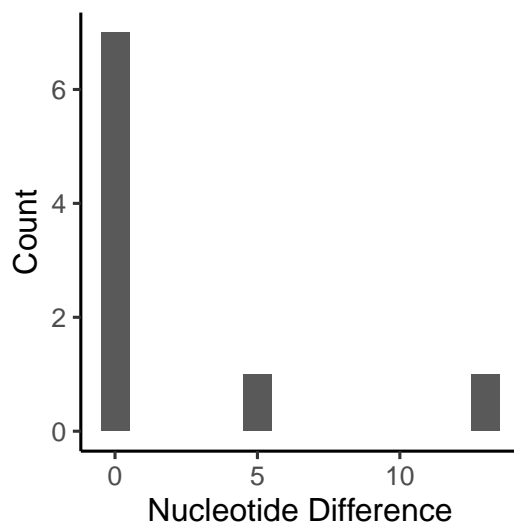
### IGHV3-64\*02

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



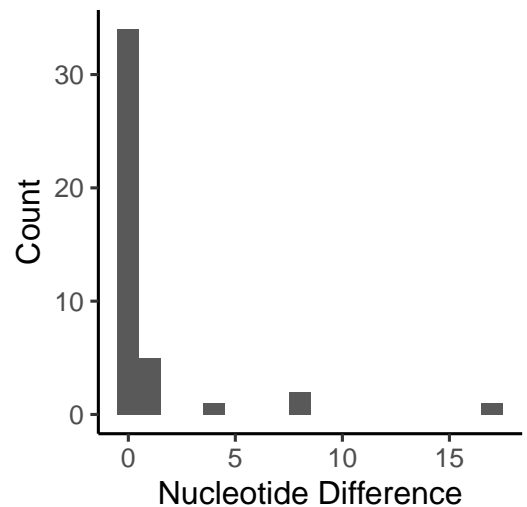
### IGHV3-72\*01

9 sequences assigned  
7 (77.8%) exact matches, in which:  
7 unique CDR3  
2 unique J



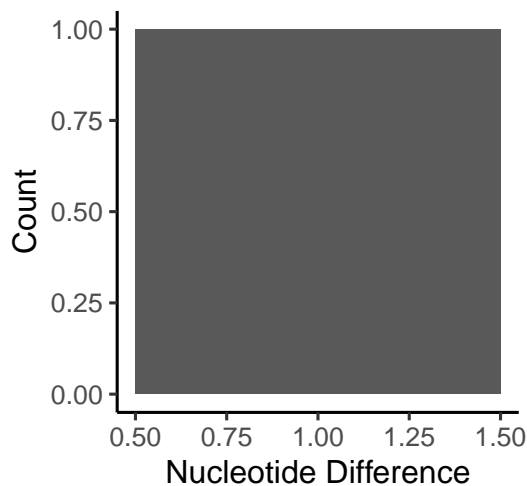
### IGHV3-64D\*06

43 sequences assigned  
34 (79.1%) exact matches, in which:  
34 unique CDR3  
5 unique J



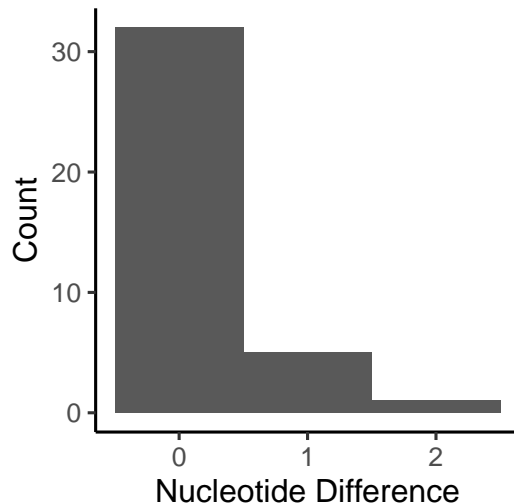
### IGHV3-66\*03

1 sequences assigned  
No exact matches.



