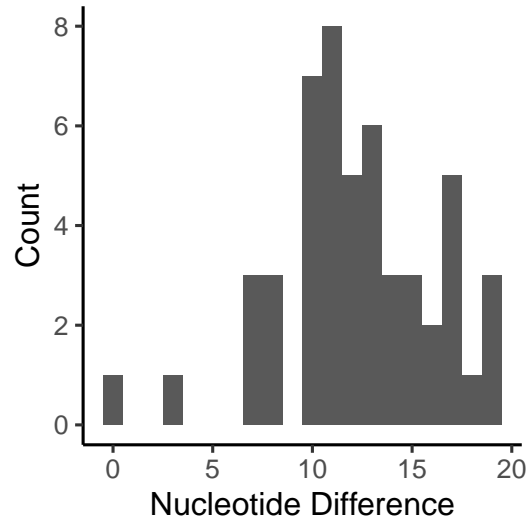


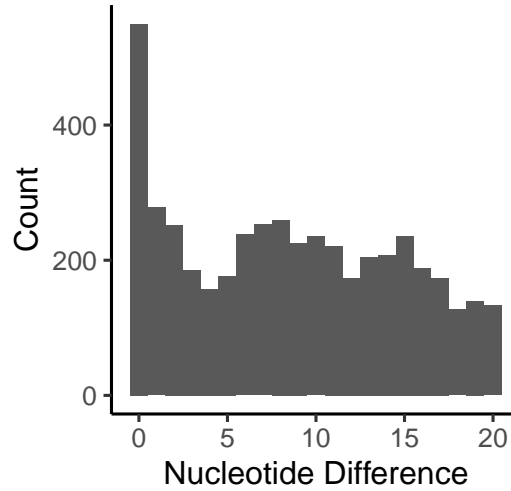
## IGHV1-2\*02

54 sequences assigned  
1 (1.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



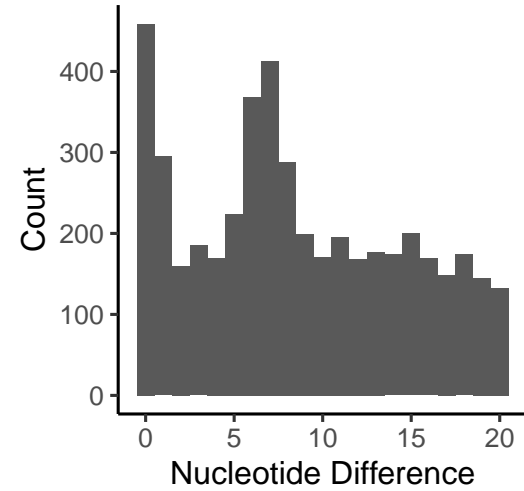
## IGHV1-3\*01\_05

5777 sequences assigned  
550 (9.5%) exact matches, in which:  
542 unique CDR3  
7 unique J



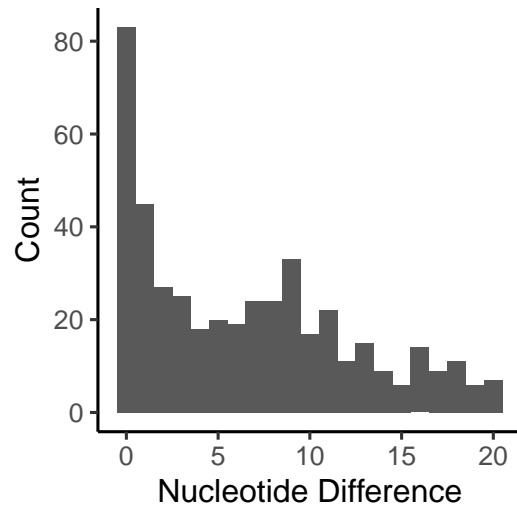
## IGHV1-18\*01

5513 sequences assigned  
459 (8.3%) exact matches, in which:  
449 unique CDR3  
7 unique J



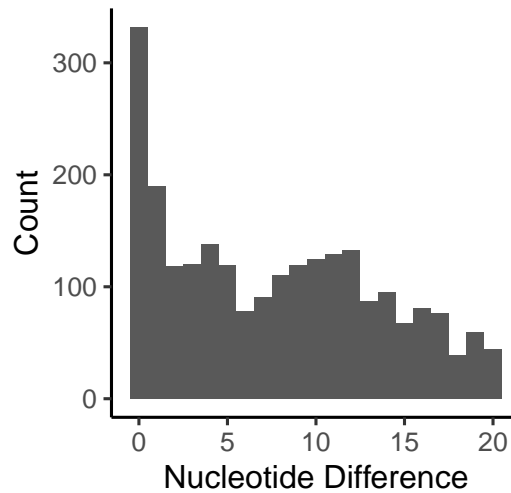
## IGHV1-2\*04

483 sequences assigned  
83 (17.2%) exact matches, in which:  
82 unique CDR3  
6 unique J



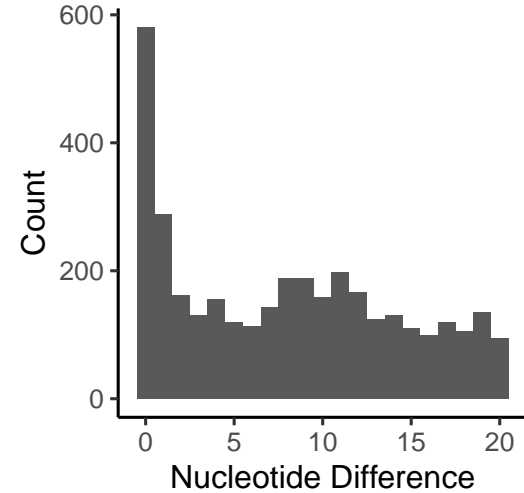
## IGHV1-8\*01

2749 sequences assigned  
332 (12.1%) exact matches, in which:  
321 unique CDR3  
7 unique J



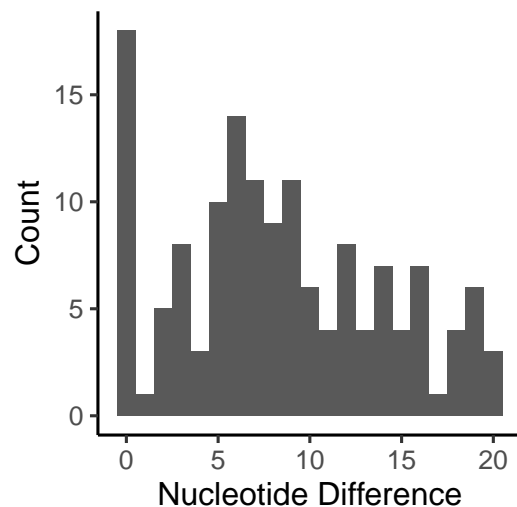
## IGHV1-18\*04

4293 sequences assigned  
581 (13.5%) exact matches, in which:  
565 unique CDR3  
7 unique J



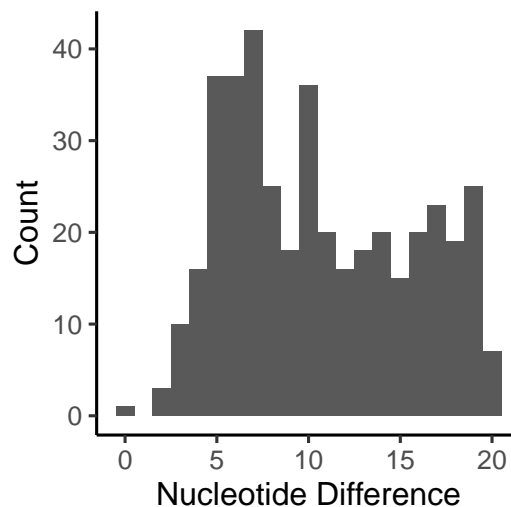
## IGHV1-2\*05

169 sequences assigned  
18 (10.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



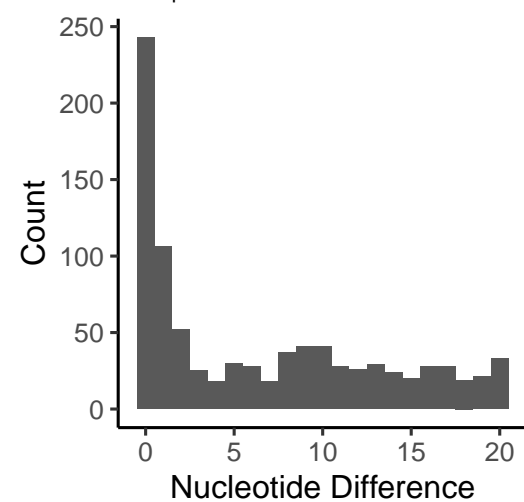
## IGHV1-8\*02

483 sequences assigned  
1 (0.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



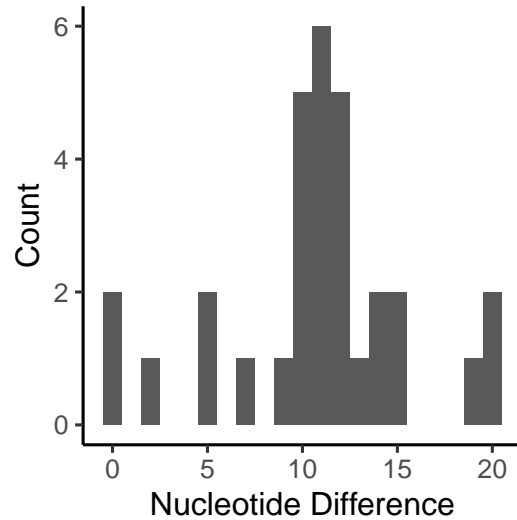
## IGHV1-24\*01

1118 sequences assigned  
243 (21.7%) exact matches, in which:  
242 unique CDR3  
7 unique J



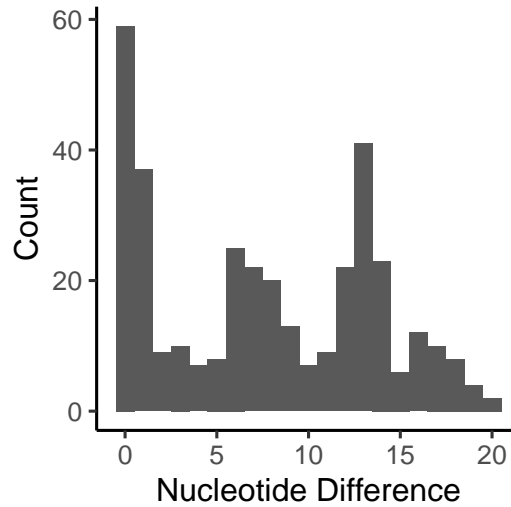
### IGHV1-45\*02

37 sequences assigned  
2 (5.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



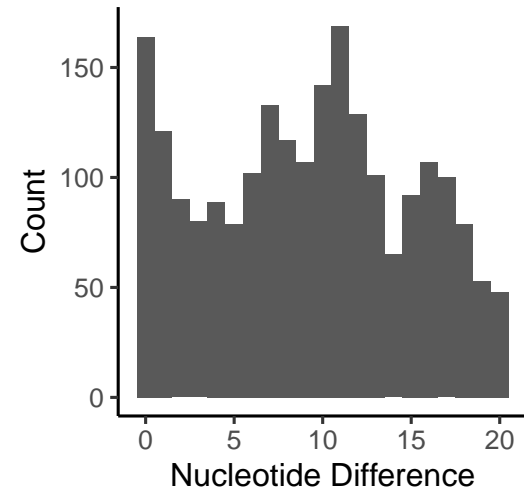
### IGHV1-58\*01\_03

394 sequences assigned  
59 (15%) exact matches, in which:  
59 unique CDR3  
7 unique J



