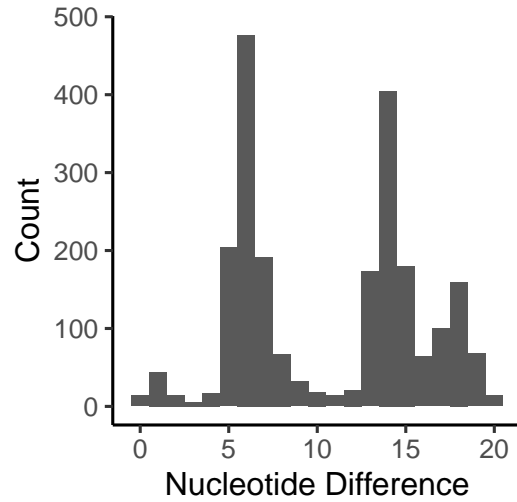


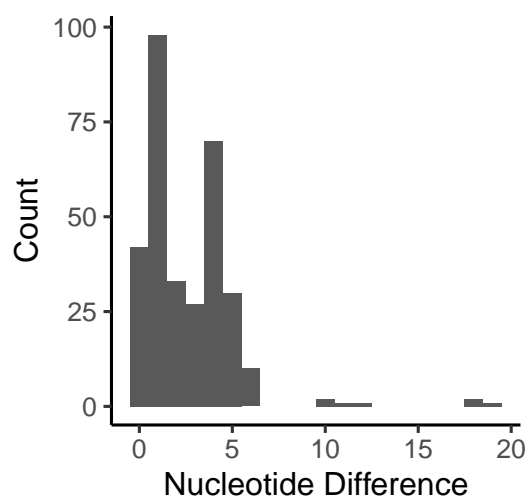
### IGHV1-2\*02

2560 sequences assigned  
14 (0.5%) exact matches, in which:  
14 unique CDR3  
3 unique J



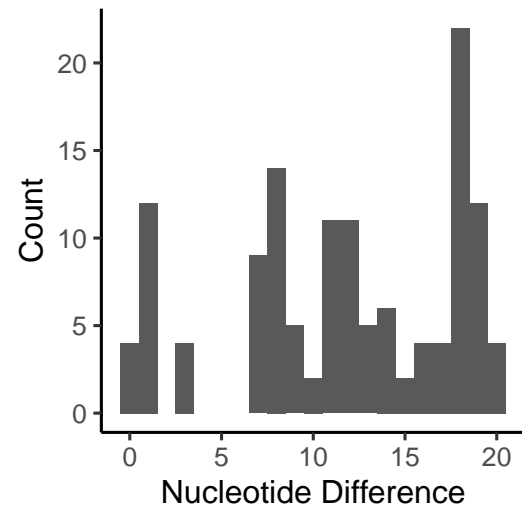
### IGHV1-3\*01\_05

318 sequences assigned  
42 (13.2%) exact matches, in which:  
29 unique CDR3  
2 unique J



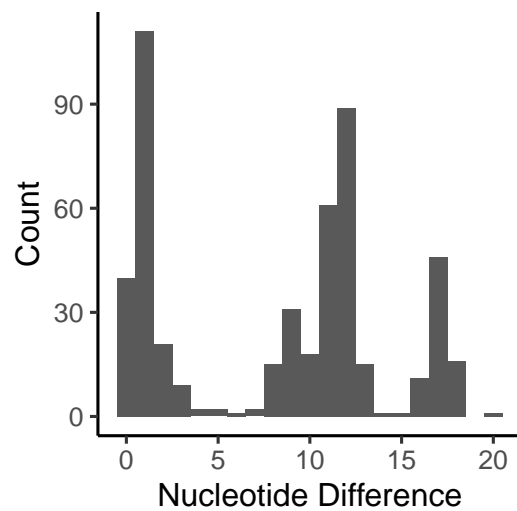
### IGHV1-18\*04

163 sequences assigned  
4 (2.5%) exact matches, in which:  
3 unique CDR3  
3 unique J



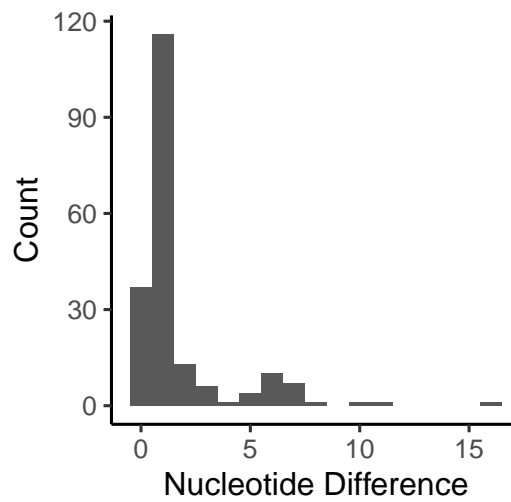
### IGHV1-2\*04

497 sequences assigned  
40 (8%) exact matches, in which:  
24 unique CDR3  
2 unique J



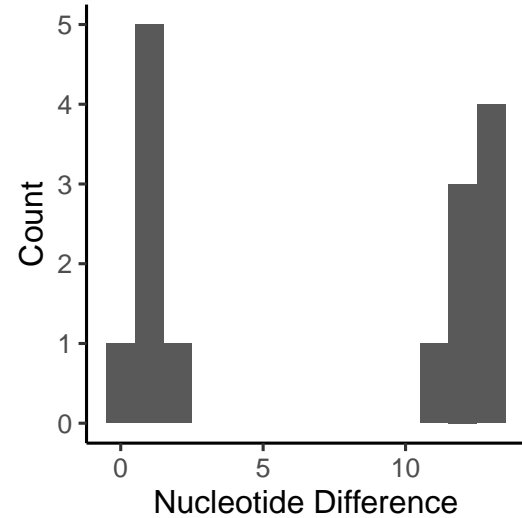
### IGHV1-8\*01

199 sequences assigned  
37 (18.6%) exact matches, in which:  
24 unique CDR3  
2 unique J



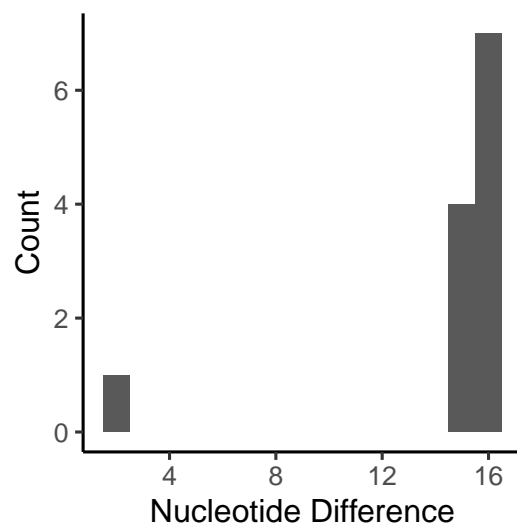
### IGHV1-24\*01

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



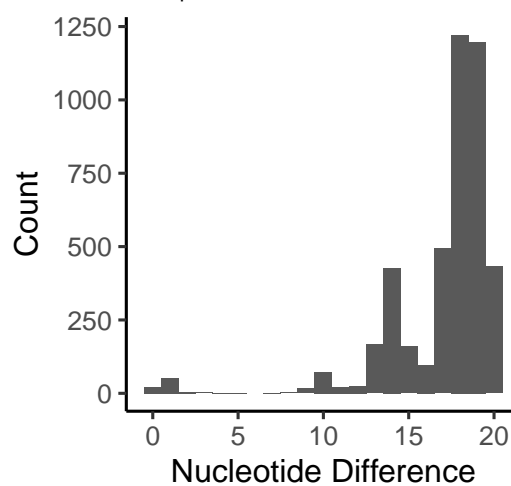
### IGHV1-3\*04

12 sequences assigned  
No exact matches.