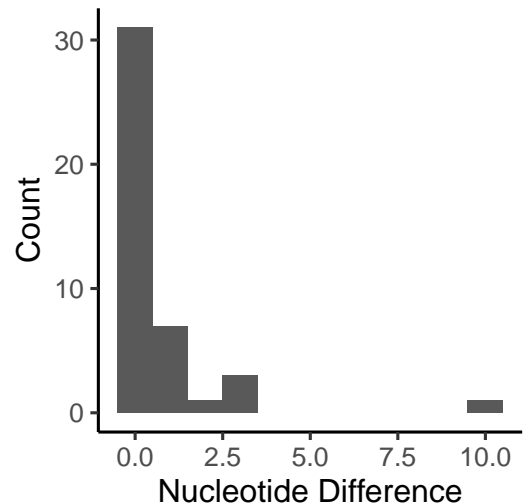
### IGHV3-73\*02

38 sequences assigned  
32 (84.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



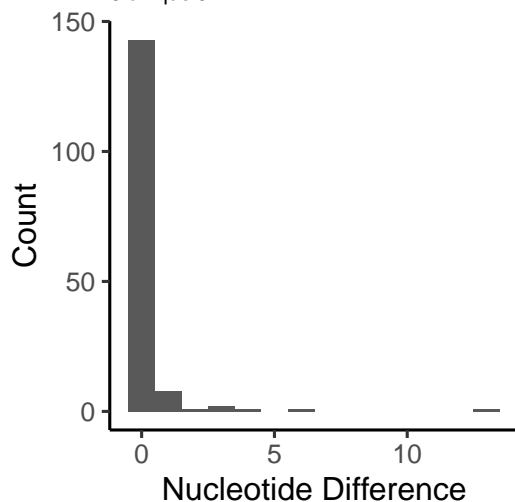
### IGHV3-64D\*09

44 sequences assigned  
31 (70.5%) exact matches, in which:  
31 unique CDR3  
5 unique J



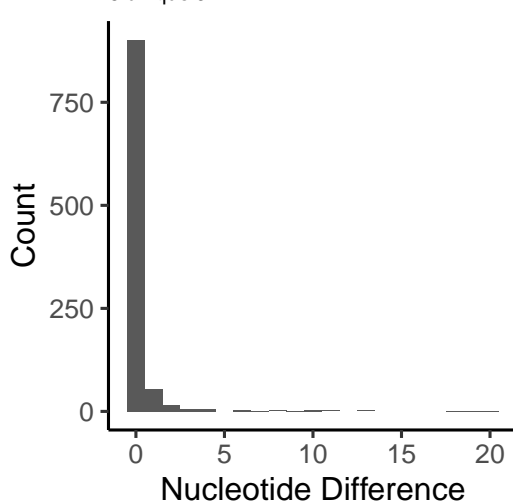
### IGHV4-4\*02

160 sequences assigned  
143 (89.4%) exact matches, in which:  
143 unique CDR3  
6 unique J



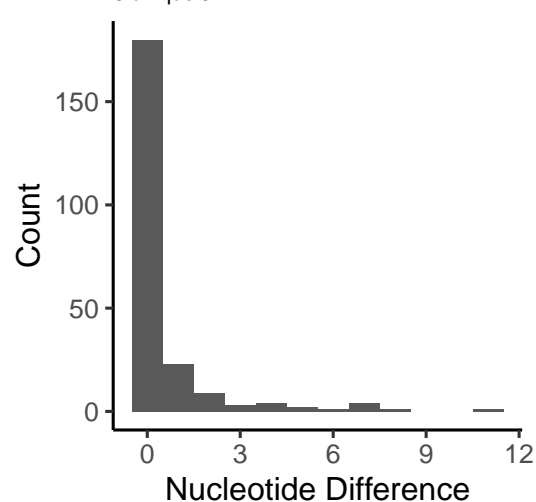
### IGHV4-34\*01

1011 sequences assigned  
902 (89.2%) exact matches, in which:  
902 unique CDR3  
6 unique J