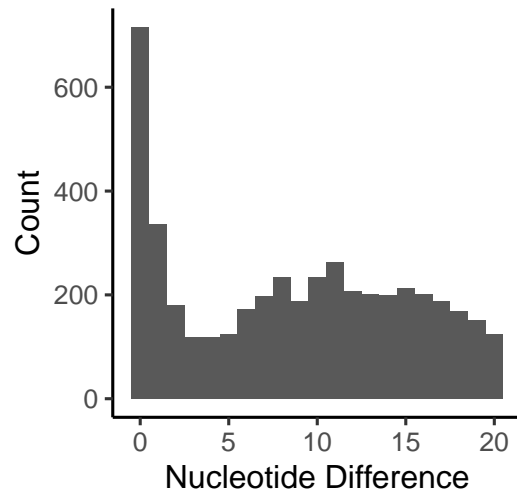
### IGHV2-5\*02

2447 sequences assigned  
164 (6.7%) exact matches, in which:  
159 unique CDR3  
6 unique J



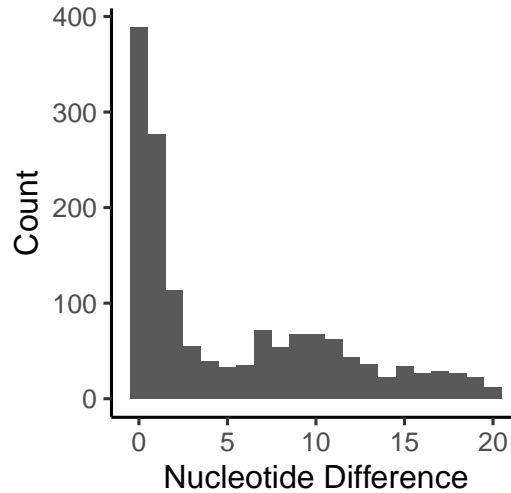
### IGHV1-46\*01

5893 sequences assigned  
716 (12.2%) exact matches, in which:  
708 unique CDR3  
7 unique J



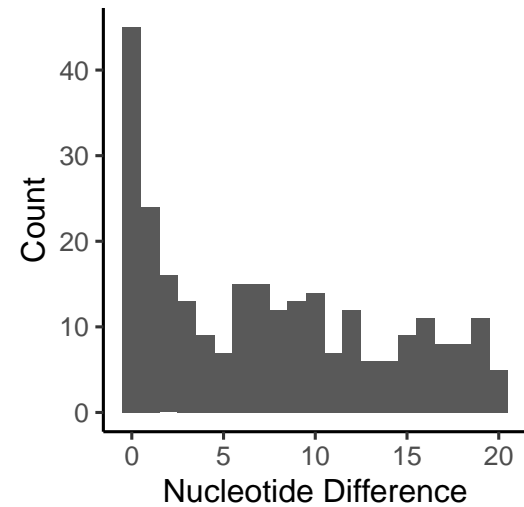
### IGHV1-69\*10

1776 sequences assigned  
389 (21.9%) exact matches, in which:  
383 unique CDR3  
7 unique J



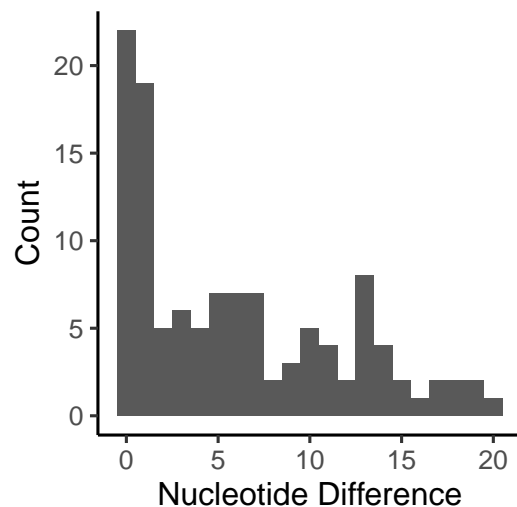
### IGHV2-26\*01

308 sequences assigned  
45 (14.6%) exact matches, in which:  
44 unique CDR3  
6 unique J



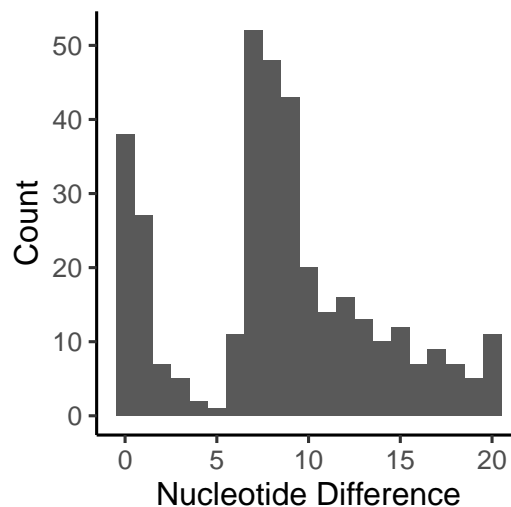
### IGHV1-58\*02

127 sequences assigned  
22 (17.3%) exact matches, in which:  
22 unique CDR3  
5 unique J



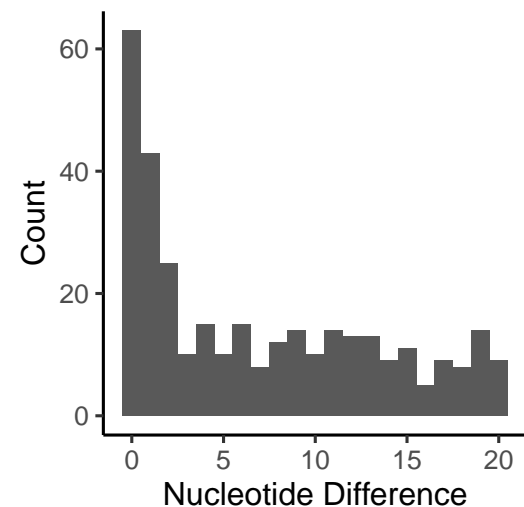
### IGHV1-69\*06\_14

485 sequences assigned  
38 (7.8%) exact matches, in which:  
38 unique CDR3  
5 unique J



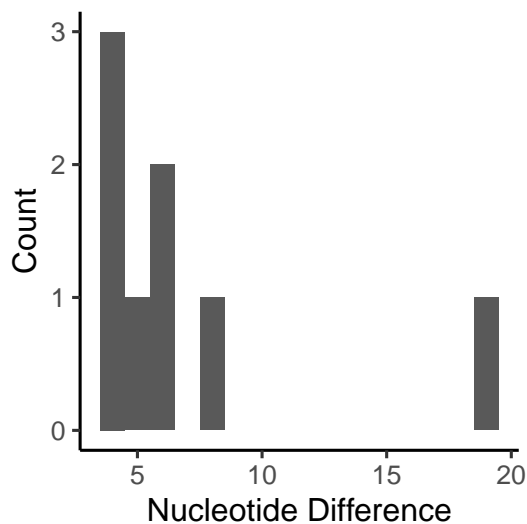
### IGHV2-70\*01

370 sequences assigned  
63 (17%) exact matches, in which:  
63 unique CDR3  
5 unique J



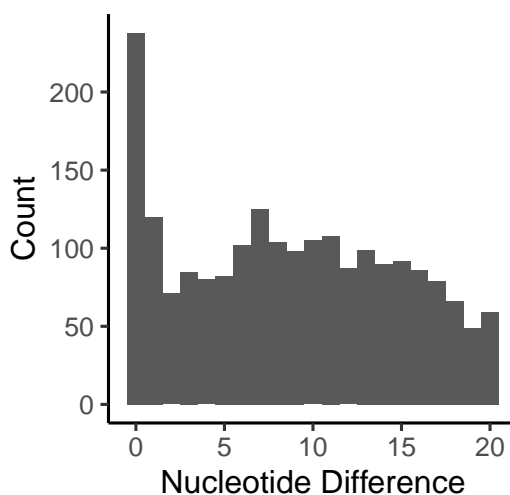
### IGHV2-70D\*04

8 sequences assigned  
No exact matches.



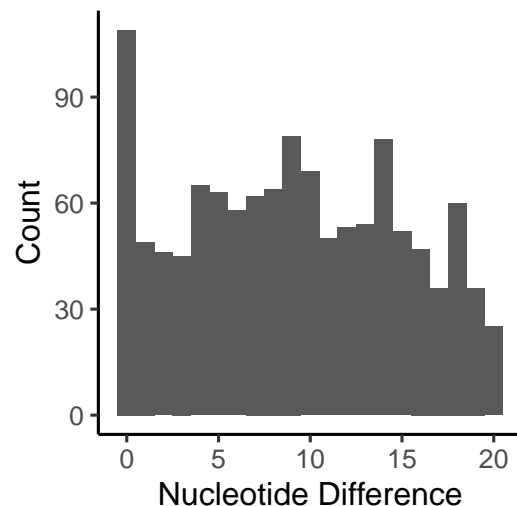
### IGHV3-9\*01

2332 sequences assigned  
238 (10.2%) exact matches, in which:  
236 unique CDR3  
7 unique J



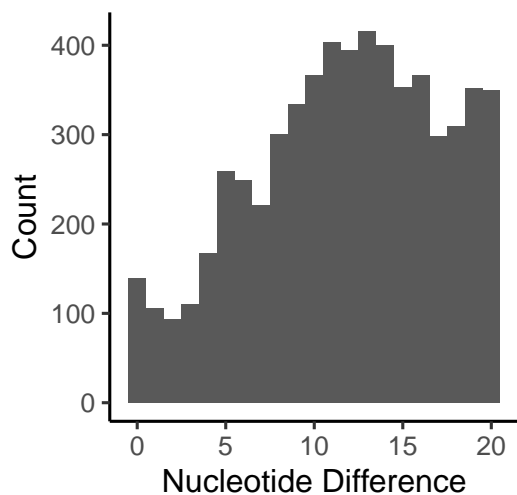
### IGHV3-11\*06

1488 sequences assigned  
109 (7.3%) exact matches, in which:  
108 unique CDR3  
6 unique J



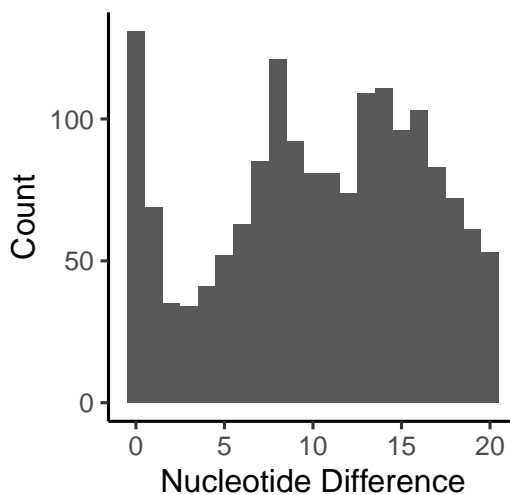
### IGHV3-7\*01

8109 sequences assigned  
139 (1.7%) exact matches, in which:  
137 unique CDR3  
7 unique J