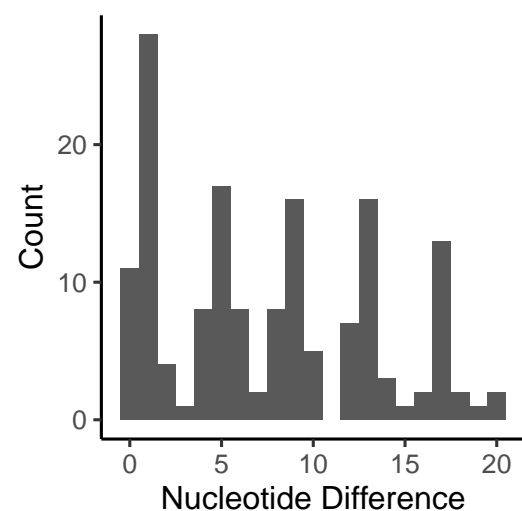
### IGHV1-18\*01

5377 sequences assigned  
22 (0.4%) exact matches, in which:  
15 unique CDR3  
2 unique J



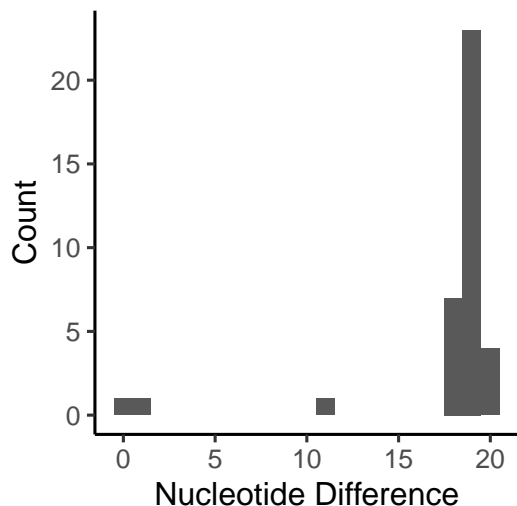
### IGHV1-46\*01

252 sequences assigned  
11 (4.4%) exact matches, in which:  
9 unique CDR3  
2 unique J



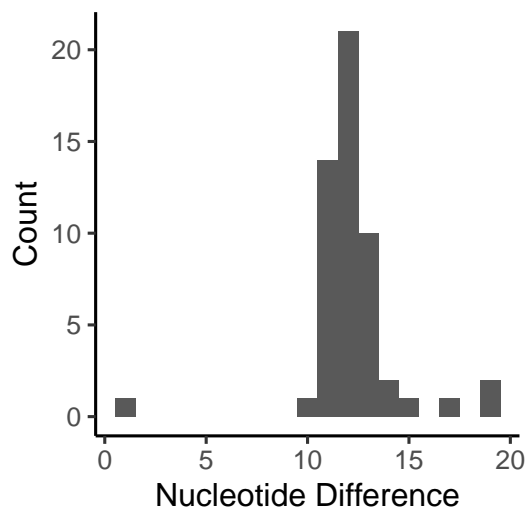
### IGHV1-69\*04\_09

37 sequences assigned  
1 (2.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



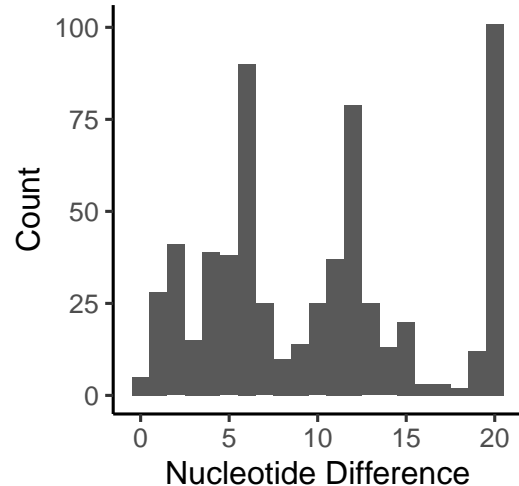
### IGHV2-5\*02

62 sequences assigned  
No exact matches.



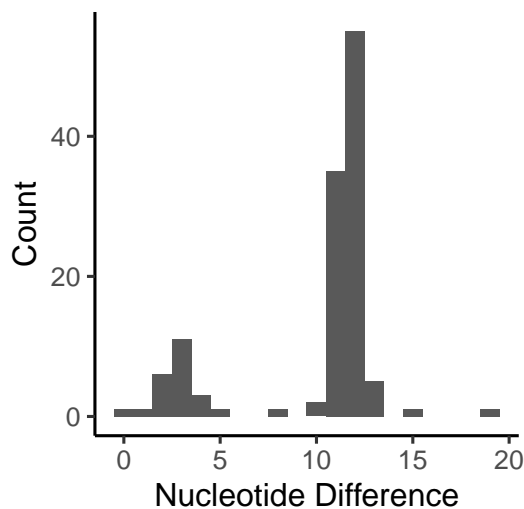
### IGHV3-9\*01

1008 sequences assigned  
5 (0.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



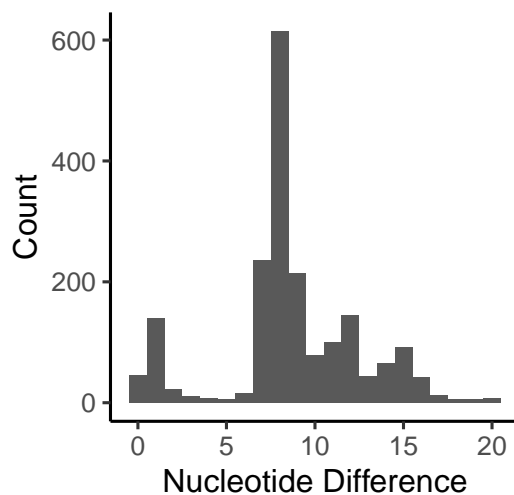
### IGHV1-69\*06\_14

123 sequences assigned  
1 (0.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



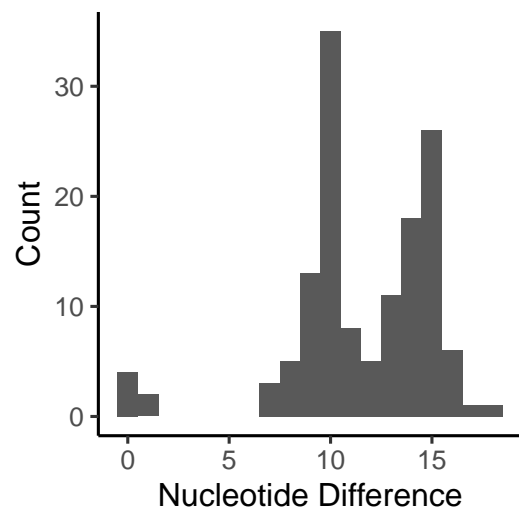
### IGHV3-7\*01

1923 sequences assigned  
45 (2.3%) exact matches, in which:  
23 unique CDR3  
3 unique J



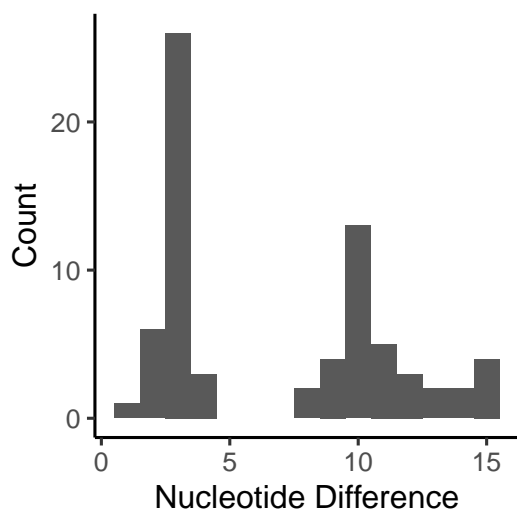
### IGHV3-11\*01

138 sequences assigned  
4 (2.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



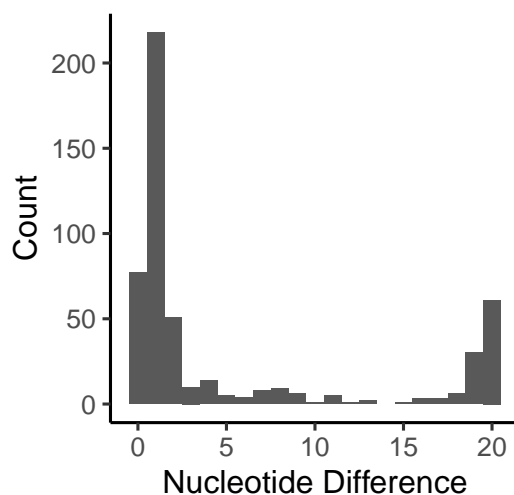
### IGHV2-5\*01

71 sequences assigned  
No exact matches.