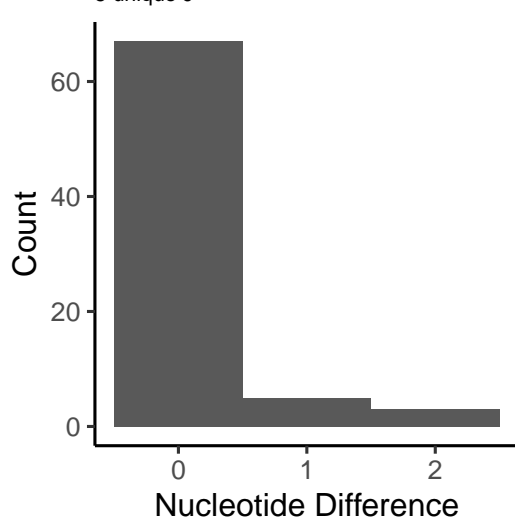
### IGHV4-59\*01

229 sequences assigned  
180 (78.6%) exact matches, in which:  
180 unique CDR3  
6 unique J



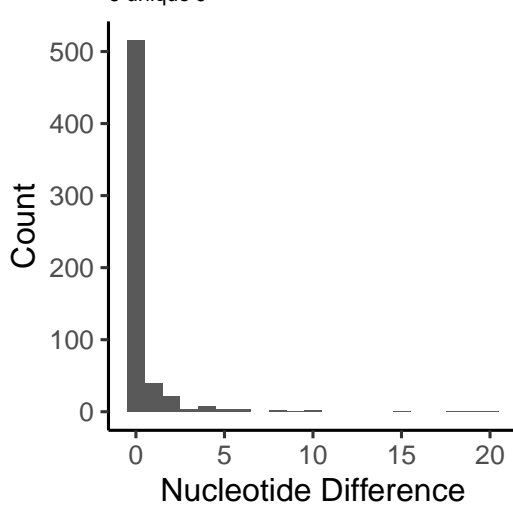
### IGHV4-30-4\*01

75 sequences assigned  
67 (89.3%) exact matches, in which:  
67 unique CDR3  
5 unique J



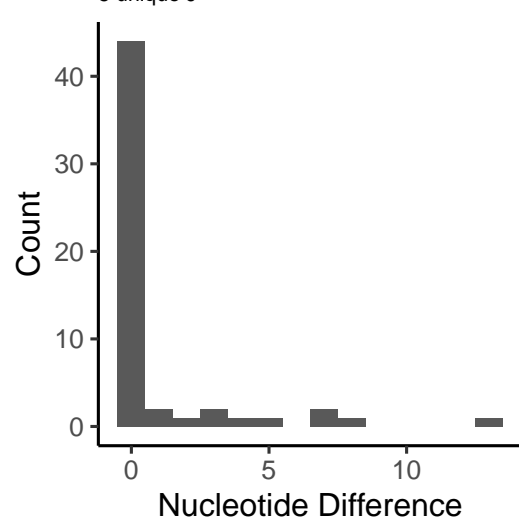
### IGHV4-39\*01

605 sequences assigned  
516 (85.3%) exact matches, in which:  
516 unique CDR3  
6 unique J



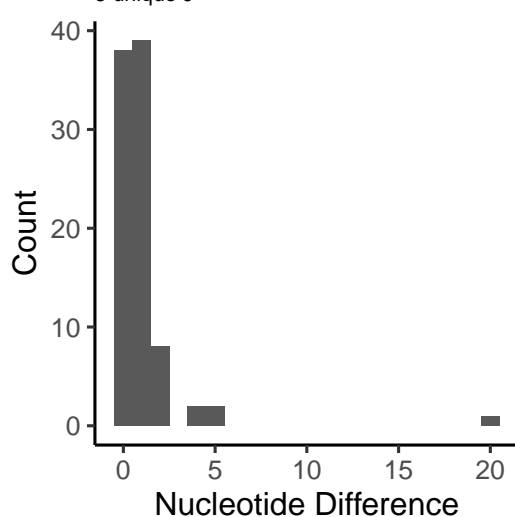
### IGHV4-61\*01

55 sequences assigned  
44 (80%) exact matches, in which:  
44 unique CDR3  
5 unique J