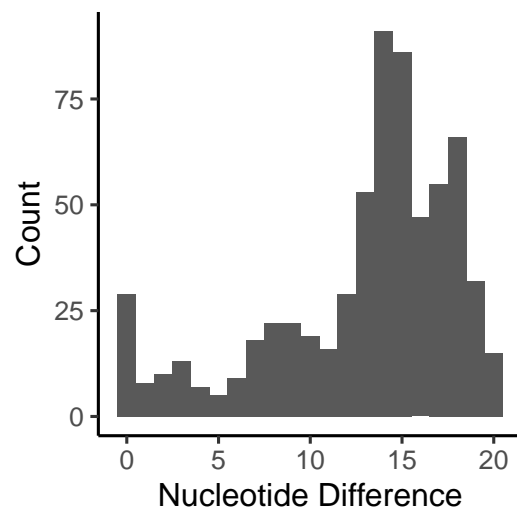
### IGHV3-11\*01

2375 sequences assigned  
131 (5.5%) exact matches, in which:  
129 unique CDR3  
7 unique J



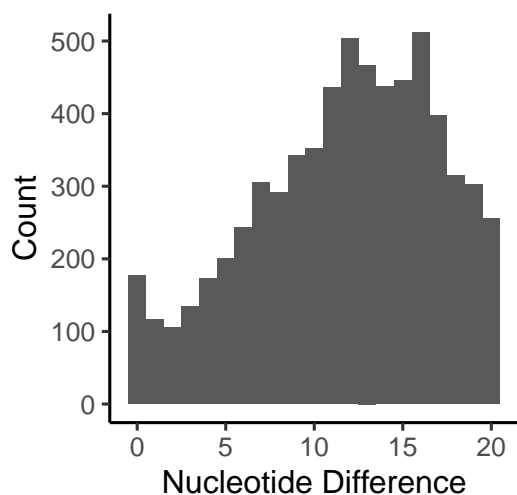
### IGHV3-13\*01

790 sequences assigned  
29 (3.7%) exact matches, in which:  
28 unique CDR3  
7 unique J



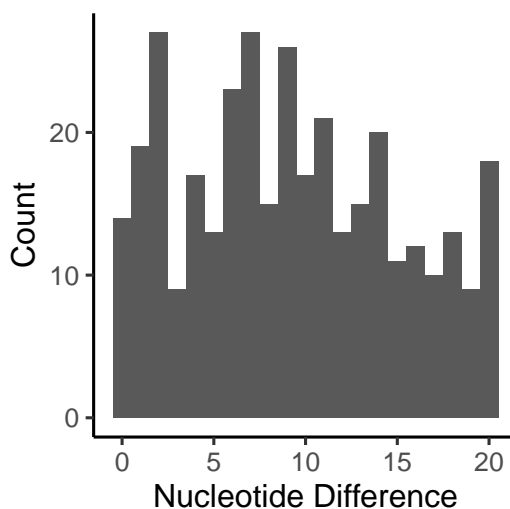
### IGHV3-7\*03

8372 sequences assigned  
177 (2.1%) exact matches, in which:  
176 unique CDR3  
7 unique J



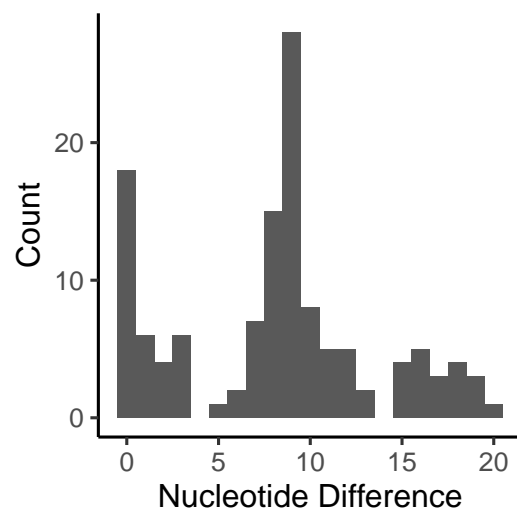
### IGHV3-11\*04

407 sequences assigned  
14 (3.4%) exact matches, in which:  
14 unique CDR3  
4 unique J



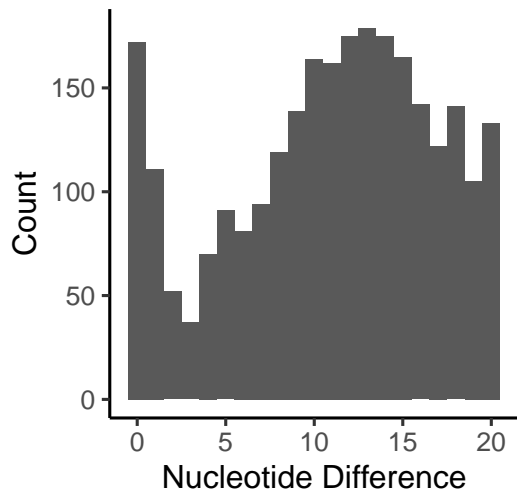
### IGHV3-13\*05

132 sequences assigned  
18 (13.6%) exact matches, in which:  
18 unique CDR3  
5 unique J



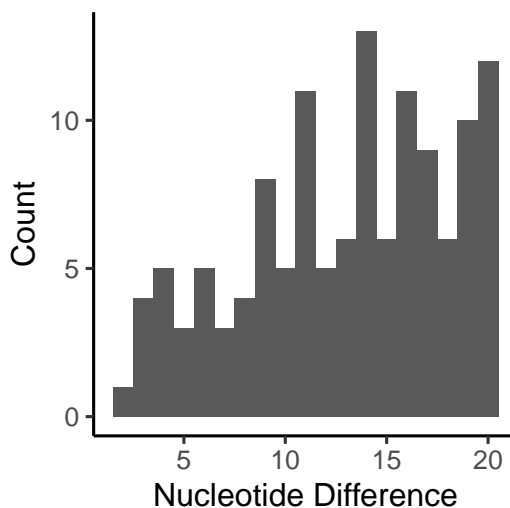
### IGHV3-15\*01\_02

3698 sequences assigned  
172 (4.7%) exact matches, in which:  
169 unique CDR3  
7 unique J



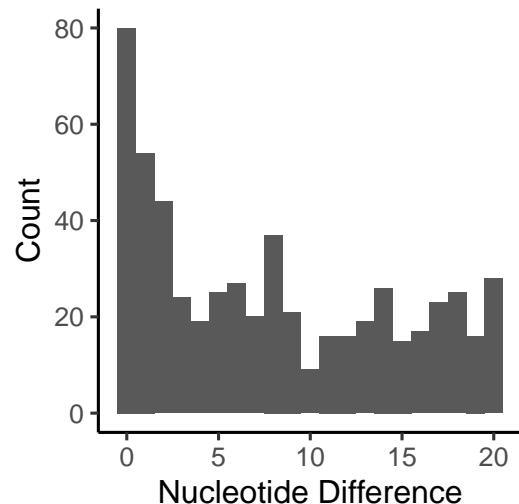
### IGHV3-20\*03\_04

201 sequences assigned  
No exact matches.



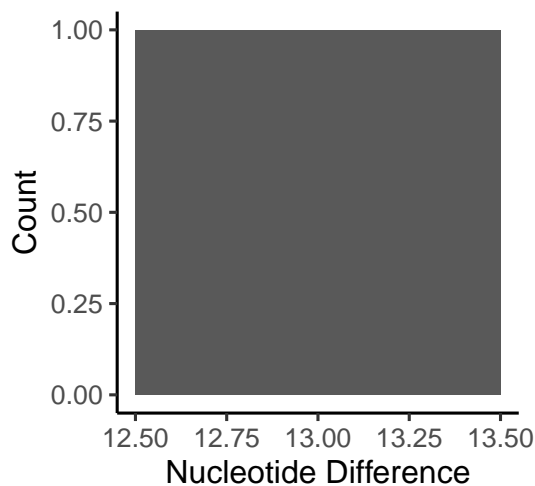
### IGHV3-30\*03

829 sequences assigned  
80 (9.7%) exact matches, in which:  
80 unique CDR3  
7 unique J



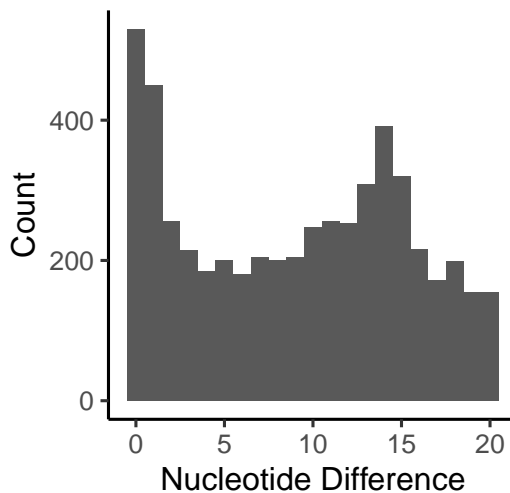
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



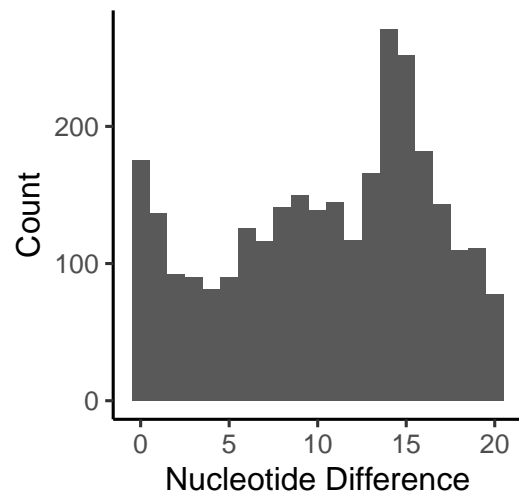
### IGHV3-21\*01\_02

6473 sequences assigned  
530 (8.2%) exact matches, in which:  
497 unique CDR3  
7 unique J



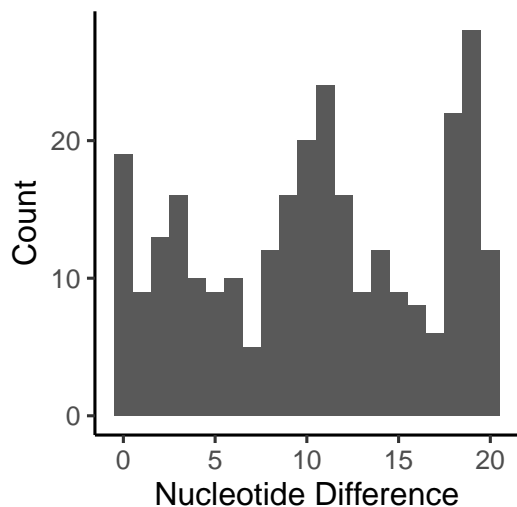
### IGHV3-33\*01

3559 sequences assigned  
175 (4.9%) exact matches, in which:  
173 unique CDR3  
6 unique J