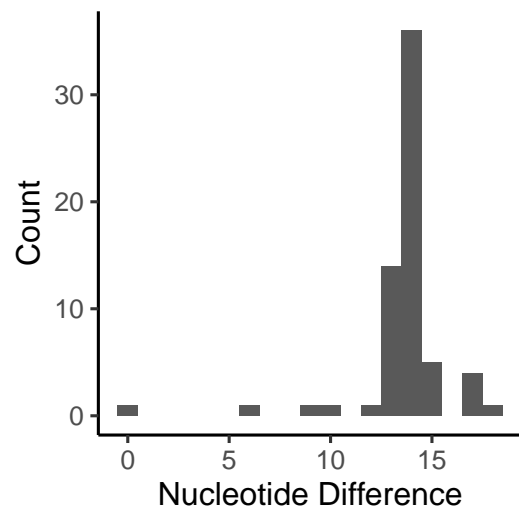
### IGHV3-7\*03

1847 sequences assigned  
77 (4.2%) exact matches, in which:  
45 unique CDR3  
2 unique J



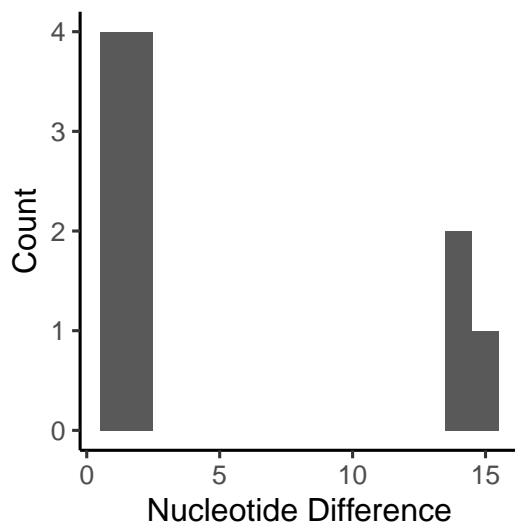
### IGHV3-11\*04

77 sequences assigned  
1 (1.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



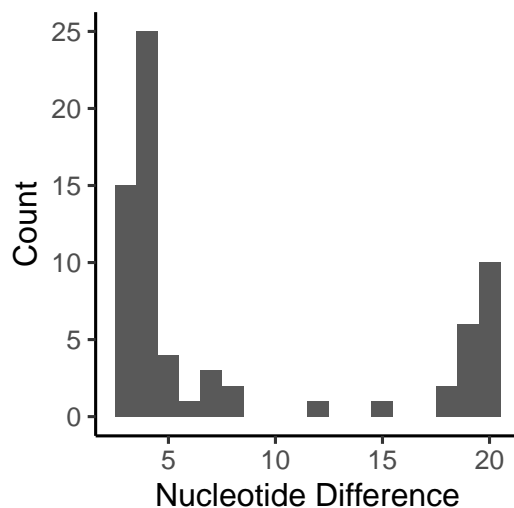
### IGHV3-11\*03\_05

12 sequences assigned  
No exact matches.



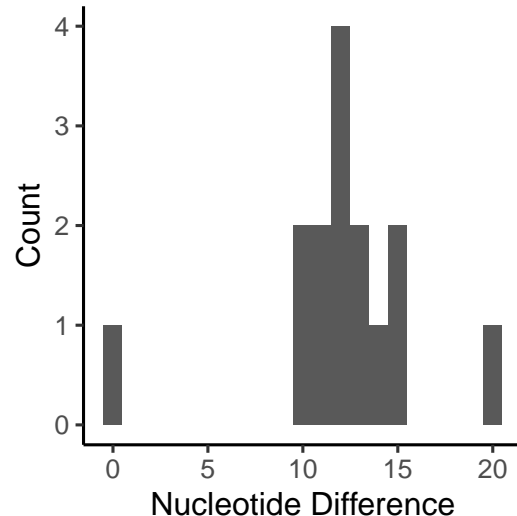
### IGHV3-15\*01\_02

312 sequences assigned  
No exact matches.



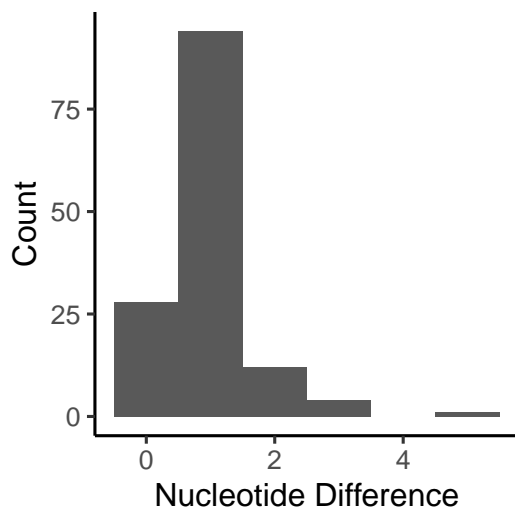
### IGHV3-30\*03

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



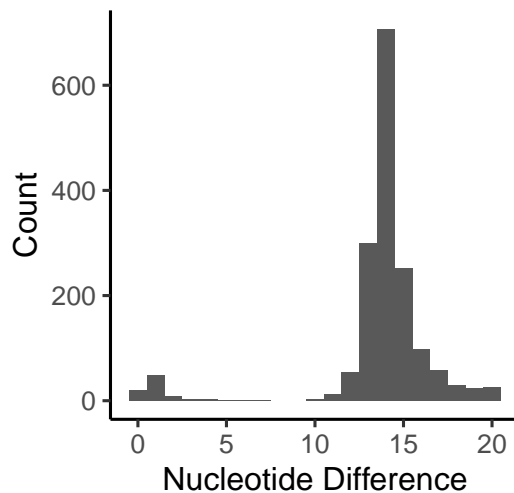
### IGHV3-13\*01

139 sequences assigned  
28 (20.1%) exact matches, in which:  
15 unique CDR3  
1 unique J



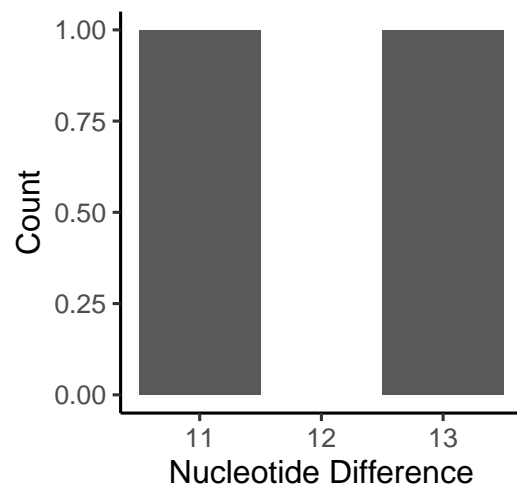
### IGHV3-21\*01\_02

1699 sequences assigned  
20 (1.2%) exact matches, in which:  
11 unique CDR3  
2 unique J



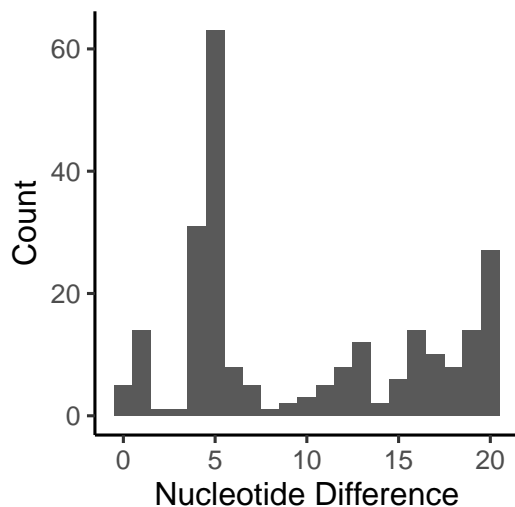
### IGHV3-30-3\*03

2 sequences assigned  
No exact matches.