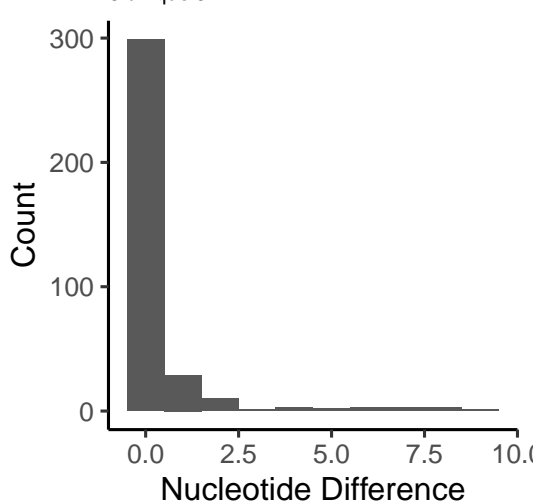
### IGHV4-30-2\*01

90 sequences assigned  
38 (42.2%) exact matches, in which:  
38 unique CDR3  
5 unique J



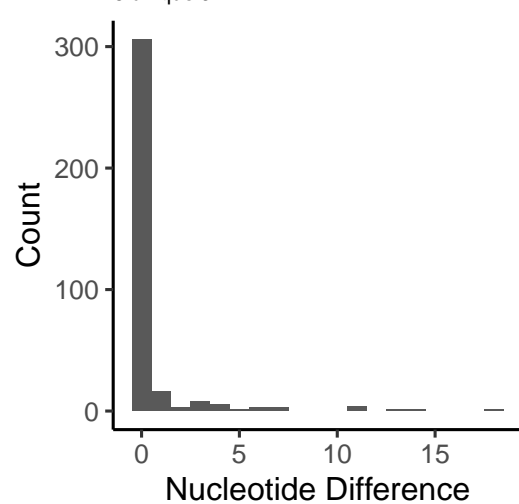
### IGHV4-39\*07

355 sequences assigned  
299 (84.2%) exact matches, in which:  
299 unique CDR3  
6 unique J



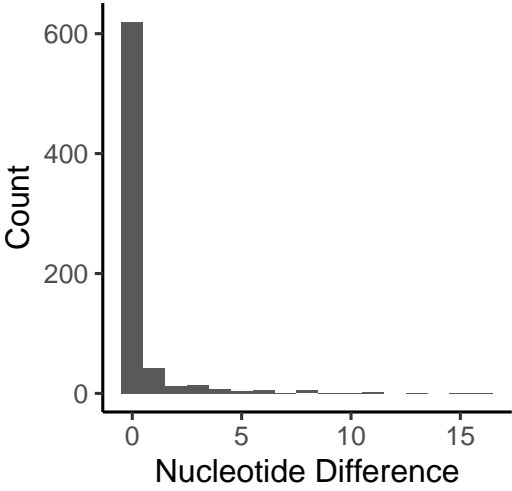
### IGHV5-10-1\*03

352 sequences assigned  
306 (86.9%) exact matches, in which:  
305 unique CDR3  
6 unique J



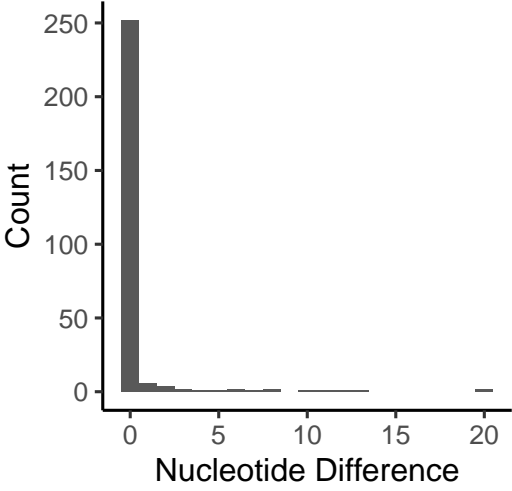
IGHV5–51\*01

721 sequences assigned  
620 (86%) exact matches, in which:  
619 unique CDR3  
6 unique J