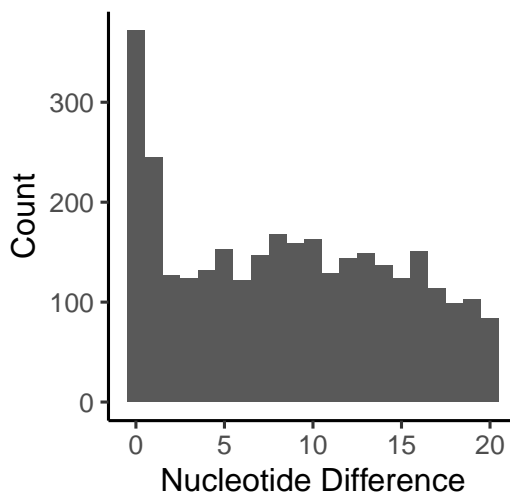
### IGHV3-20\*01\_02

317 sequences assigned  
19 (6%) exact matches, in which:  
19 unique CDR3  
5 unique J



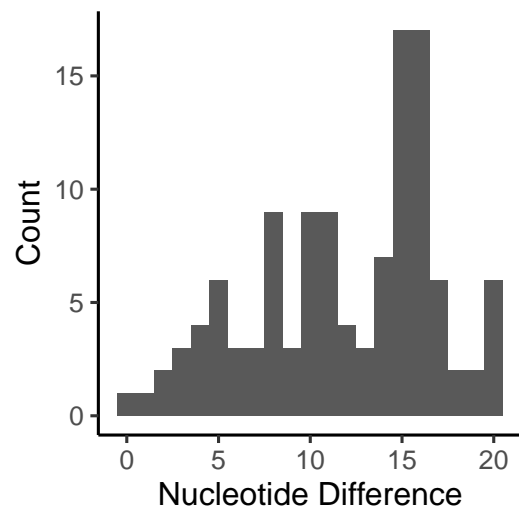
### IGHV3-30-3\*01

3992 sequences assigned  
372 (9.3%) exact matches, in which:  
367 unique CDR3  
7 unique J



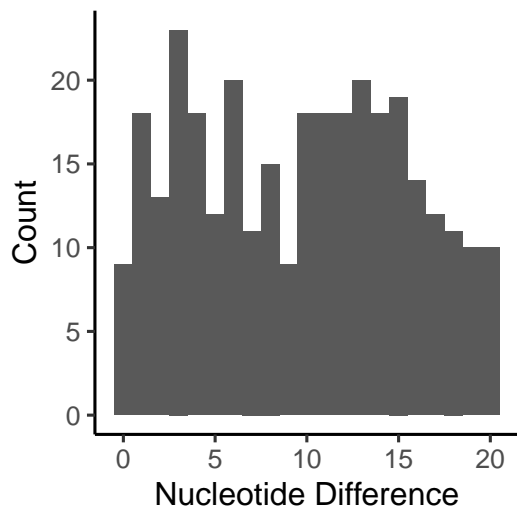
### IGHV3-33\*05

146 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



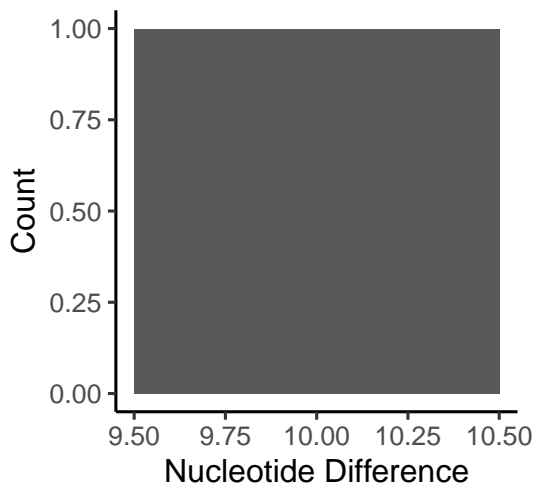
### IGHV3-33\*06

419 sequences assigned  
9 (2.1%) exact matches, in which:  
9 unique CDR3  
3 unique J



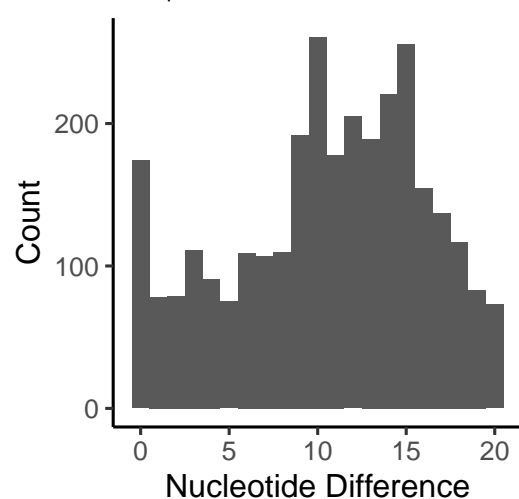
### IGHV3-38\*03

1 sequences assigned  
No exact matches.



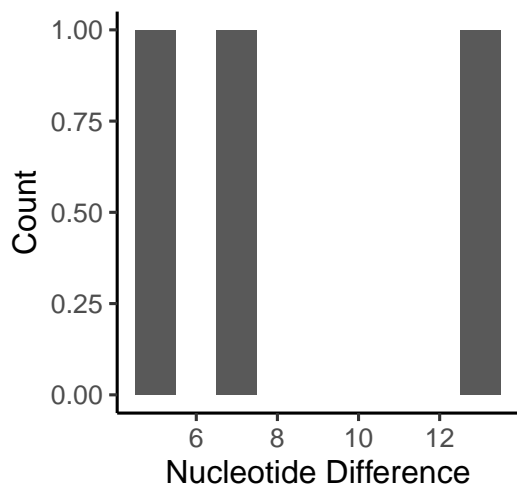
### IGHV3-48\*02

3533 sequences assigned  
174 (4.9%) exact matches, in which:  
170 unique CDR3  
6 unique J



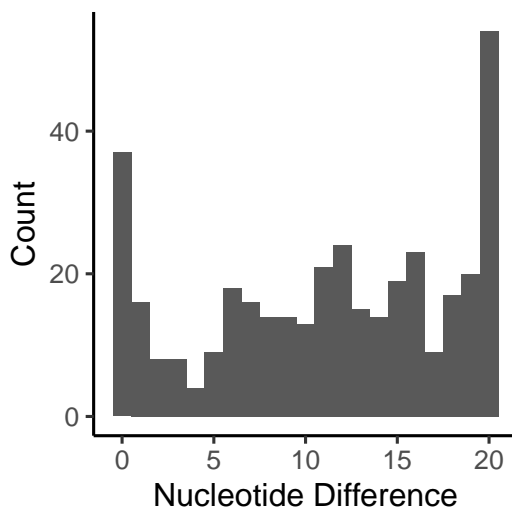
### IGHV3-35\*01

3 sequences assigned  
No exact matches.



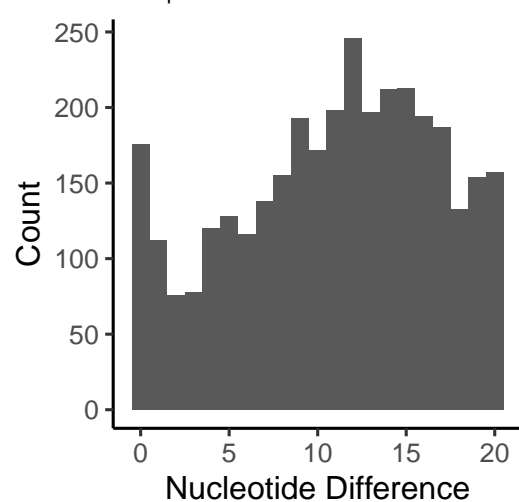
### IGHV3-43\*01

581 sequences assigned  
37 (6.4%) exact matches, in which:  
37 unique CDR3  
4 unique J



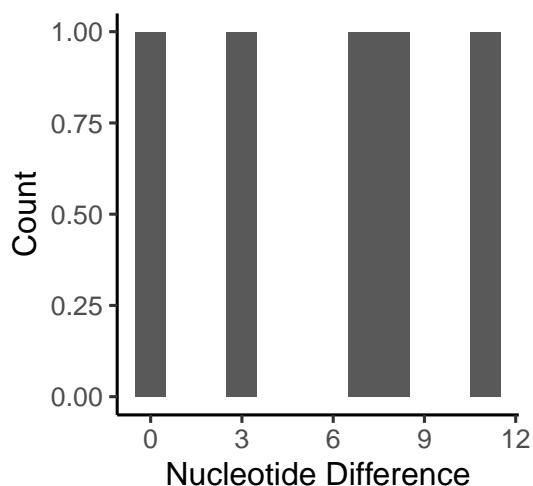
### IGHV3-48\*04

4415 sequences assigned  
176 (4%) exact matches, in which:  
172 unique CDR3  
7 unique J



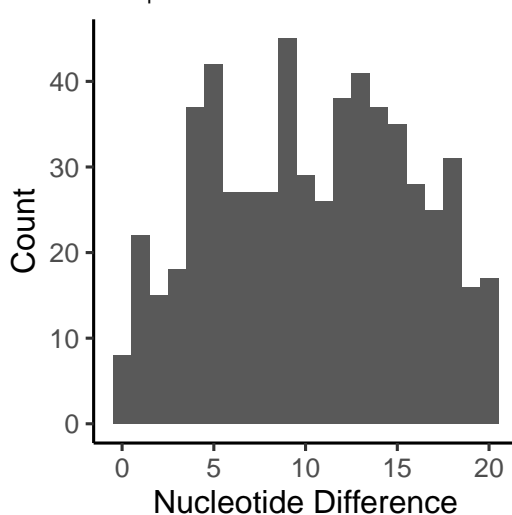
### IGHV3-38-3\*01

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



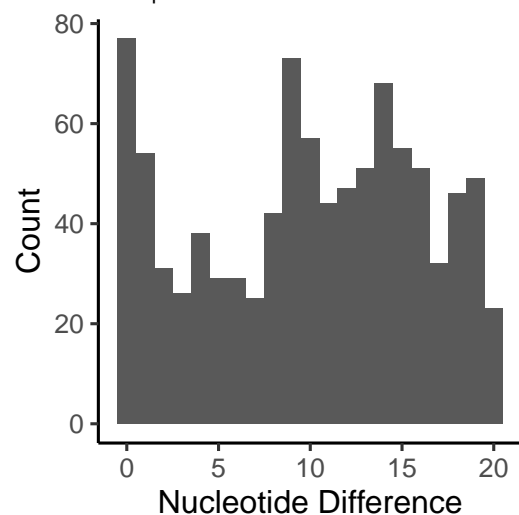
### IGHV3-48\*01

718 sequences assigned  
8 (1.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



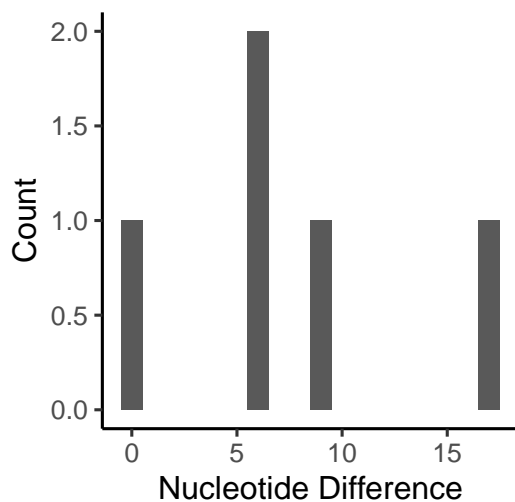
### IGHV3-49\*03\_05

1204 sequences assigned  
77 (6.4%) exact matches, in which:  
73 unique CDR3  
7 unique J