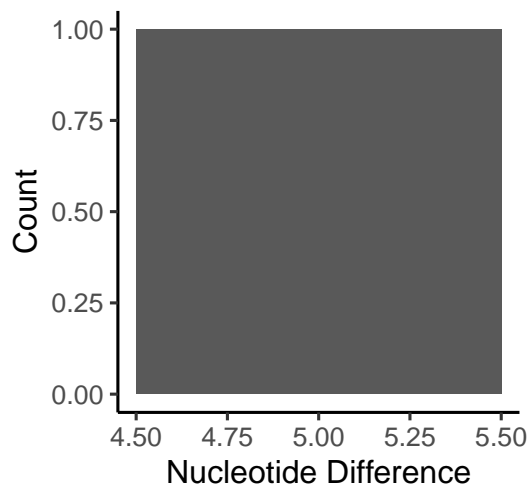
### IGHV3-15\*07

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



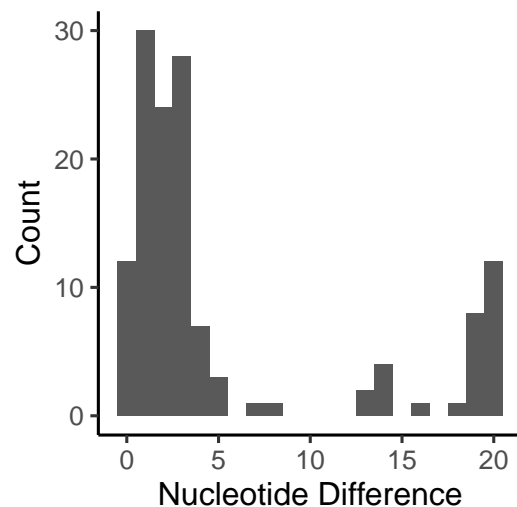
### IGHV3-30-3\*01

1 sequences assigned  
No exact matches.



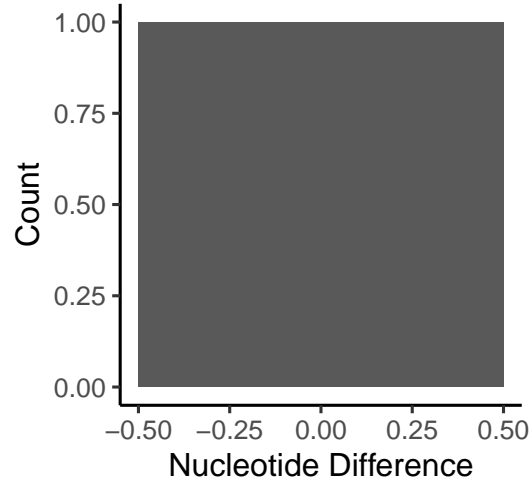
### IGHV3-33\*01

140 sequences assigned  
12 (8.6%) exact matches, in which:  
5 unique CDR3  
1 unique J



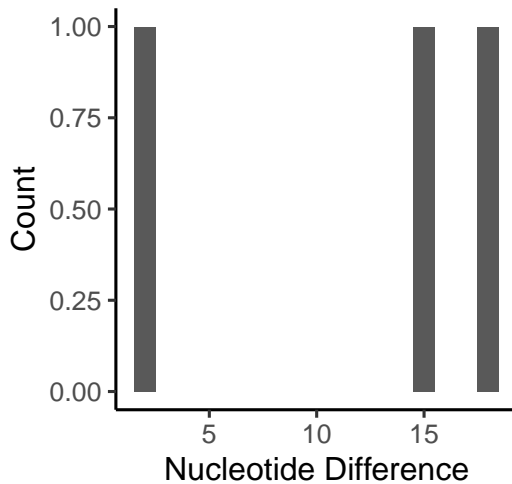
### IGHV3-43\*01

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



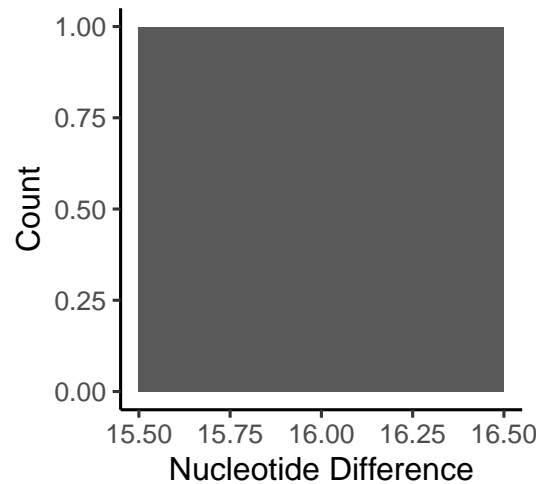
### IGHV3-48\*03

3 sequences assigned  
No exact matches.



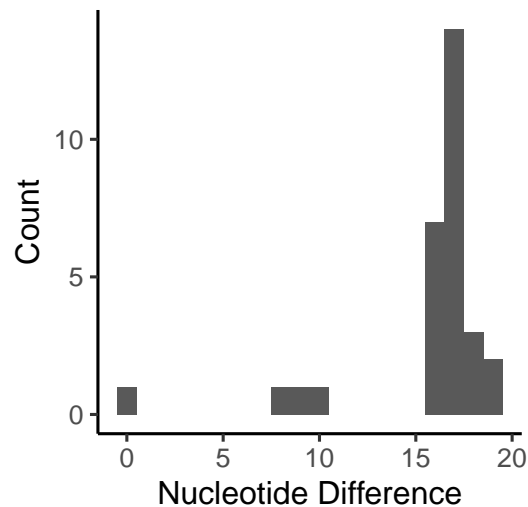
### IGHV3-53\*05

2 sequences assigned  
No exact matches.



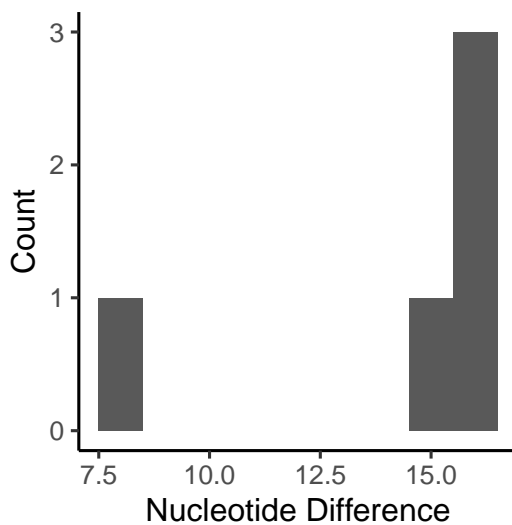
### IGHV3-48\*01

30 sequences assigned  
1 (3.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



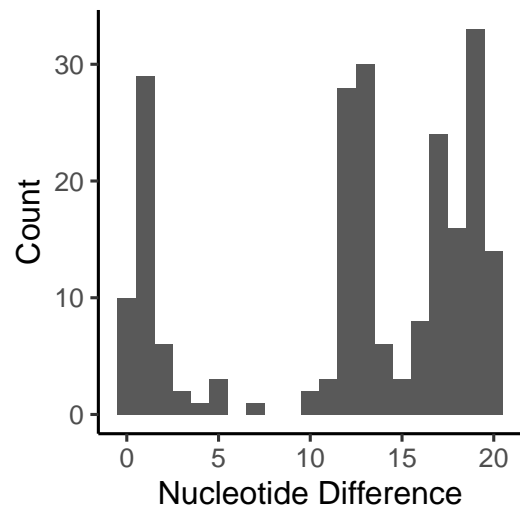
### IGHV3-48\*04

5 sequences assigned  
No exact matches.



