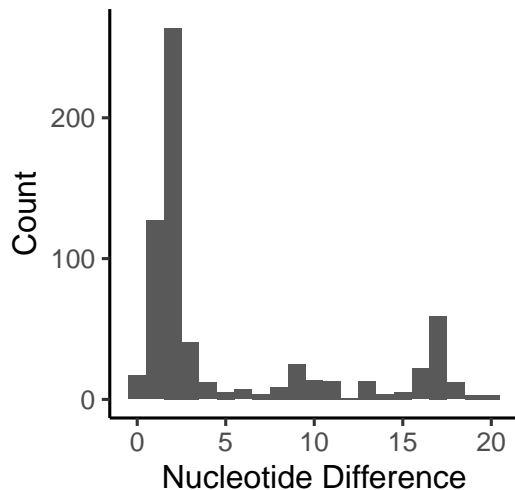


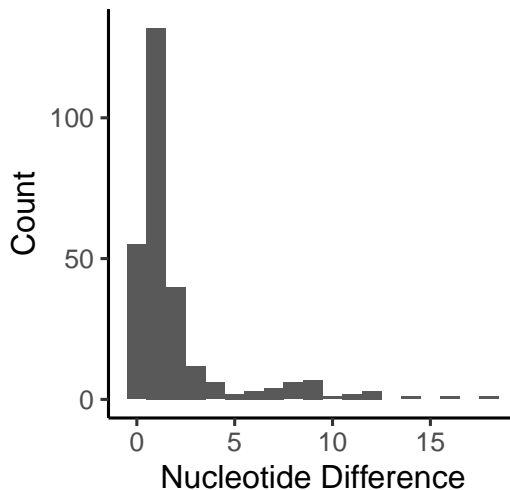
### IGHV1-2\*02

731 sequences assigned  
17 (2.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



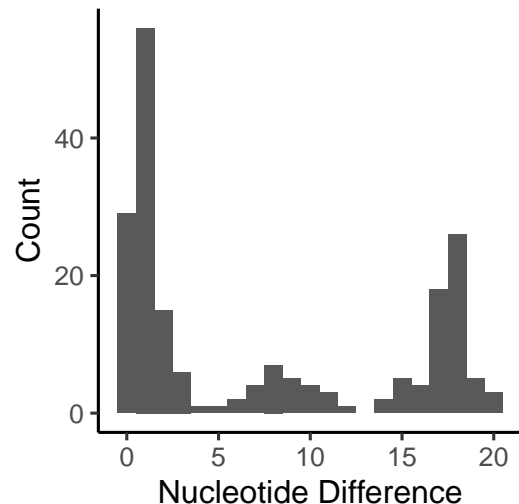
### IGHV1-8\*01

278 sequences assigned  
55 (19.8%) exact matches, in which:  
39 unique CDR3  
4 unique J



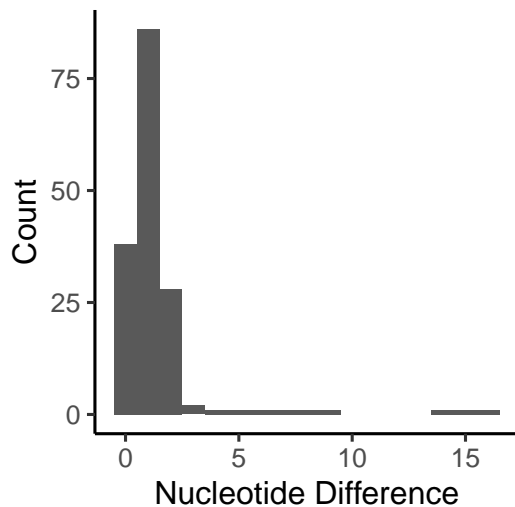
### IGHV1-46\*01

228 sequences assigned  
29 (12.7%) exact matches, in which:  
29 unique CDR3  
4 unique J



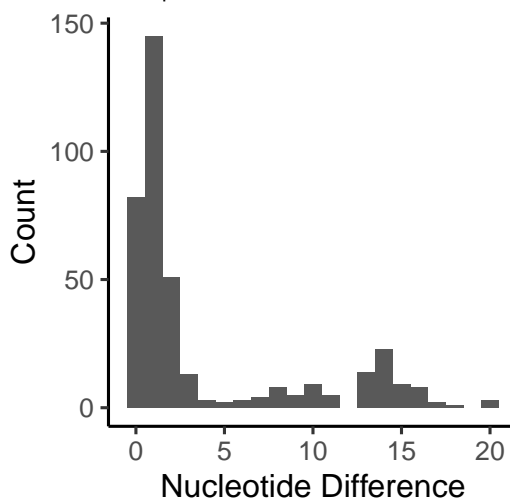
### IGHV1-2\*04

164 sequences assigned  
38 (23.2%) exact matches, in which:  
29 unique CDR3  
4 unique J