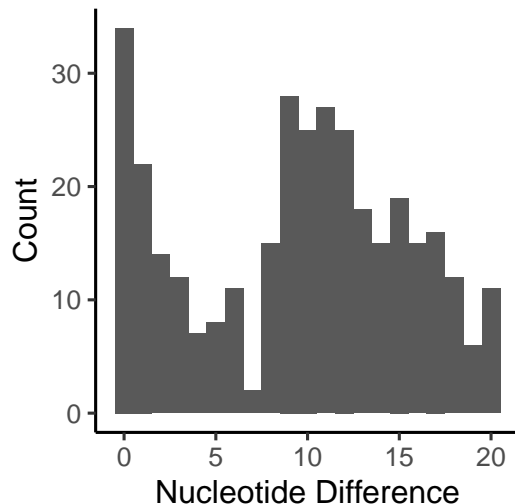
### IGHV3-52\*01\_03

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



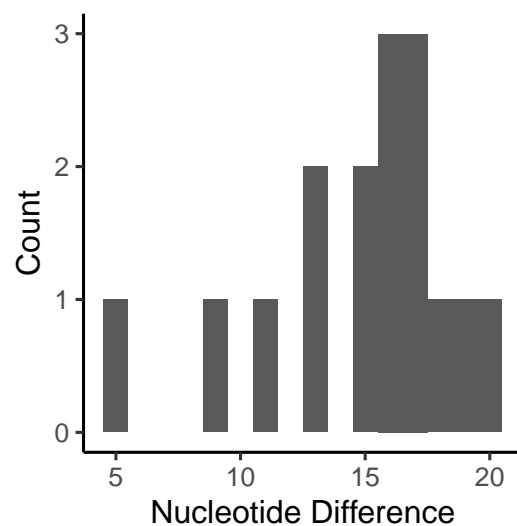
### IGHV3-64\*01

473 sequences assigned  
34 (7.2%) exact matches, in which:  
32 unique CDR3  
4 unique J



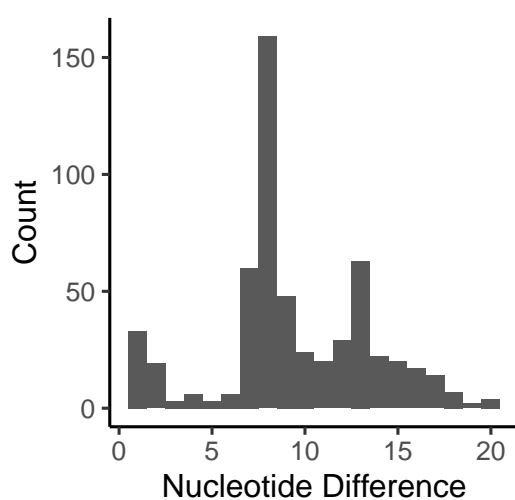
### IGHV3-66\*01

21 sequences assigned  
No exact matches.



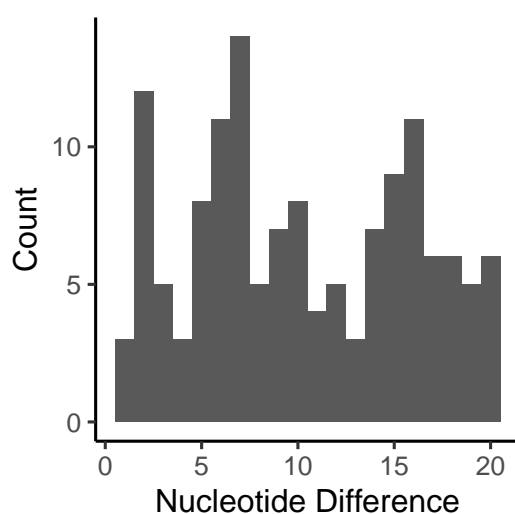
### IGHV3-53\*05

596 sequences assigned  
No exact matches.



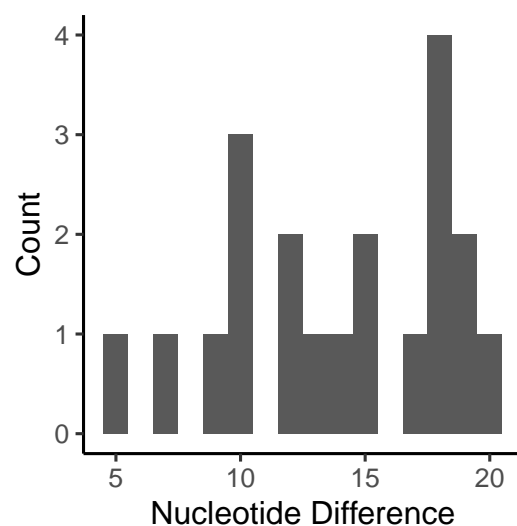
### IGHV3-64\*04

194 sequences assigned  
No exact matches.



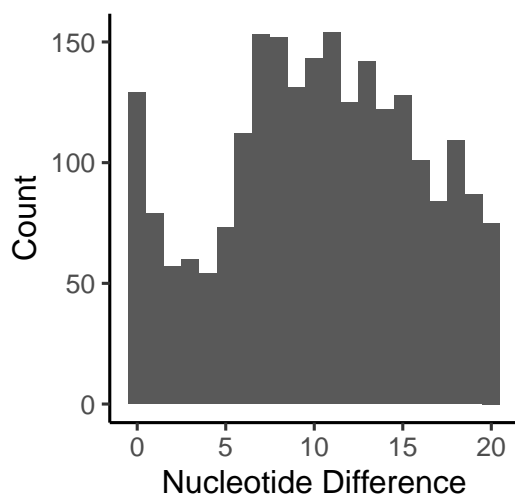
### IGHV3-66\*02

28 sequences assigned  
No exact matches.



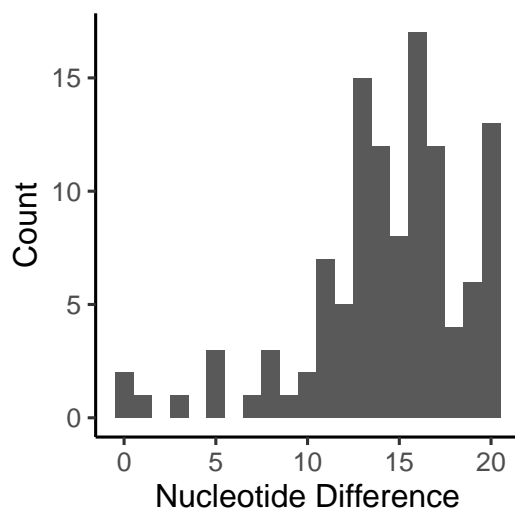
### IGHV3-53\*01\_02

3042 sequences assigned  
129 (4.2%) exact matches, in which:  
126 unique CDR3  
7 unique J



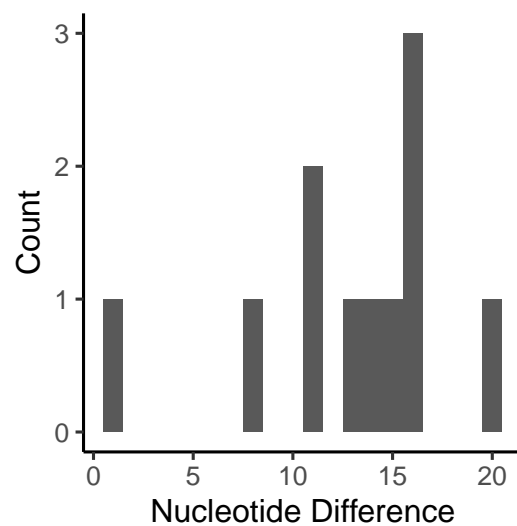
### IGHV3-64\*02\_07

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



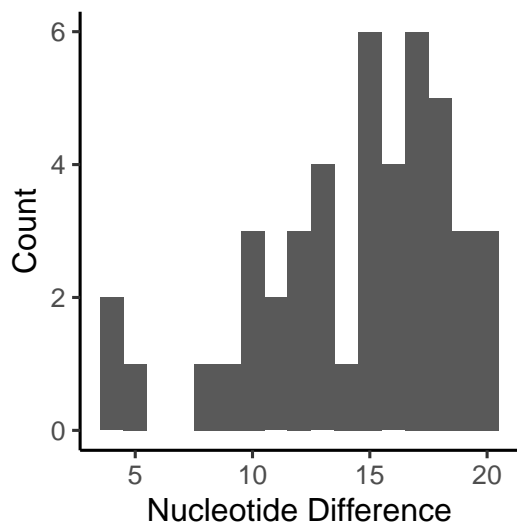
### IGHV3-66\*03

15 sequences assigned  
No exact matches.



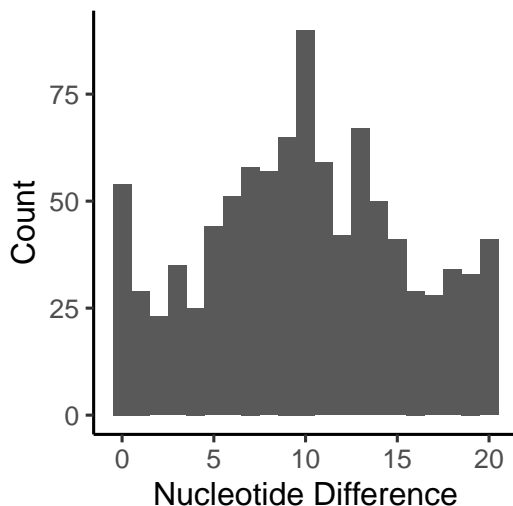
### IGHV3-69-1\*01

95 sequences assigned  
No exact matches.