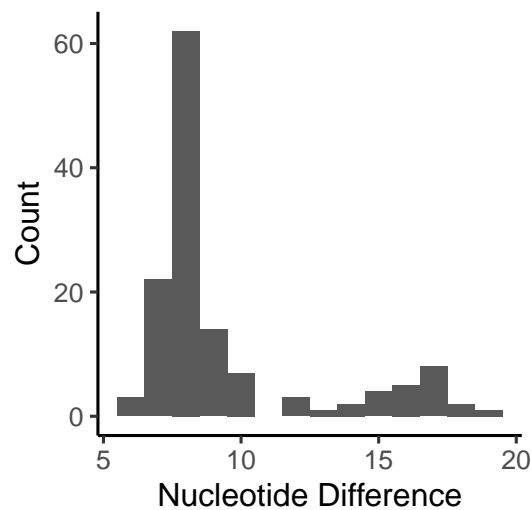
### IGHV3-53\*01\_02

231 sequences assigned  
10 (4.3%) exact matches, in which:  
6 unique CDR3  
1 unique J



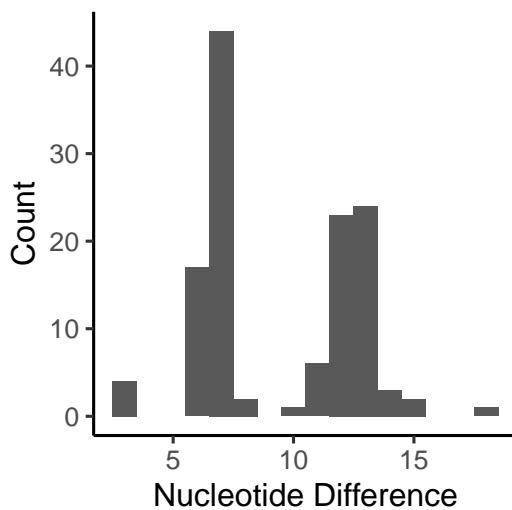
### IGHV3-48\*02

160 sequences assigned  
No exact matches.



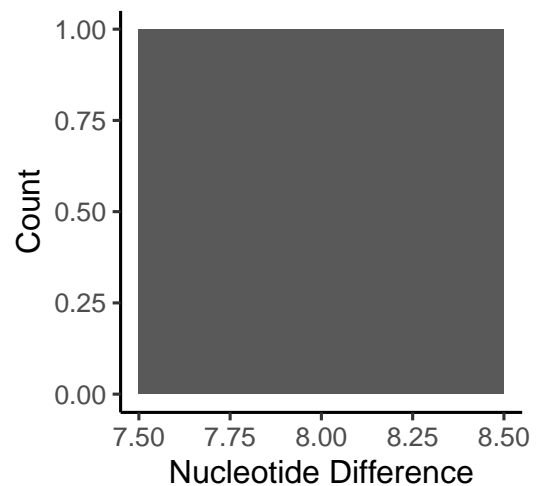
### IGHV3-49\*03\_05

149 sequences assigned  
No exact matches.



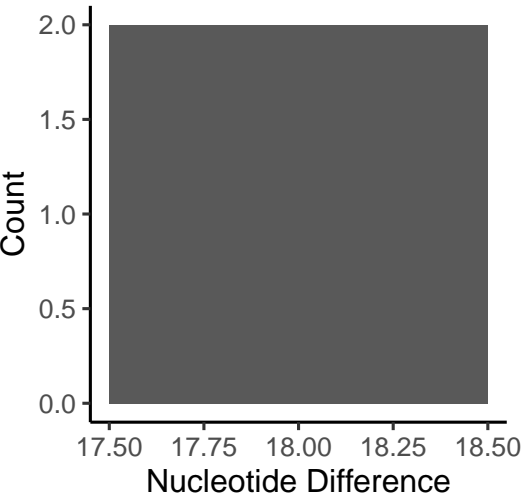
### IGHV3-64\*01

1 sequences assigned  
No exact matches.



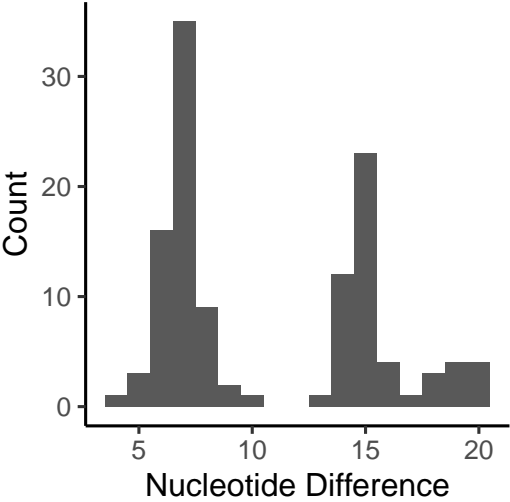
IGHV3-64\*04

25 sequences assigned  
No exact matches.



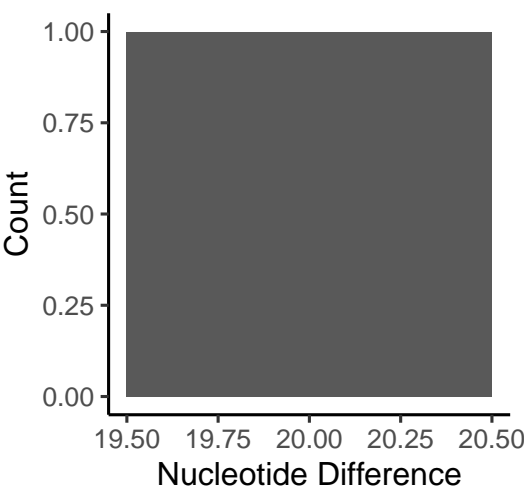
IGHV3-72\*01

119 sequences assigned  
No exact matches.



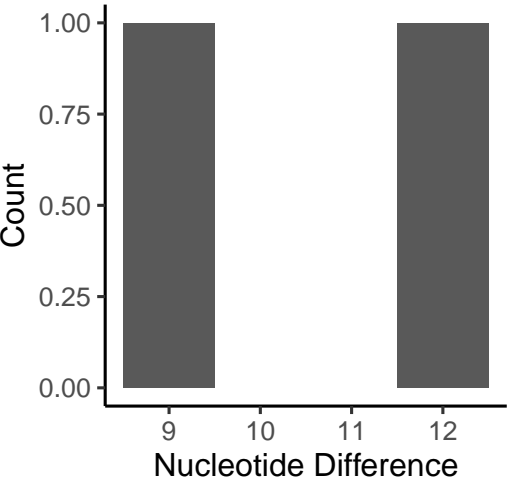
IGHV3-64D\*08

424 sequences assigned  
No exact matches.



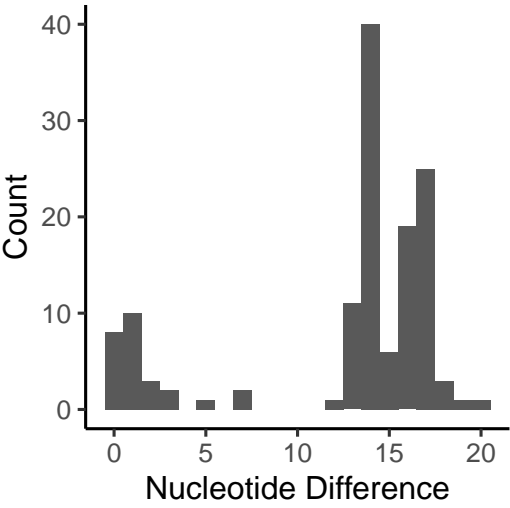
IGHV3-66\*01

3 sequences assigned  
No exact matches.