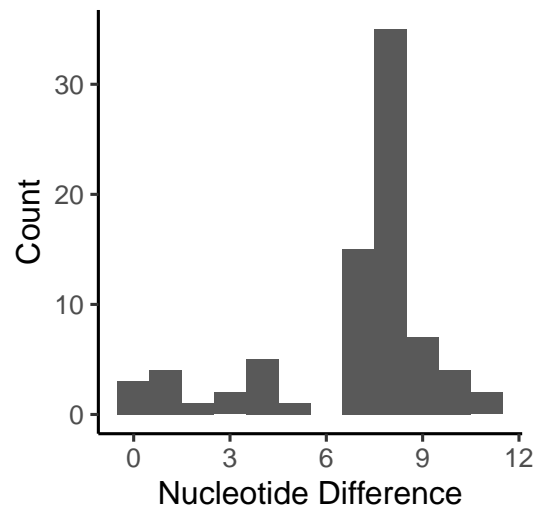
### IGHV1-18\*01

433 sequences assigned  
82 (18.9%) exact matches, in which:  
67 unique CDR3  
4 unique J



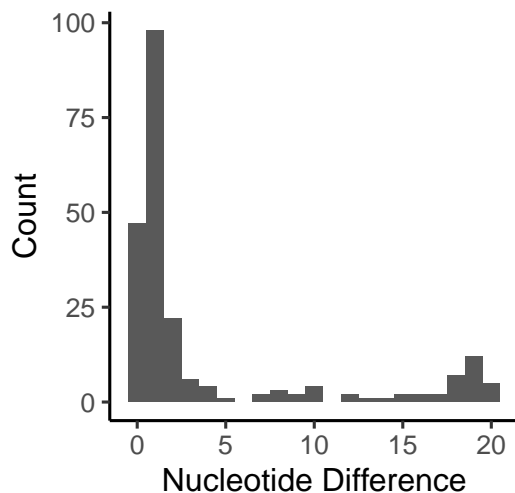
### IGHV1-58\*01\_03

79 sequences assigned  
3 (3.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



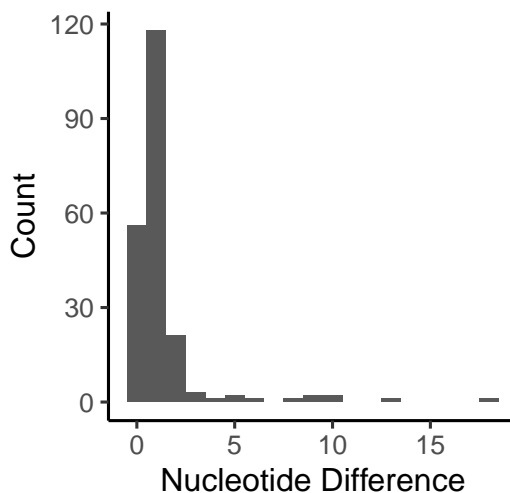
### IGHV1-3\*01\_05

238 sequences assigned  
47 (19.7%) exact matches, in which:  
36 unique CDR3  
4 unique J



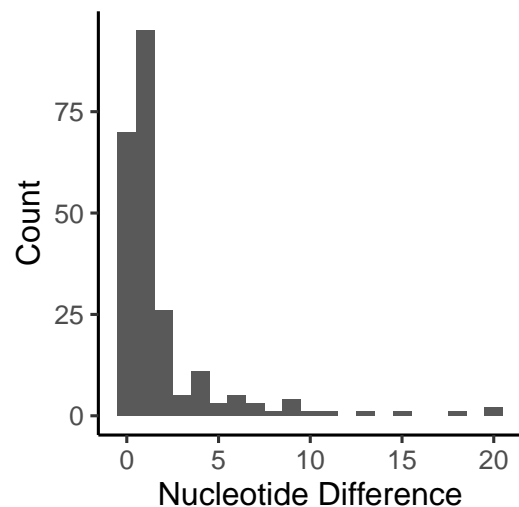
### IGHV1-24\*01

209 sequences assigned  
56 (26.8%) exact matches, in which:  
37 unique CDR3  
4 unique J



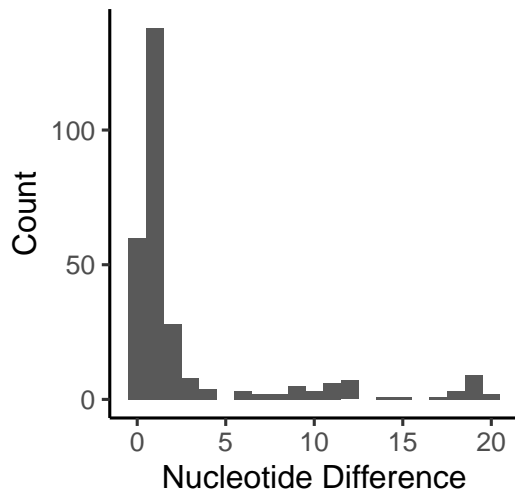
### IGHV1-69\*01\_12\_13

244 sequences assigned  
70 (28.7%) exact matches, in which:  
62 unique CDR3  
5 unique J