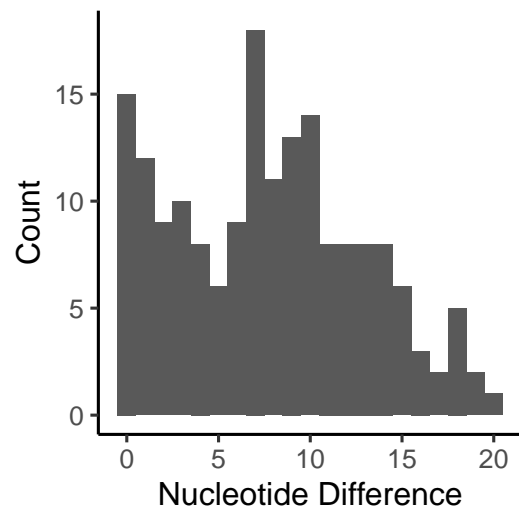
### IGHV3-73\*01\_02

1124 sequences assigned  
54 (4.8%) exact matches, in which:  
54 unique CDR3  
7 unique J



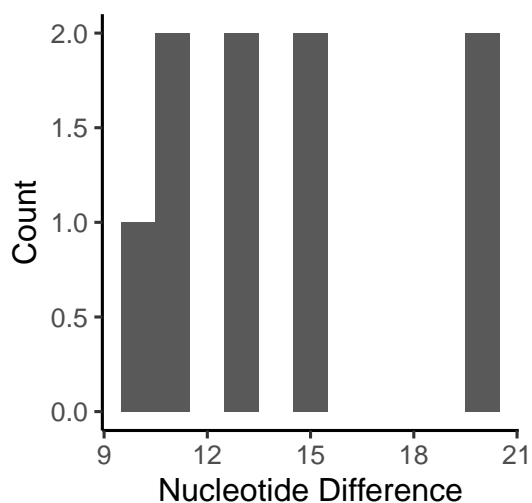
### IGHV3-43D\*03

187 sequences assigned  
15 (8%) exact matches, in which:  
14 unique CDR3  
2 unique J



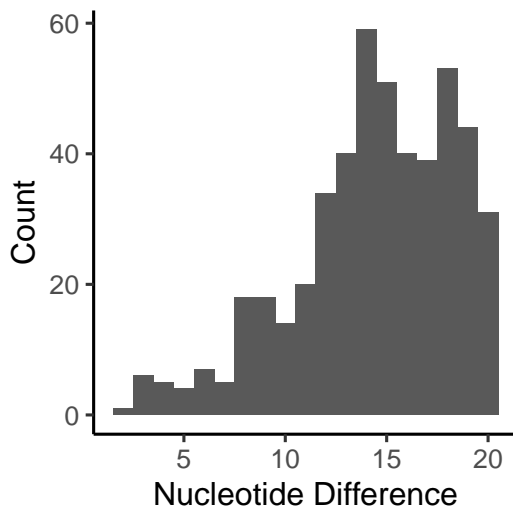
### IGHV3-69-1\*02

36 sequences assigned  
No exact matches.



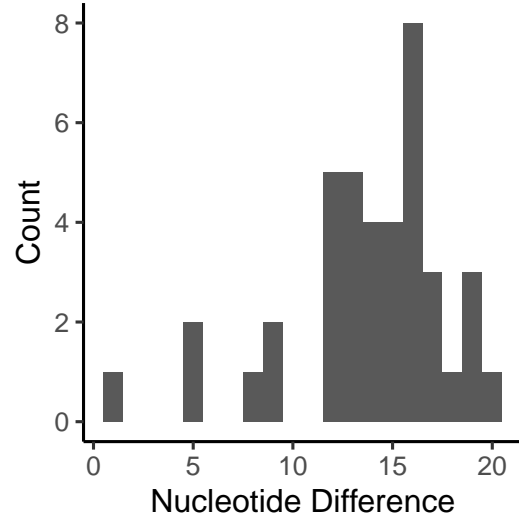
### IGHV3-74\*03

747 sequences assigned  
No exact matches.



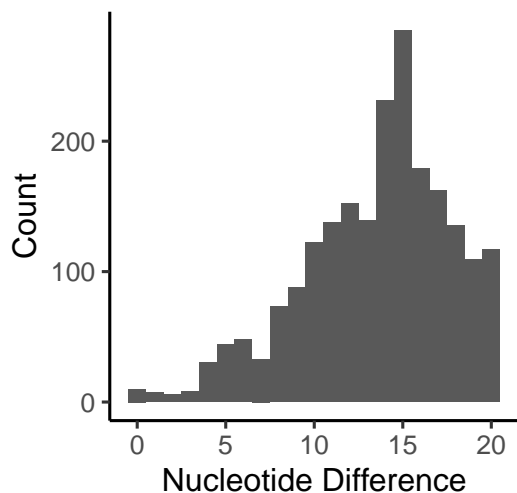
### IGHV3-43D\*04

72 sequences assigned  
No exact matches.



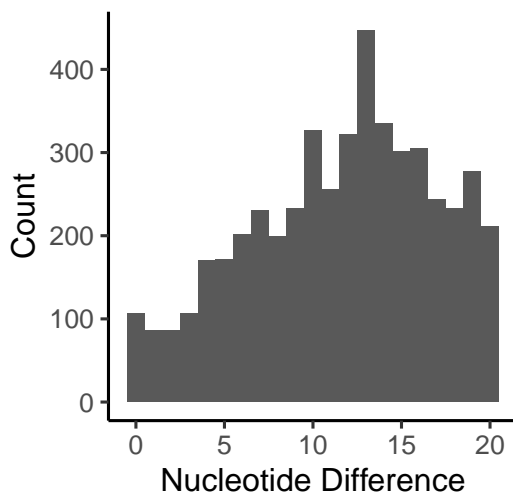
### IGHV3-72\*01

2895 sequences assigned  
10 (0.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



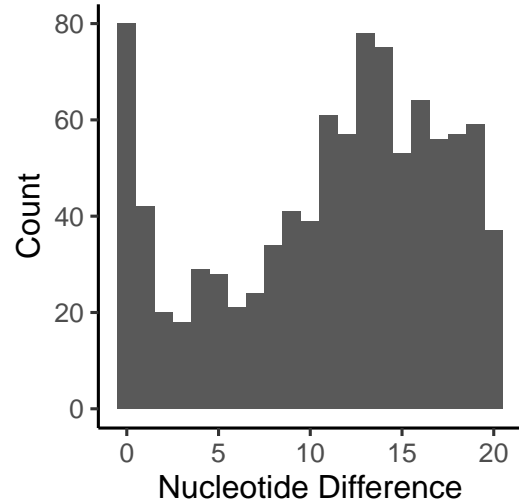
### IGHV3-74\*01\_02

5782 sequences assigned  
107 (1.9%) exact matches, in which:  
101 unique CDR3  
6 unique J



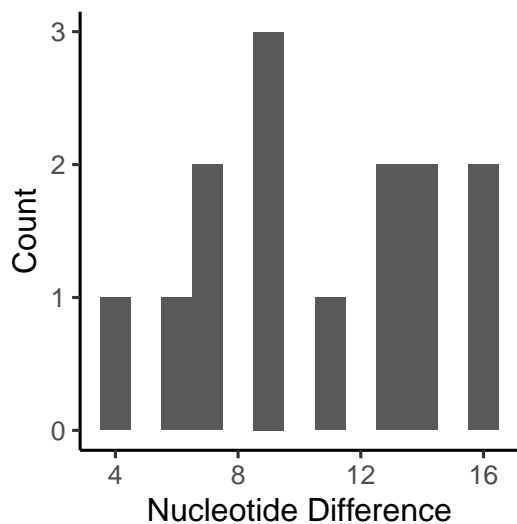
### IGHV3-64D\*06

1499 sequences assigned  
80 (5.3%) exact matches, in which:  
80 unique CDR3  
7 unique J



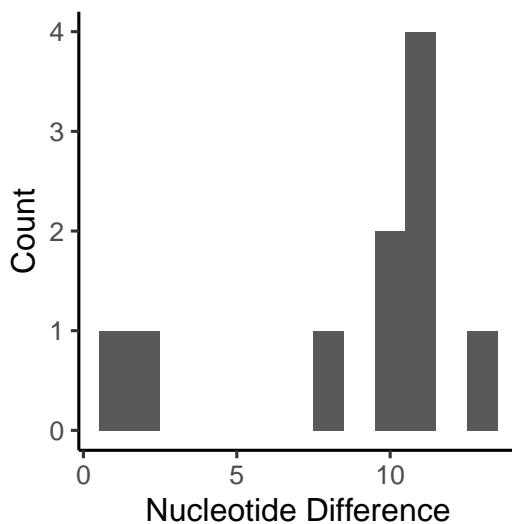
### IGHV3–NL1\*01

29 sequences assigned  
No exact matches.



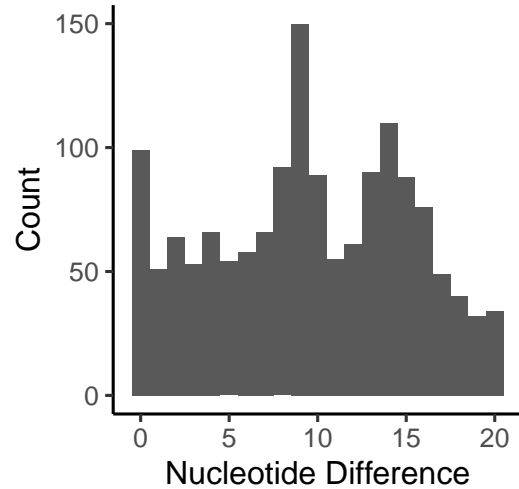
### IGHV4–28\*02\_05

10 sequences assigned  
No exact matches.



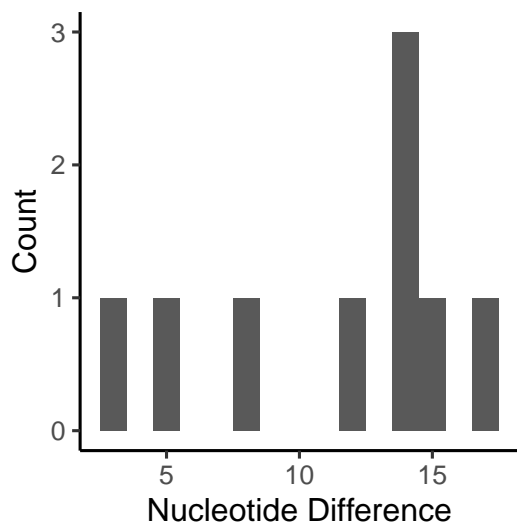
### IGHV4–31\*03\_04

1860 sequences assigned  
99 (5.3%) exact matches, in which:  
98 unique CDR3  
6 unique J



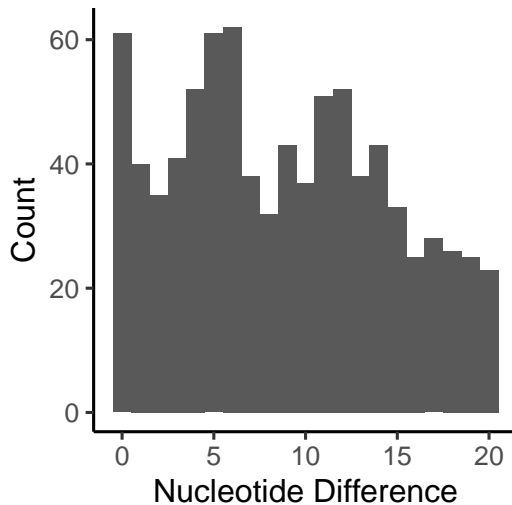
### IGHV4–28\*03

10 sequences assigned  
No exact matches.