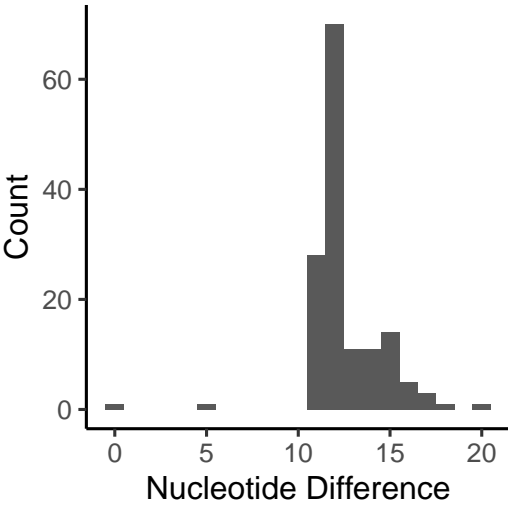
IGHV3-73\*01\_02

135 sequences assigned  
8 (5.9%) exact matches, in which:  
4 unique CDR3  
1 unique J



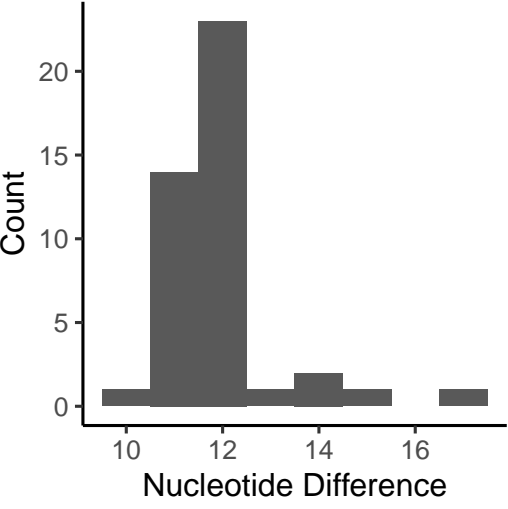
IGHV4-4\*07

163 sequences assigned  
1 (0.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



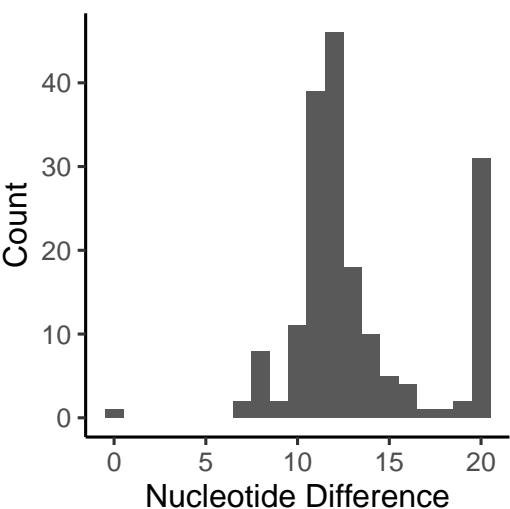
IGHV3-66\*02

107 sequences assigned  
No exact matches.



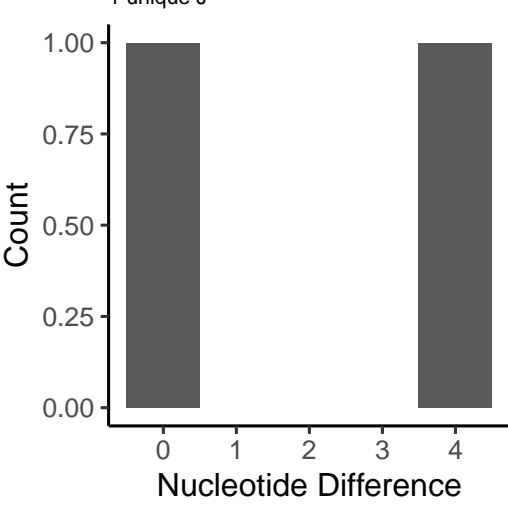
IGHV3-74\*01\_02

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



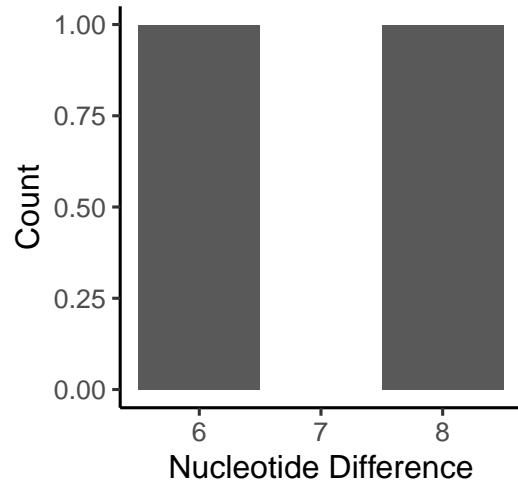
IGHV4-30-4\*01

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



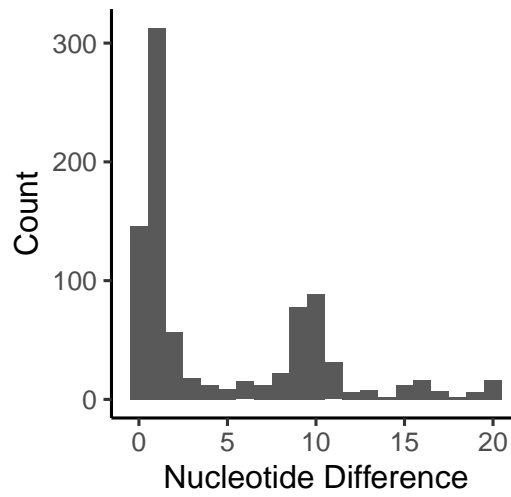
### IGHV4-30-2\*04

2 sequences assigned  
No exact matches.



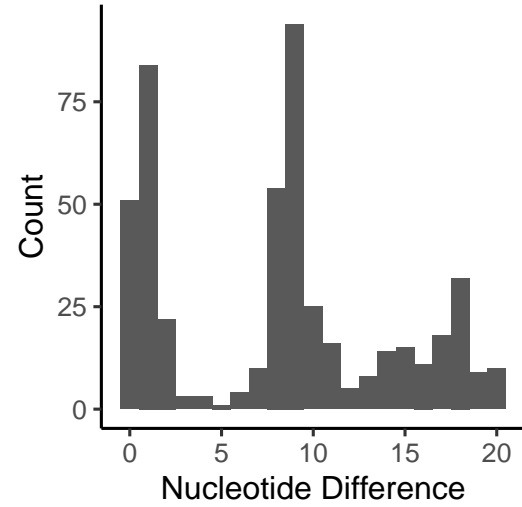
### IGHV4-34\*01\_02

3637 sequences assigned  
146 (4%) exact matches, in which:  
96 unique CDR3  
5 unique J



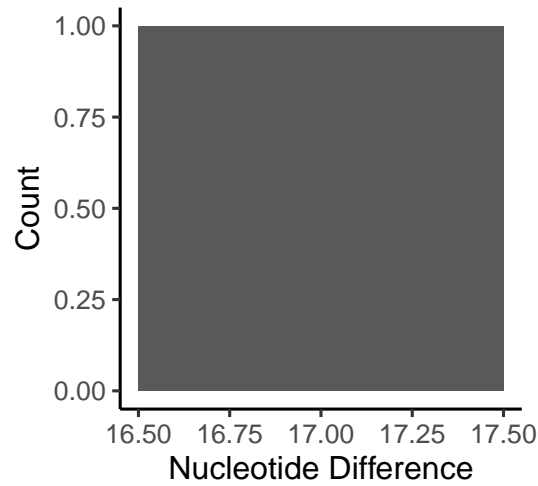
### IGHV4-39\*01\_05

1300 sequences assigned  
51 (3.9%) exact matches, in which:  
37 unique CDR3  
4 unique J



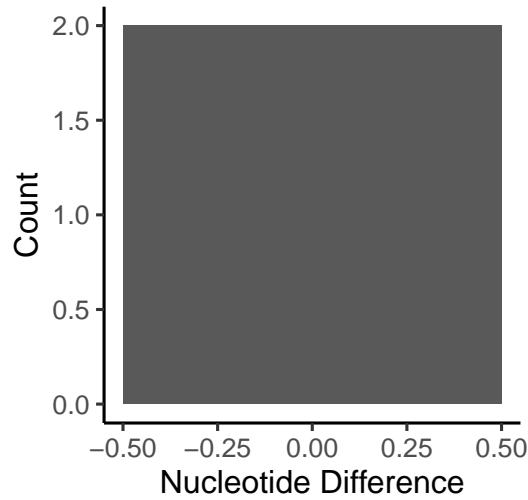
### IGHV4-30-4\*05

1 sequences assigned  
No exact matches.