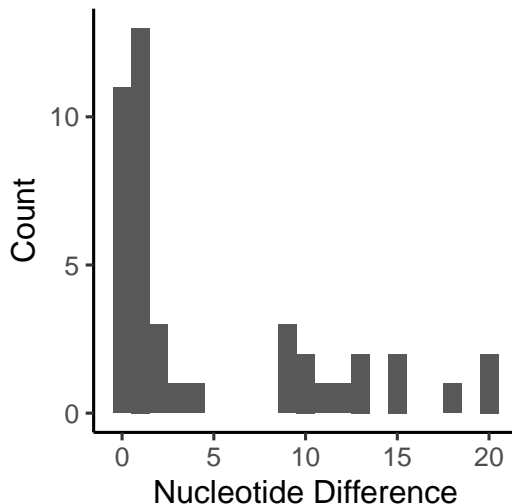
### IGHV1–69\*04\_09

292 sequences assigned  
60 (20.5%) exact matches, in which:  
44 unique CDR3  
4 unique J



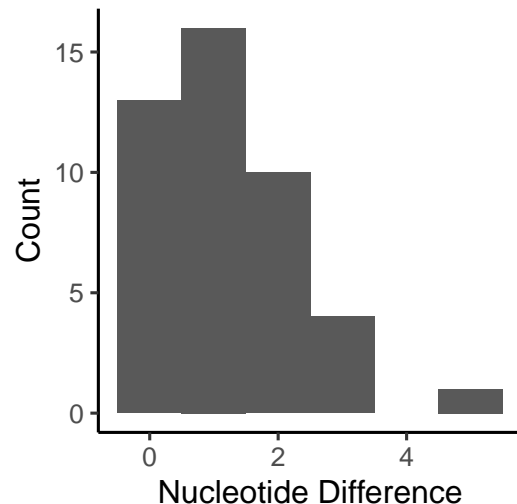
### IGHV2–5\*02

44 sequences assigned  
11 (25%) exact matches, in which:  
11 unique CDR3  
4 unique J



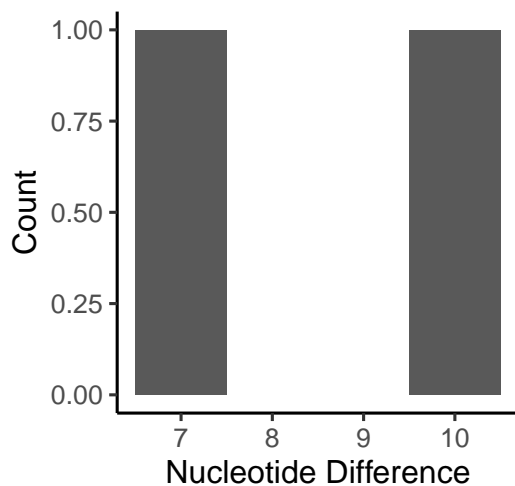
### IGHV2–70\*11\_15

44 sequences assigned  
13 (29.5%) exact matches, in which:  
11 unique CDR3  
3 unique J



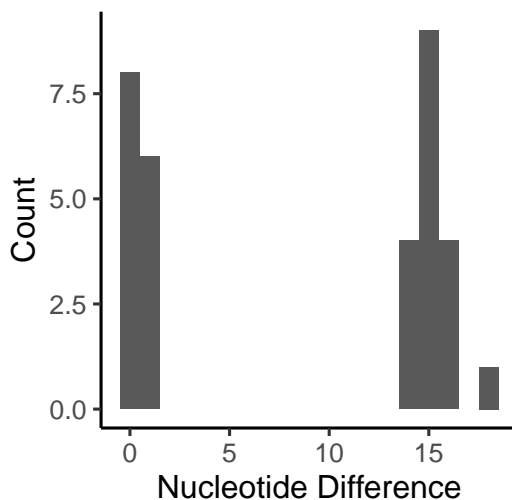
### IGHV1–NL1\*01

2 sequences assigned  
No exact matches.



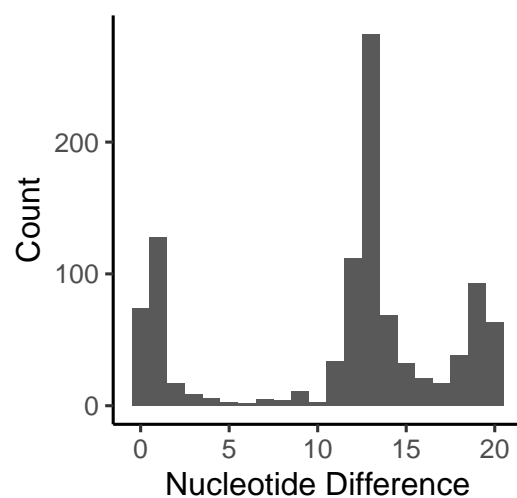
### IGHV2–26\*01

33 sequences assigned  
8 (24.2%) exact matches, in which:  
7 unique CDR3  
3 unique J



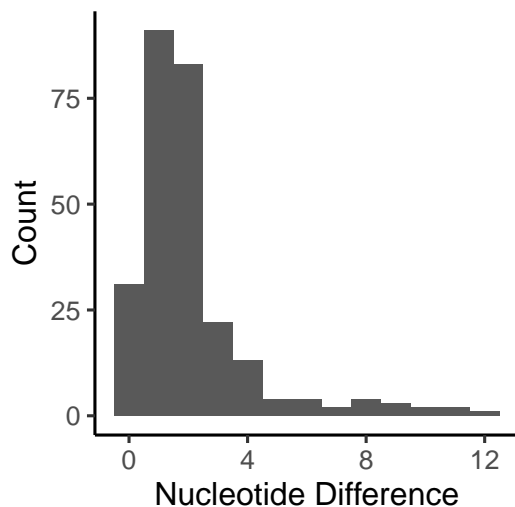
### IGHV3–7\*01

1071 sequences assigned  
74 (6.9%) exact matches, in which:  
44 unique CDR3  
4 unique J