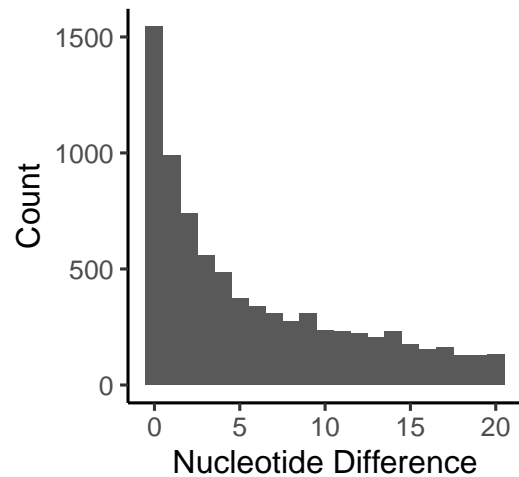
### IGHV4–30–4\*01

1147 sequences assigned  
61 (5.3%) exact matches, in which:  
60 unique CDR3  
7 unique J



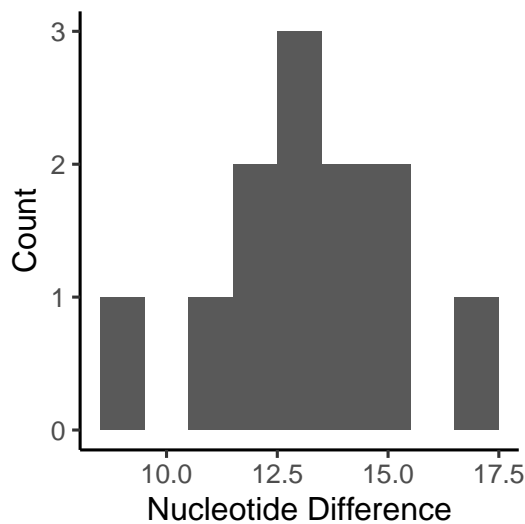
### IGHV4–34\*01\_02

8965 sequences assigned  
1544 (17.2%) exact matches, in which:  
1504 unique CDR3  
7 unique J



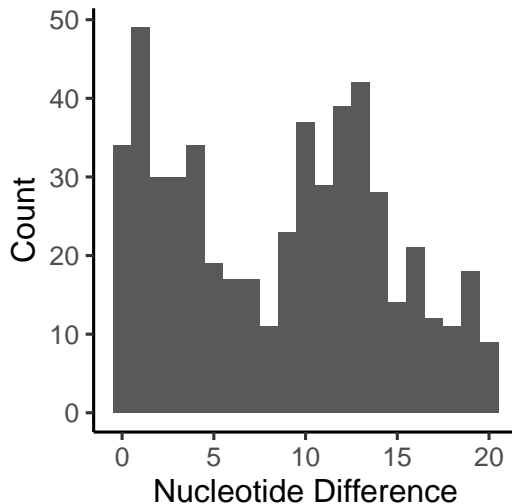
### IGHV4–28\*01\_07

13 sequences assigned  
No exact matches.



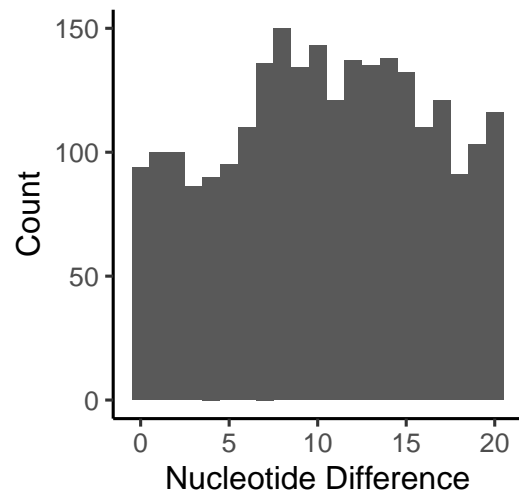
### IGHV4–30–2\*01

712 sequences assigned  
34 (4.8%) exact matches, in which:  
34 unique CDR3  
5 unique J



### IGHV4–38–2\*02

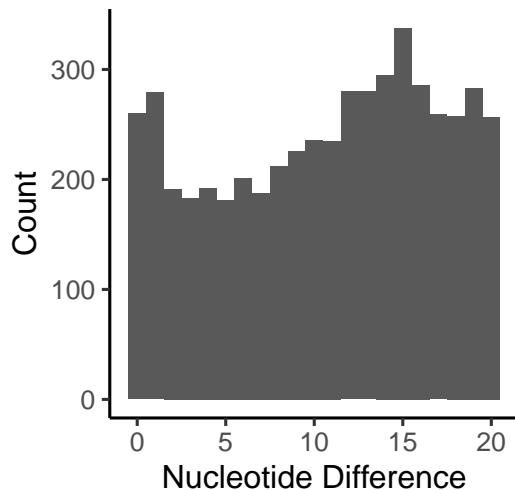
3462 sequences assigned  
94 (2.7%) exact matches, in which:  
92 unique CDR3  
7 unique J





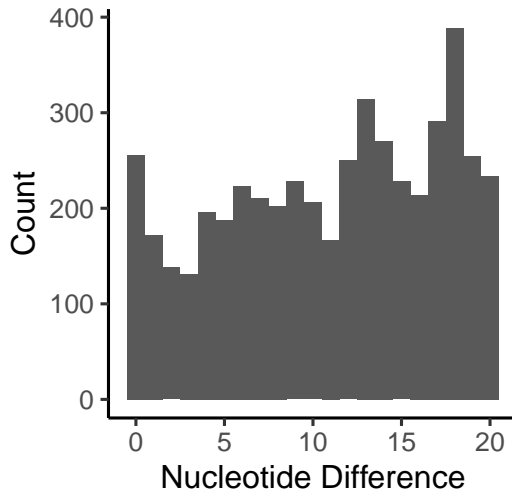
### IGHV4-39\*07

7235 sequences assigned  
260 (3.6%) exact matches, in which:  
257 unique CDR3  
7 unique J



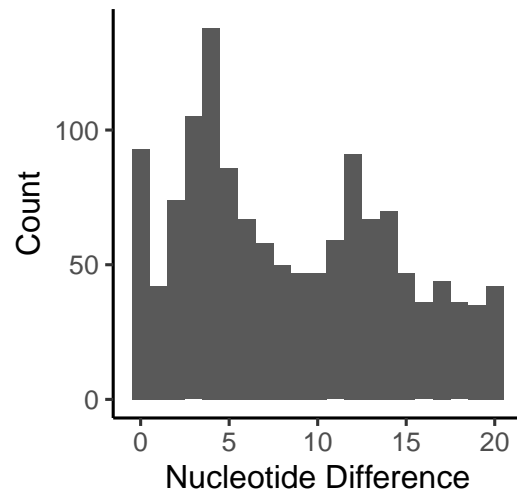
### IGHV4-59\*08

6322 sequences assigned  
256 (4%) exact matches, in which:  
251 unique CDR3  
7 unique J



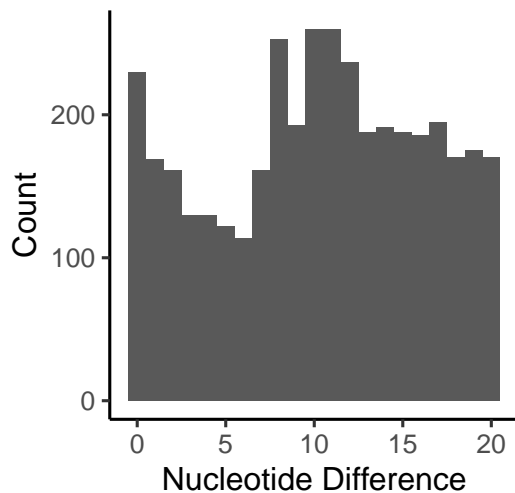
### IGHV4-61\*01

1796 sequences assigned  
93 (5.2%) exact matches, in which:  
91 unique CDR3  
7 unique J



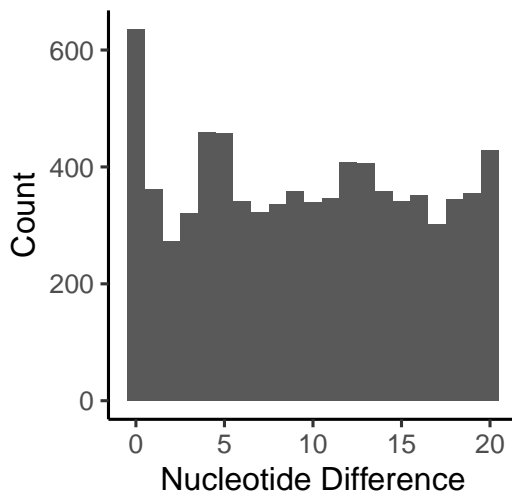
### IGHV4-39\*01\_05

6008 sequences assigned  
230 (3.8%) exact matches, in which:  
227 unique CDR3  
7 unique J



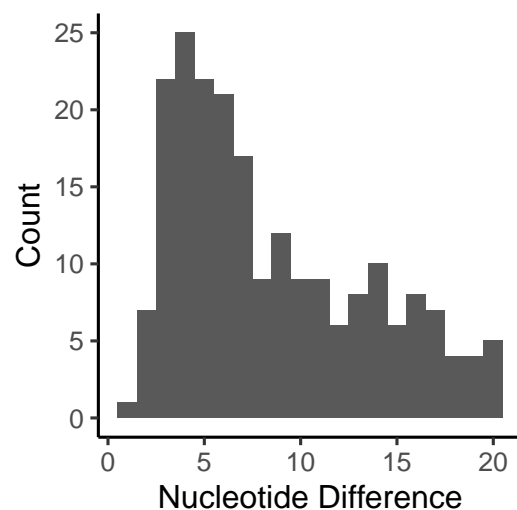
### IGHV4-59\*01\_07

10092 sequences assigned  
636 (6.3%) exact matches, in which:  
619 unique CDR3  
7 unique J



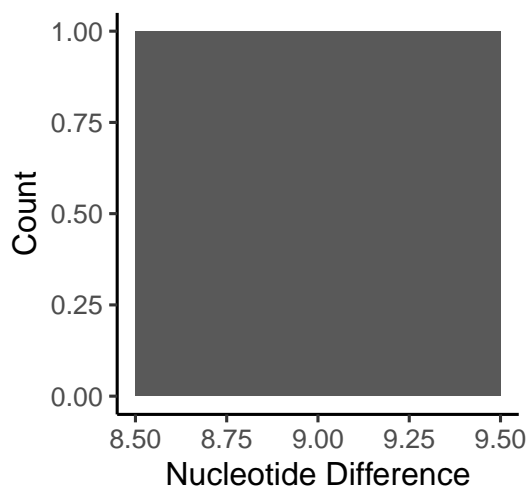
### IGHV4-61\*05

262 sequences assigned  
No exact matches.



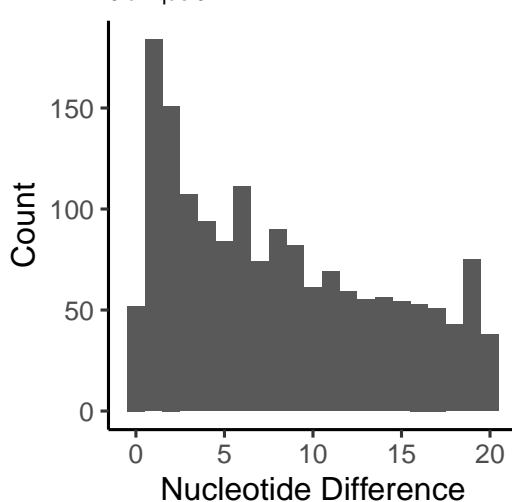
### IGHV4-55\*02\_04\_08

1 sequences assigned  
No exact matches.