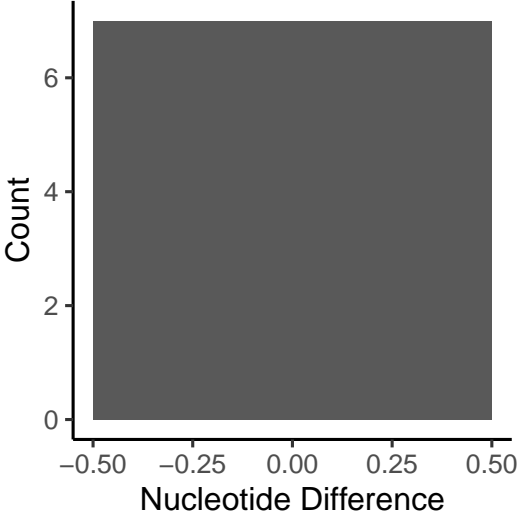
IGHV6–1\*01

278 sequences assigned  
252 (90.6%) exact matches, in which:  
252 unique CDR3  
6 unique J

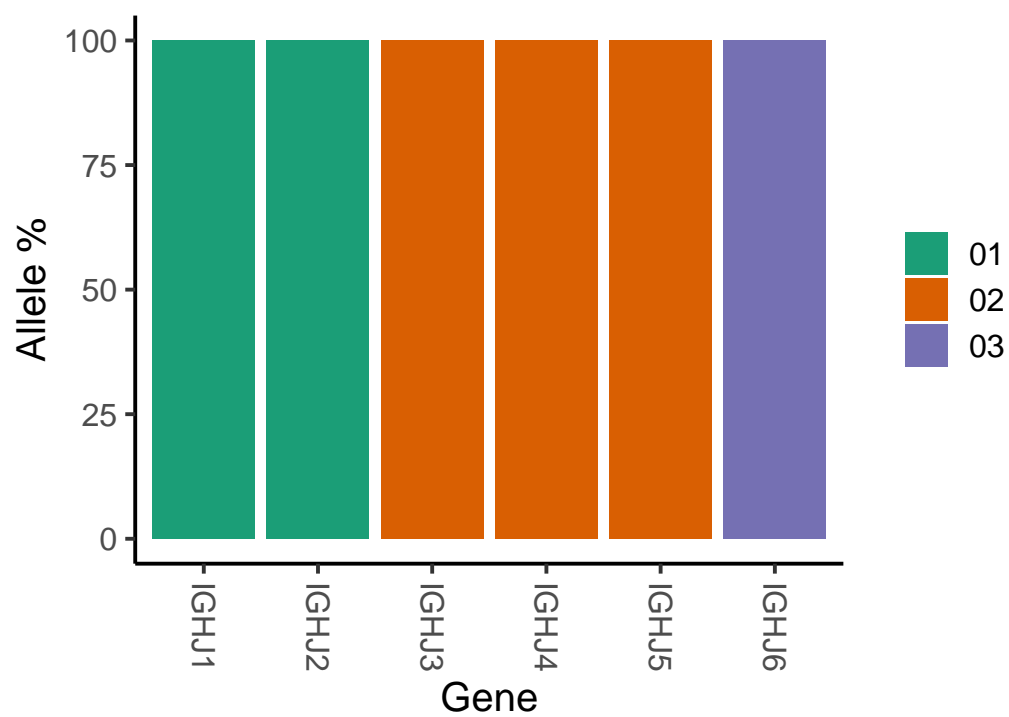


IGHV7–4–1\*01

7 sequences assigned  
7 (100%) exact matches, in which:  
7 unique CDR3  
4 unique J



Allele Usage



Novel sequence(s)IGHV4-30-2\*01\_C285T are not listed in the genotype and will be ignored.