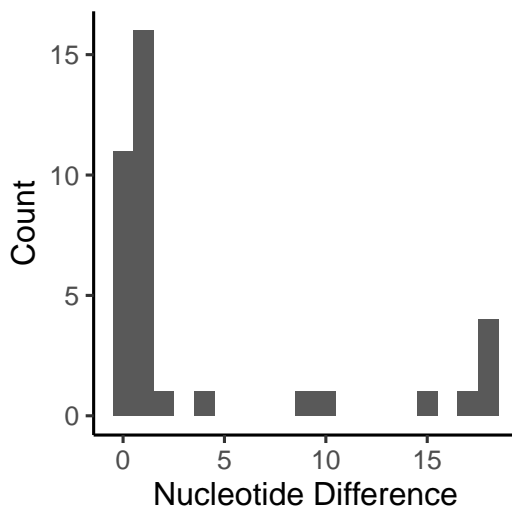
### IGHV2–5\*01

267 sequences assigned  
31 (11.6%) exact matches, in which:  
22 unique CDR3  
3 unique J



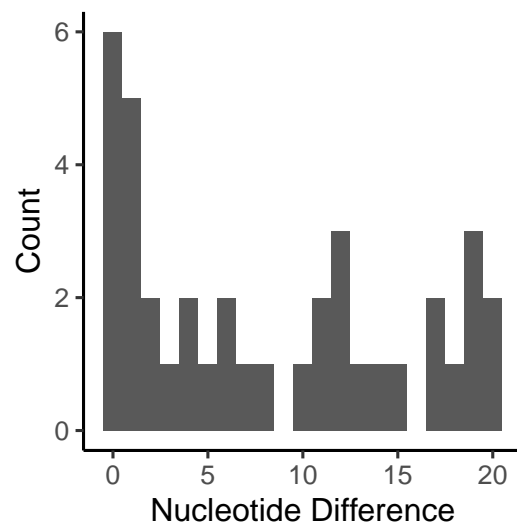
### IGHV2–70\*01

47 sequences assigned  
11 (23.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



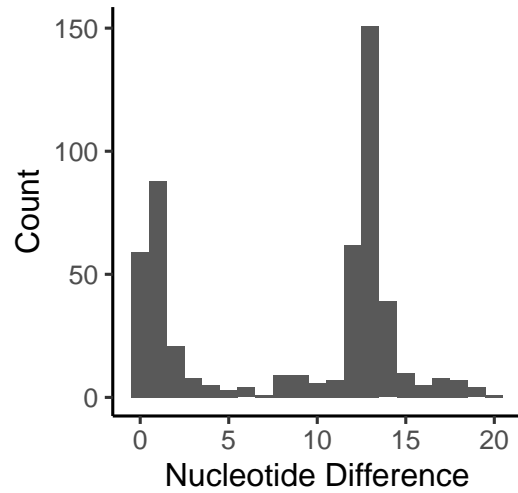
### IGHV3–7\*03

216 sequences assigned  
6 (2.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



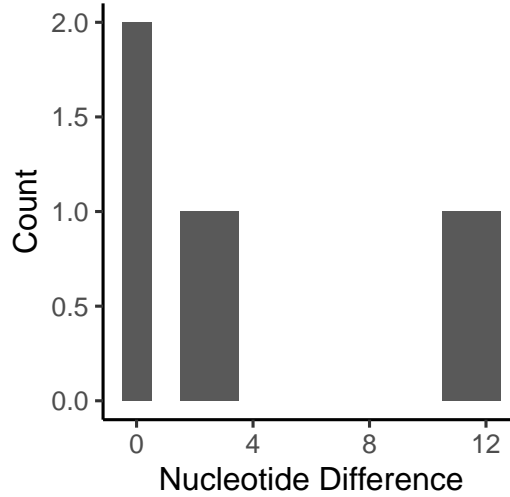
### IGHV3-7\*04

516 sequences assigned  
59 (11.4%) exact matches, in which:  
33 unique CDR3  
5 unique J



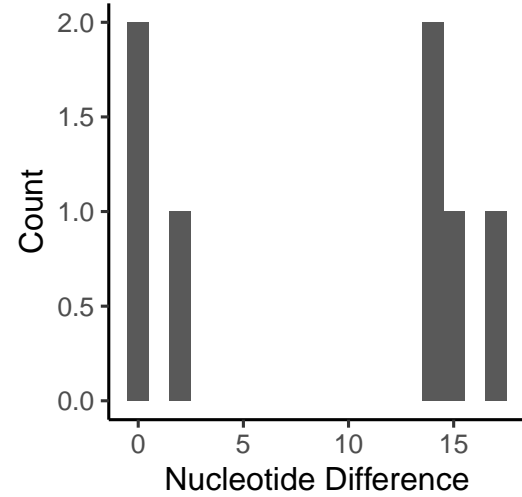
### IGHV3-11\*04

9 sequences assigned  
2 (22.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