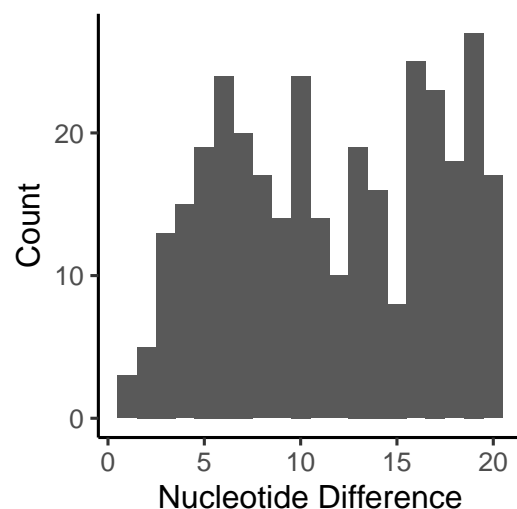
### IGHV4-59\*12

2054 sequences assigned  
52 (2.5%) exact matches, in which:  
52 unique CDR3  
6 unique J



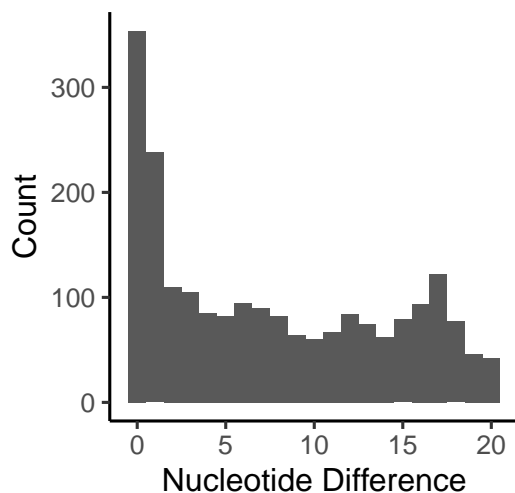
### IGHV4-61\*08

527 sequences assigned  
No exact matches.



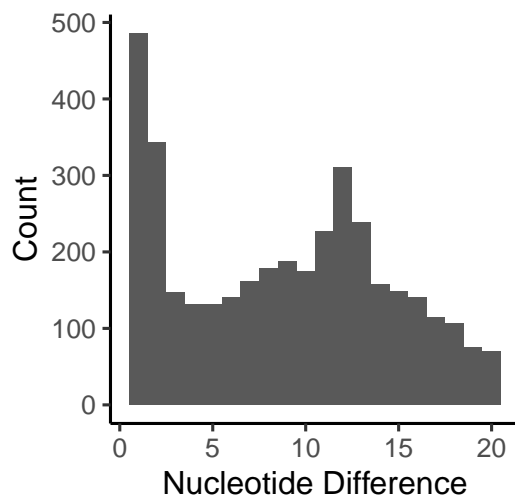
### IGHV5-10-1\*01\_03

2364 sequences assigned  
354 (15%) exact matches, in which:  
350 unique CDR3  
7 unique J



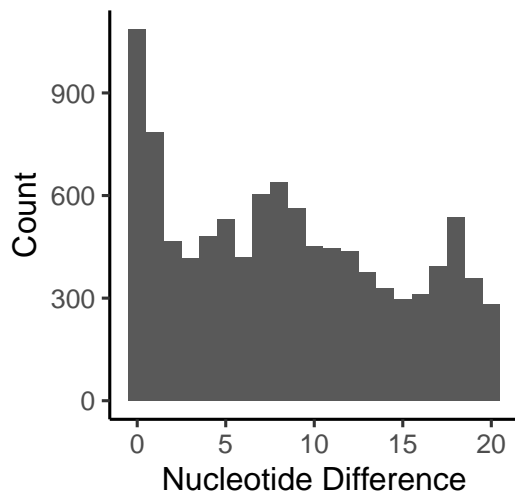
### IGHV7-4-1\*02

4444 sequences assigned  
No exact matches.



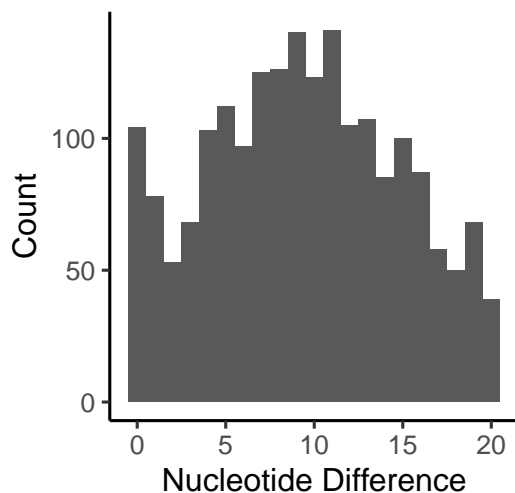
### IGHV5-51\*01\_03

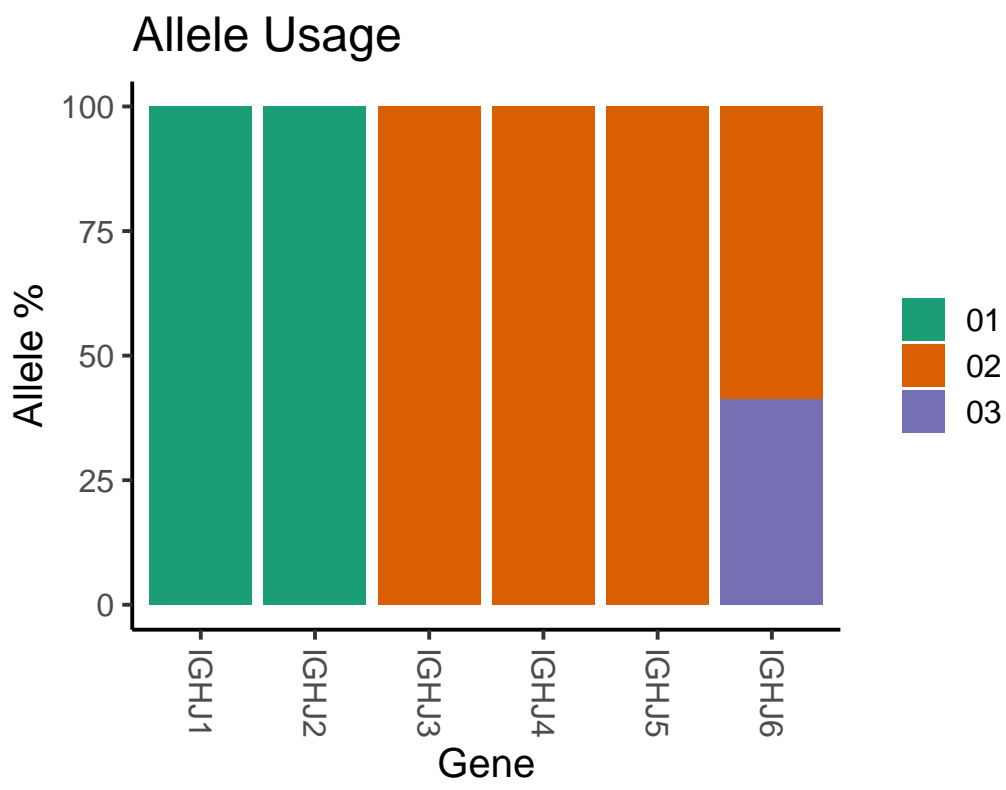
11656 sequences assigned  
1087 (9.3%) exact matches, in which:  
1047 unique CDR3  
7 unique J



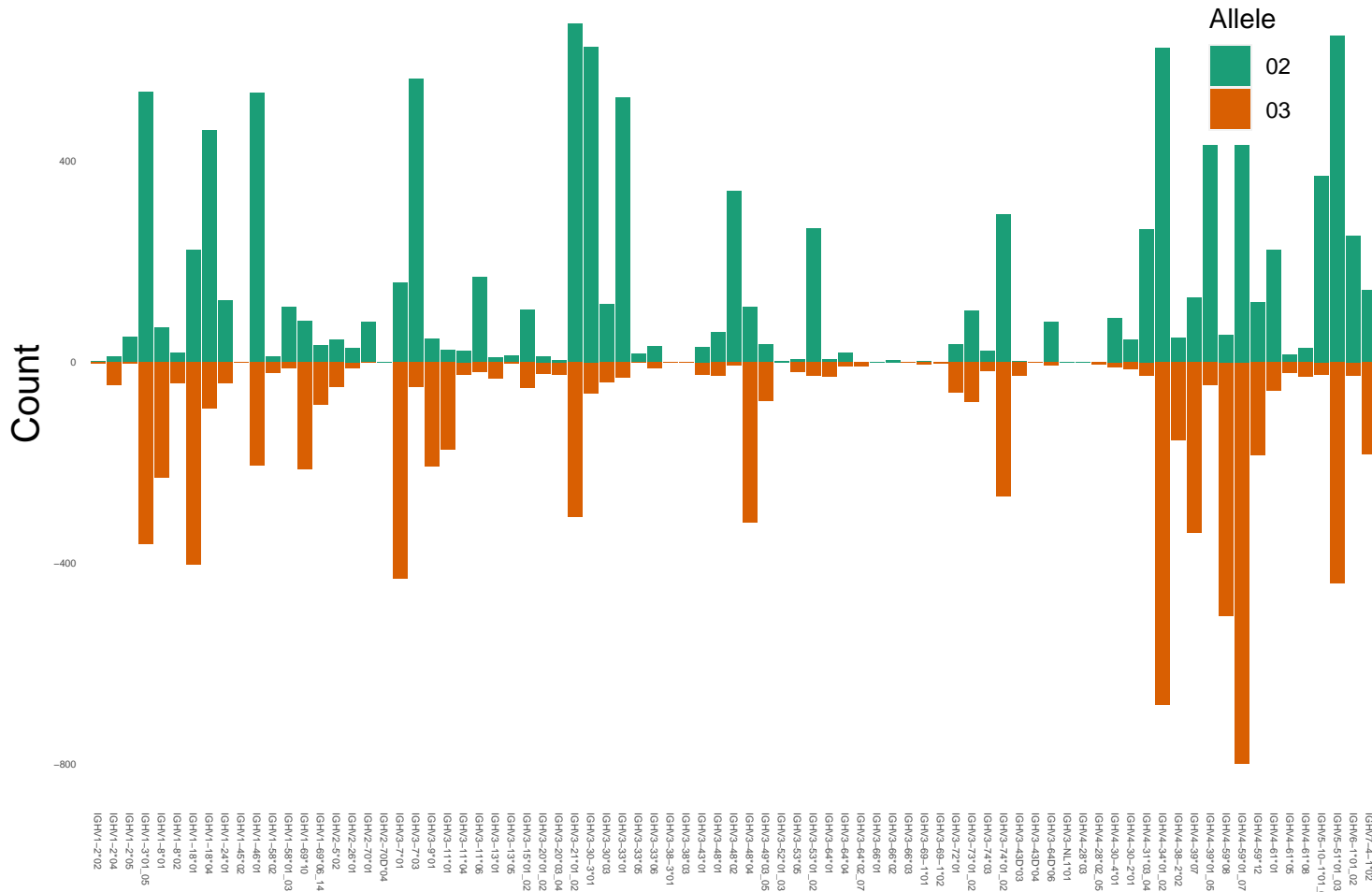
### IGHV6-1\*01\_02

2101 sequences assigned  
104 (5%) exact matches, in which:  
104 unique CDR3  
7 unique J





Sequence Count by IGHJ6 allele usage



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)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)IGHV7-4-1\*02\_T63C are not listed in the genotype and will be ignored.