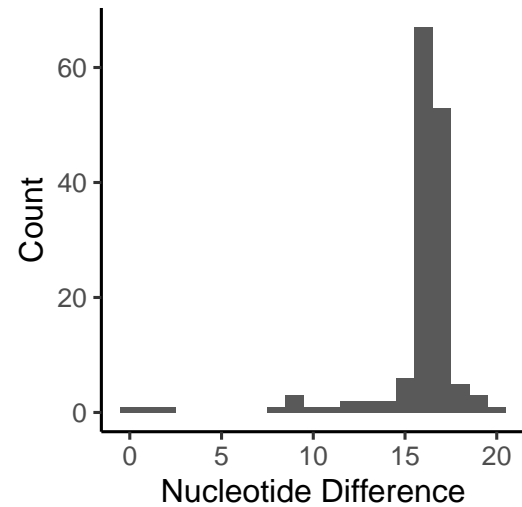
### IGHV4-38-2\*01

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



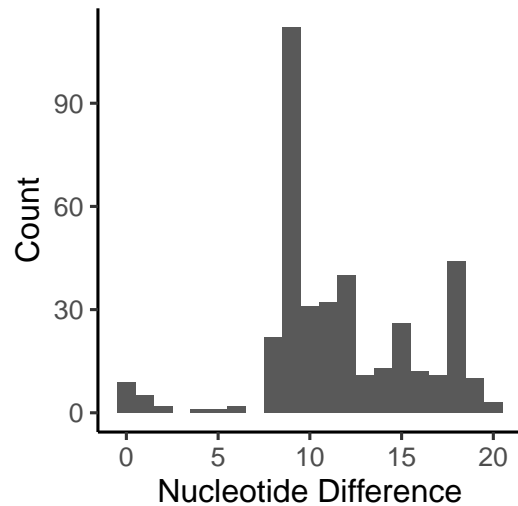
### IGHV4-59\*08

351 sequences assigned  
1 (0.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



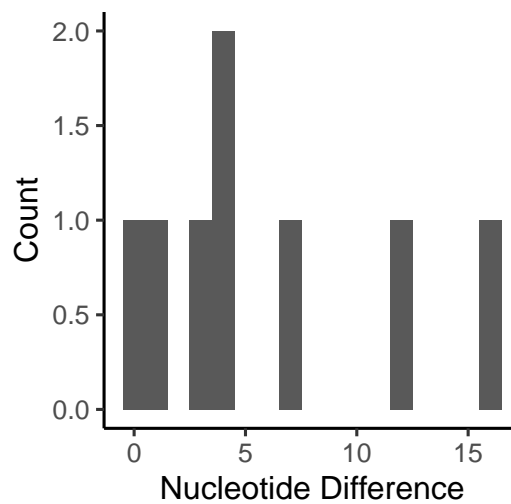
### IGHV4-31\*03\_04

498 sequences assigned  
9 (1.8%) exact matches, in which:  
8 unique CDR3  
2 unique J



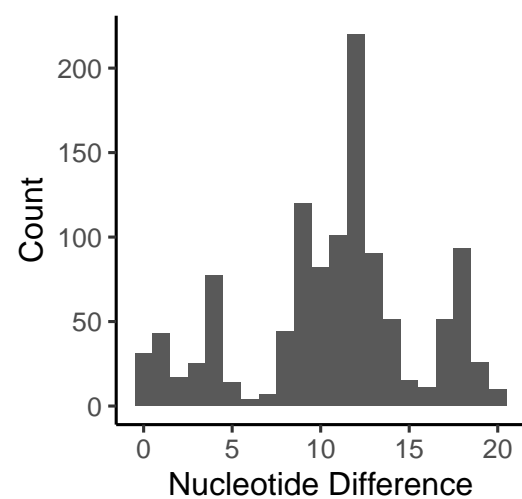
### IGHV4-39\*07

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



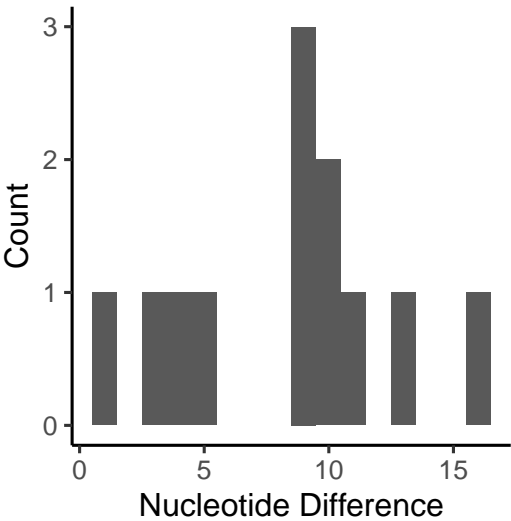
### IGHV4-59\*01\_07

3316 sequences assigned  
31 (0.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



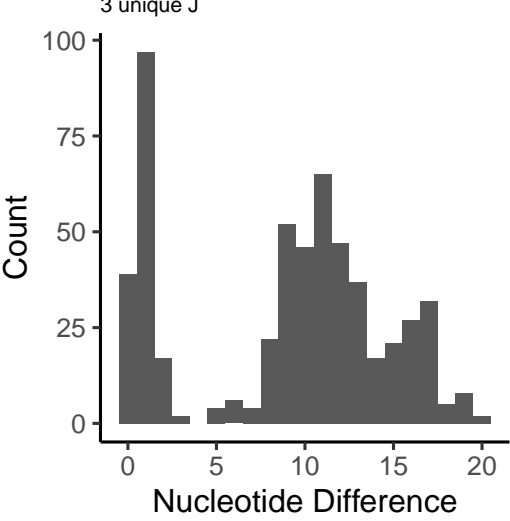
IGHV4-61\*01

16 sequences assigned  
No exact matches.



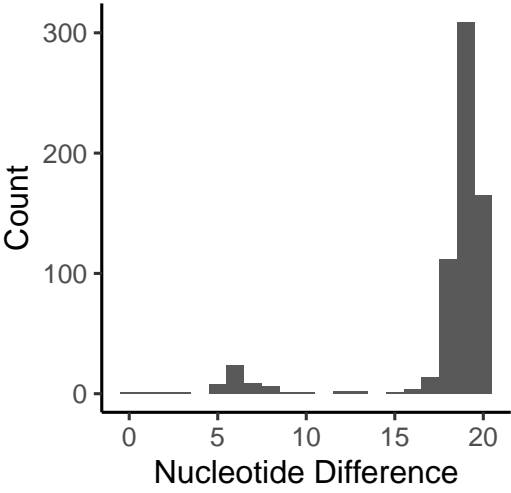
IGHV5-51\*01\_03

568 sequences assigned  
39 (6.9%) exact matches, in which:  
18 unique CDR3  
3 unique J



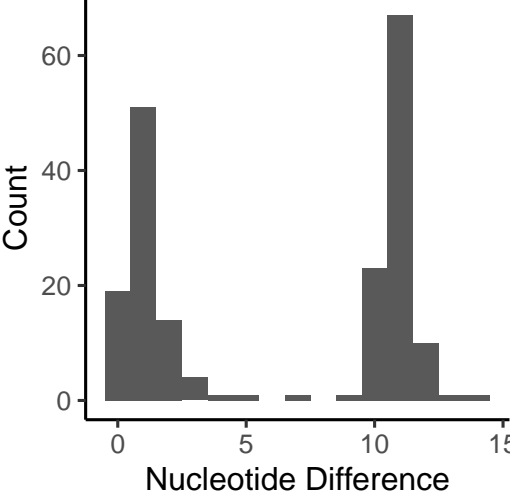
IGHV4-61\*02

857 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



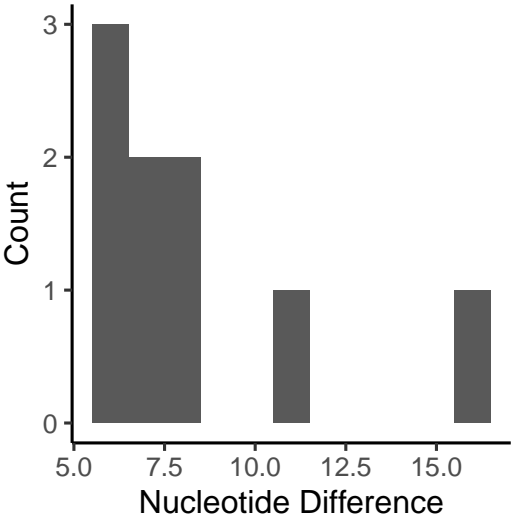
IGHV6-1\*01\_02

222 sequences assigned  
19 (8.6%) exact matches, in which:  
16 unique CDR3  
4 unique J



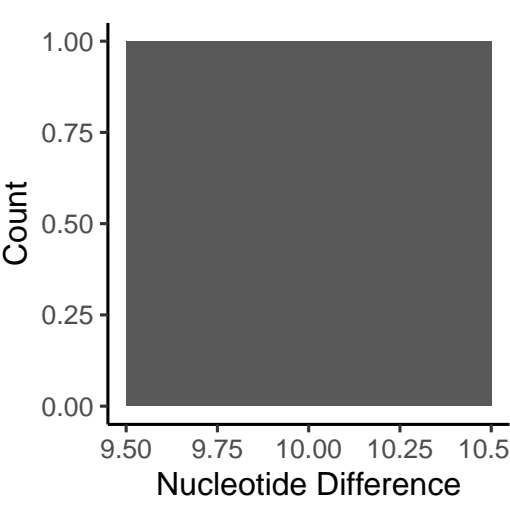
IGHV5-10-1\*01\_03

17 sequences assigned  
No exact matches.