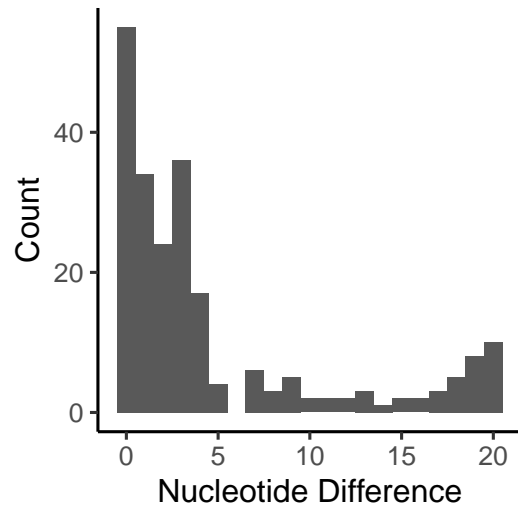
### IGHV3-13\*04

7 sequences assigned  
2 (28.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



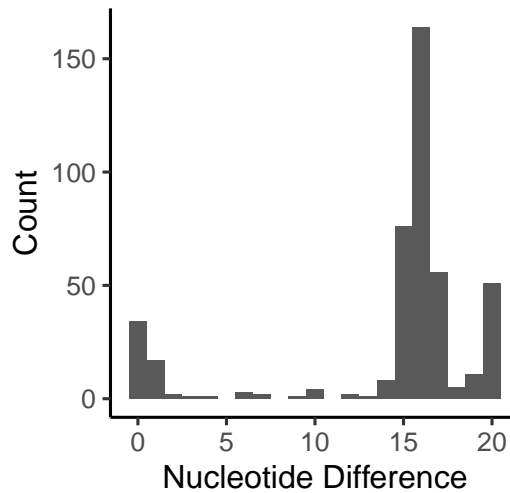
### IGHV3-9\*01

338 sequences assigned  
55 (16.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



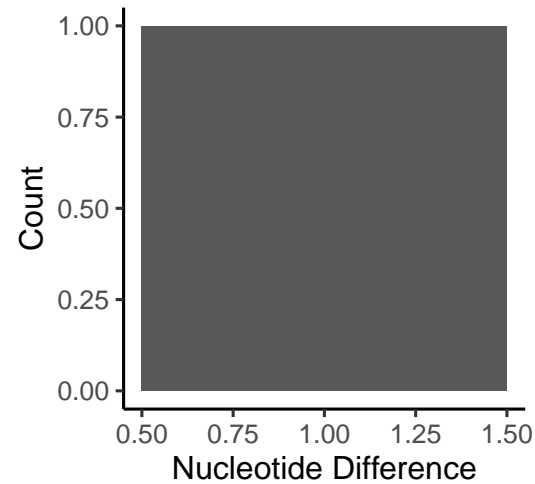
### IGHV3-11\*03\_05

631 sequences assigned  
34 (5.4%) exact matches, in which:  
22 unique CDR3  
5 unique J



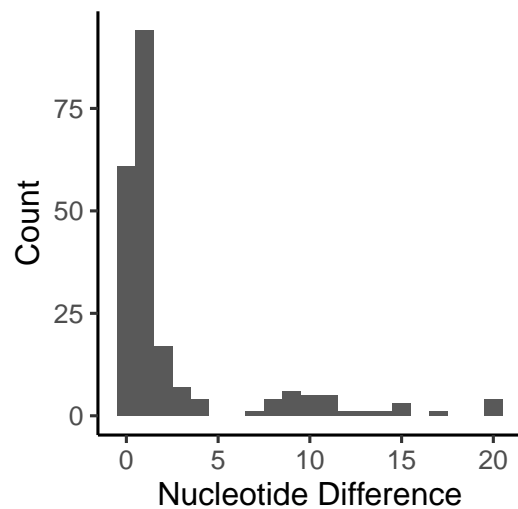
### IGHV3-13\*05

1 sequences assigned  
No exact matches.



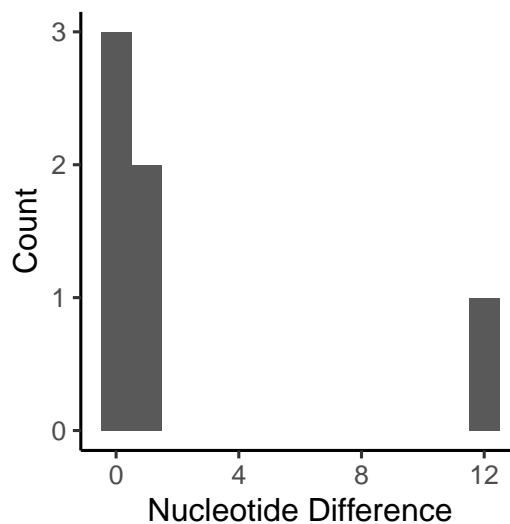
### IGHV3-11\*01

431 sequences assigned  
61 (14.2%) exact matches, in which:  
38 unique CDR3  
3 unique J



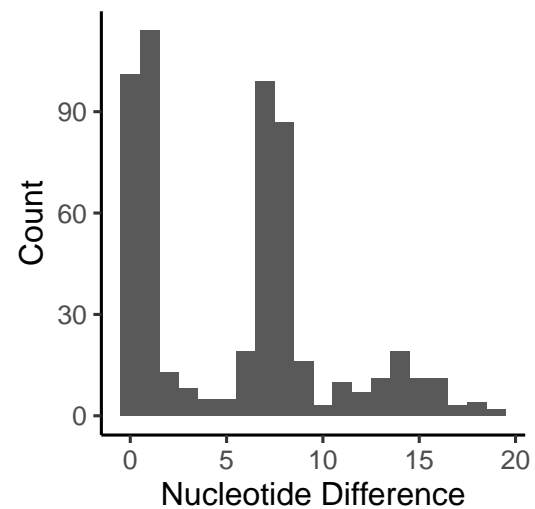
### IGHV3-13\*01

6 sequences assigned  
3 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



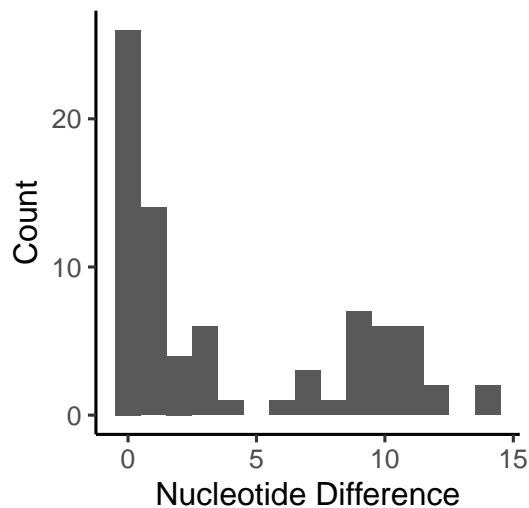
### IGHV3-15\*01\_02

775 sequences assigned  
101 (13%) exact matches, in which:  
57 unique CDR3  
5 unique J



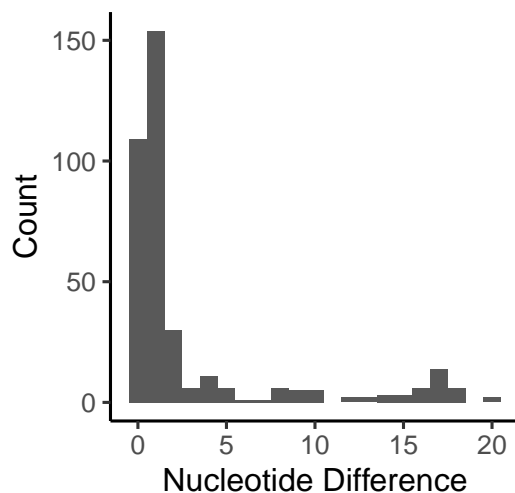
### IGHV3-20\*03\_04

82 sequences assigned  
26 (31.7%) exact matches, in which:  
15 unique CDR3  
3 unique J



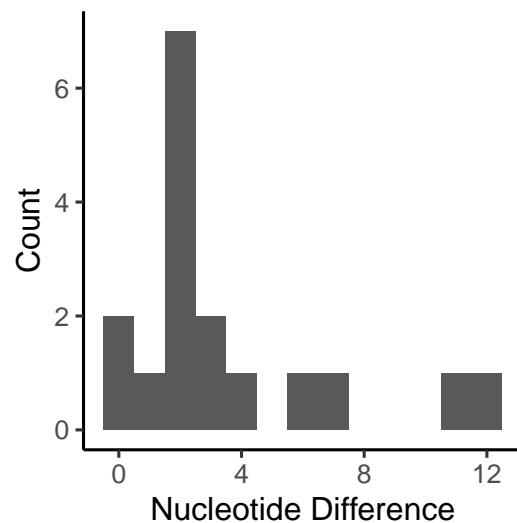
### IGHV3-30\*01

383 sequences assigned  
109 (28.5%) exact matches, in which:  
57 unique CDR3  
4 unique J



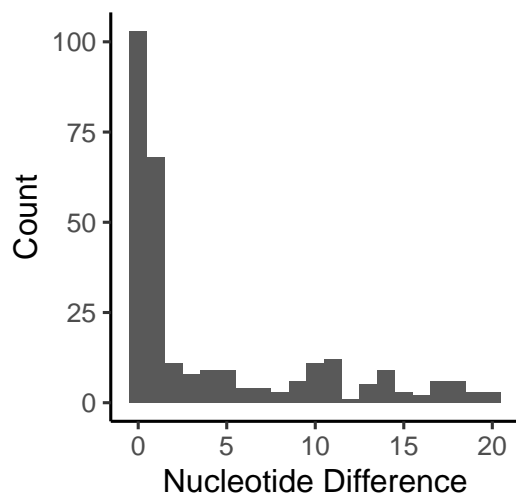
### IGHV3-30\*07

17 sequences assigned  
2 (11.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