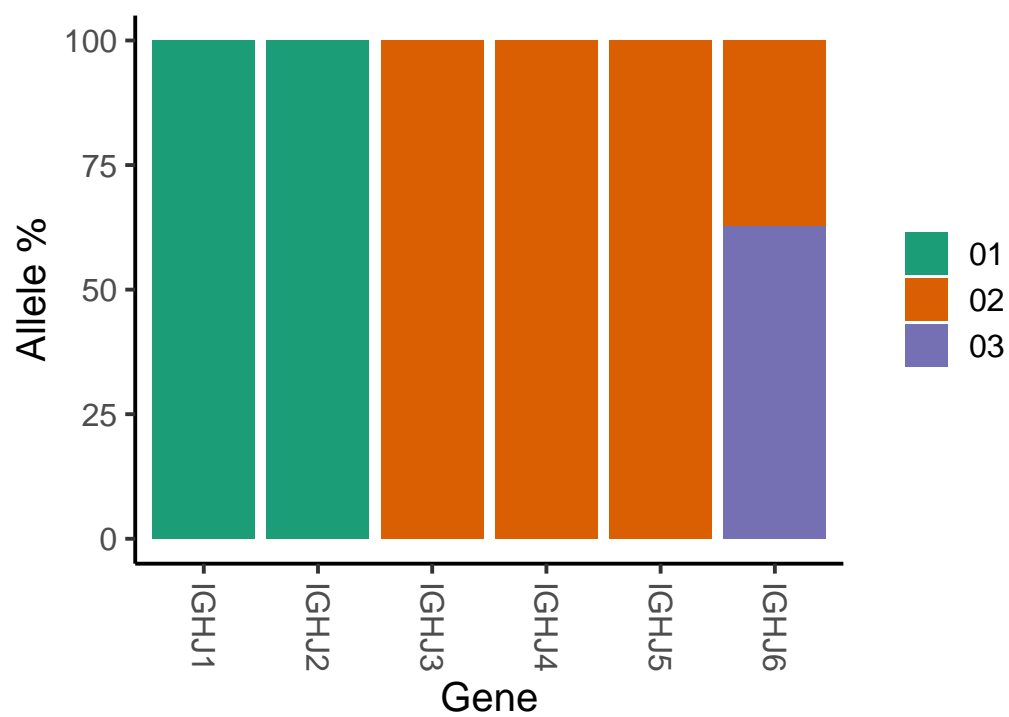


IGHV7-4-1\*02

1 sequences assigned  
No exact matches.

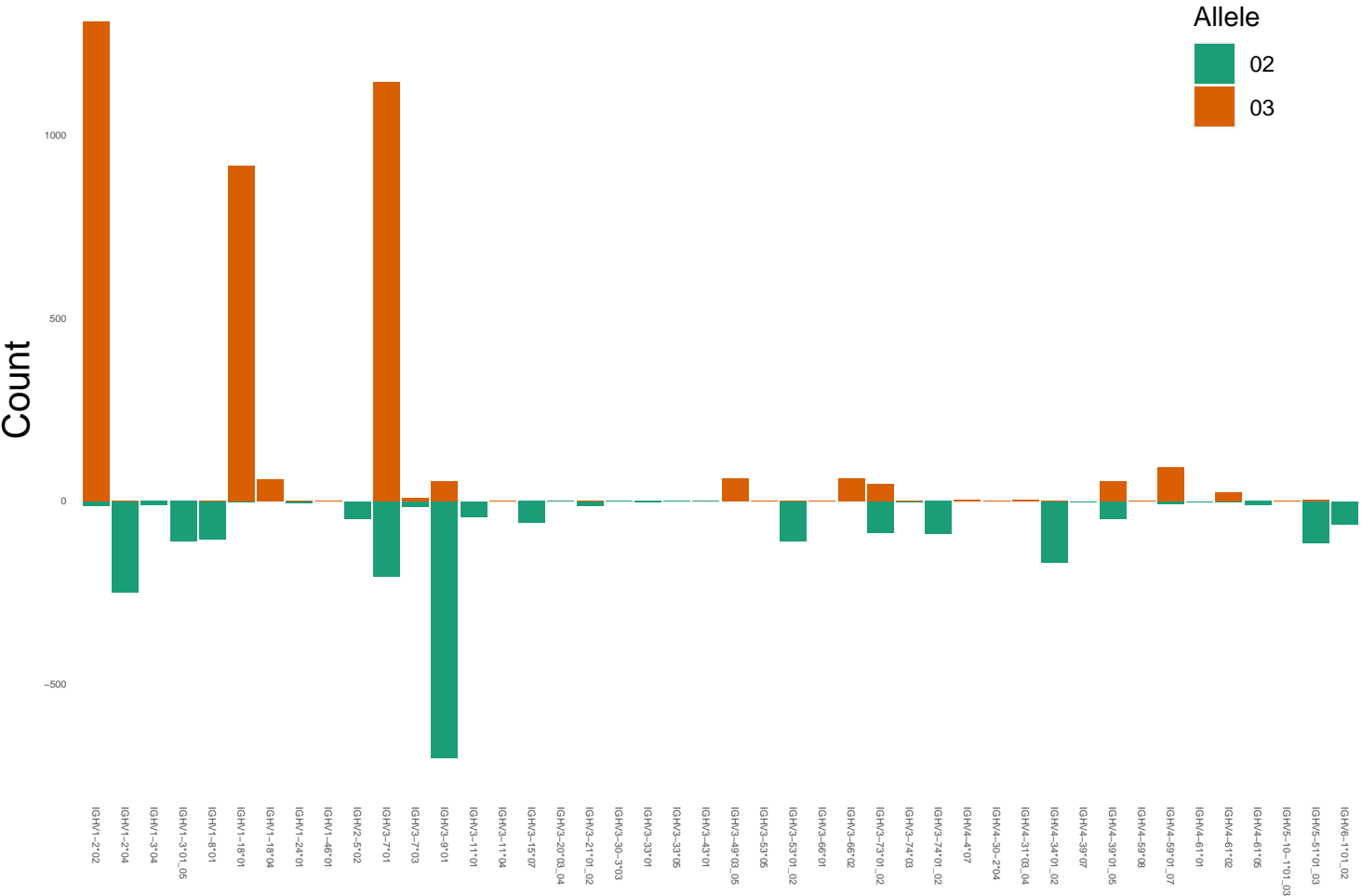


Allele Usage





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Novel sequence(s) IGHV1–69\*04\_09\_G112A IGHV4–59\*02\_G88A IGHV5–10–1\*01\_03\_T258C IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV1–69\*08\_C191T IGHV3–48\*03\_T303G IGHV4–59\*02\_G88A IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3–30\*03\_T288C IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning: IGHV4–31\*02, IGHV4–31\*03\_04 have identical germline sequences.

Novel sequence(s) IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1–69\*04\_09\_G112A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV1–69\*08\_C191T IGHV3–30\*03\_T288C IGHV3–30–3\*02\_G75C IGHV4–59\*02\_G88A IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4–59\*02\_G88A IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4–4\*02\_03\_C300T IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV4–59\*02\_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1–69\*08\_C191T IGHV3–11\*06\_T300C IGHV3–30\*03\_T288C IGHV4–59\*02\_G88A IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4–59\*02\_G88A IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3–30\*03\_T288C IGHV3–30–3\*01\_T288C IGHV4–59\*02\_G88A IGHV5–10–1\*01\_03\_T258C IGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.