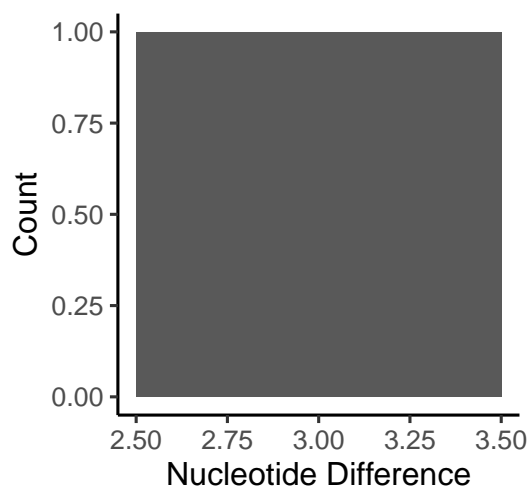
### IGHV3-21\*01\_02

301 sequences assigned  
103 (34.2%) exact matches, in which:  
63 unique CDR3  
5 unique J



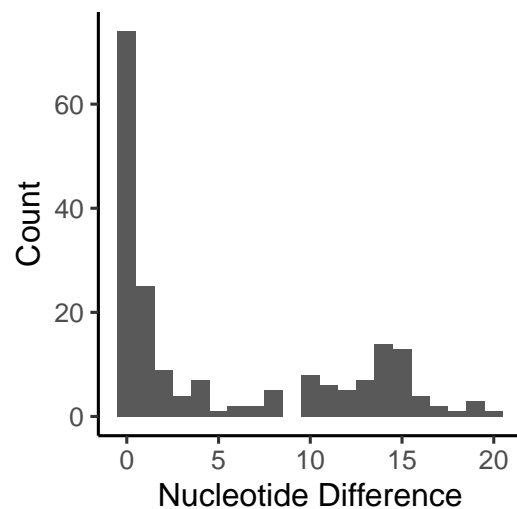
### IGHV3-30-3\*01

2 sequences assigned  
No exact matches.



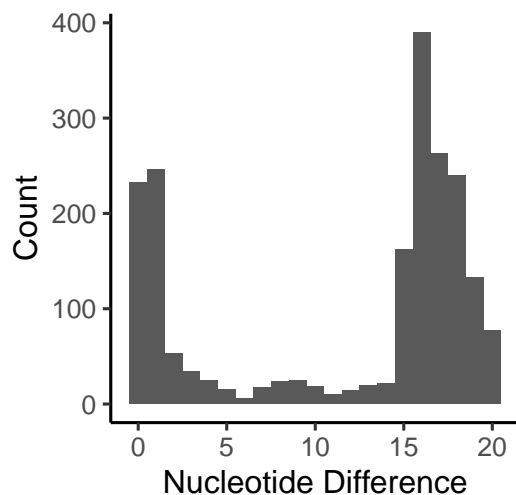
### IGHV3-33\*01

317 sequences assigned  
74 (23.3%) exact matches, in which:  
52 unique CDR3  
5 unique J



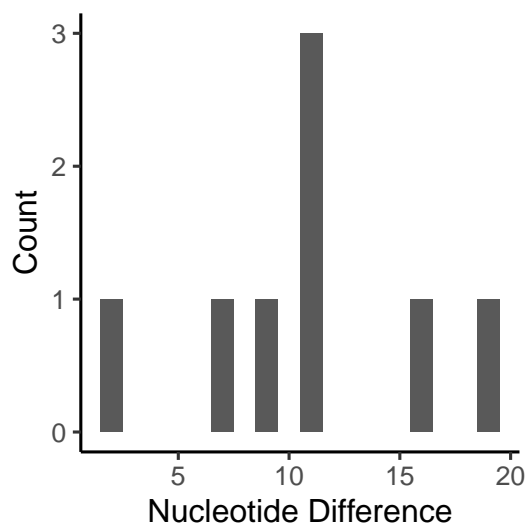
### IGHV3-23\*01\_04

2883 sequences assigned  
232 (8%) exact matches, in which:  
133 unique CDR3  
5 unique J



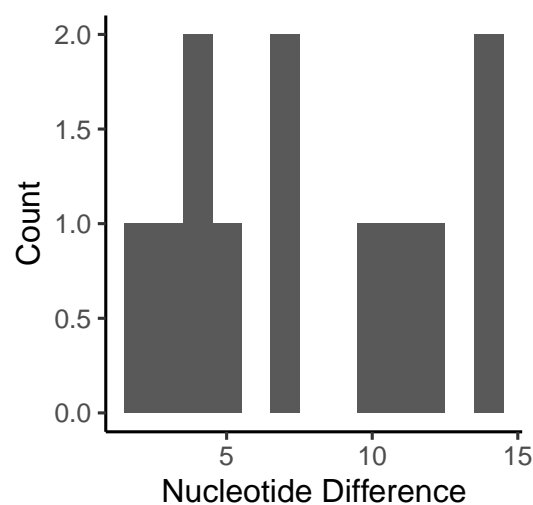
### IGHV3-30-3\*03

9 sequences assigned  
No exact matches.



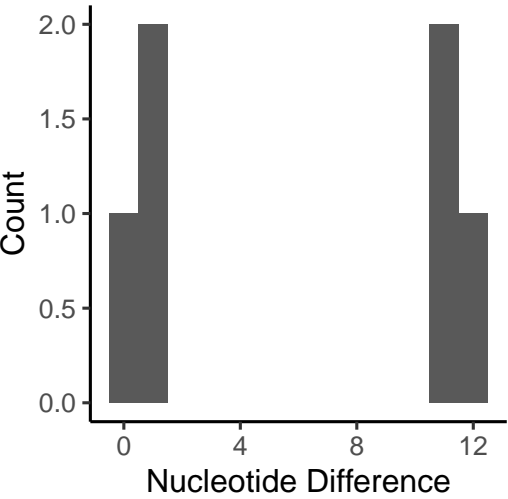
### IGHV3-33\*05

12 sequences assigned  
No exact matches.



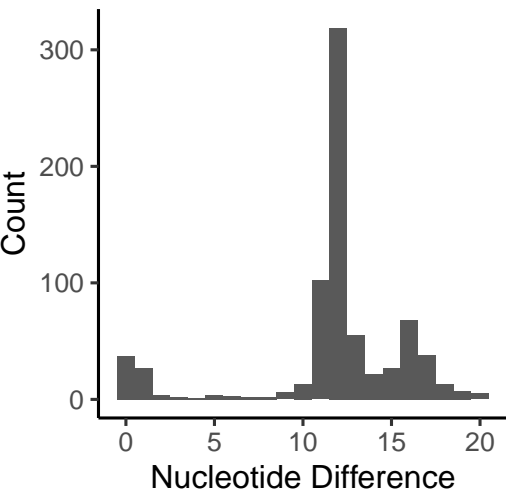
IGHV3-43\*01

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



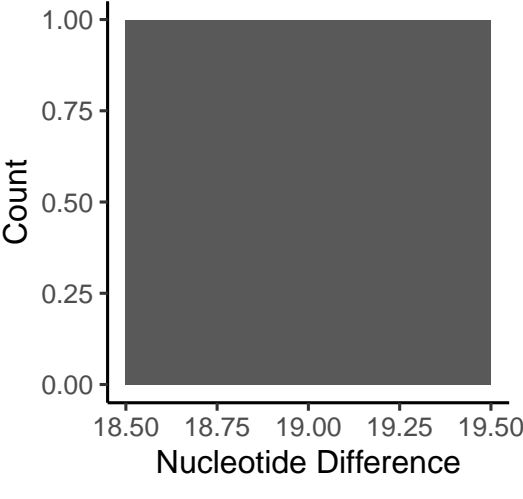
IGHV3-48\*03

802 sequences assigned  
37 (4.6%) exact matches, in which:  
24 unique CDR3  
4 unique J



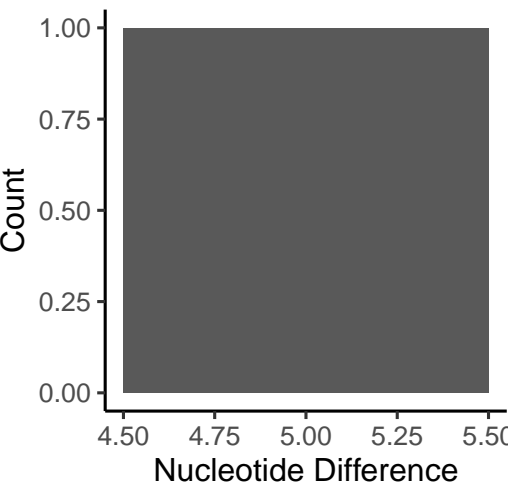
IGHV3-53\*05

5 sequences assigned  
No exact matches.



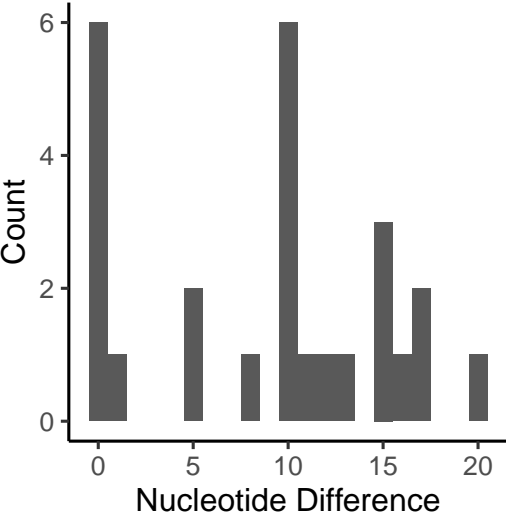
IGHV3-43\*02

1 sequences assigned  
No exact matches.



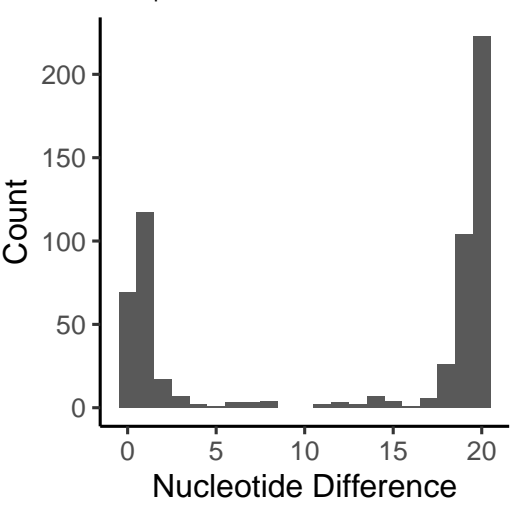
IGHV3-49\*04

209 sequences assigned  
6 (2.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



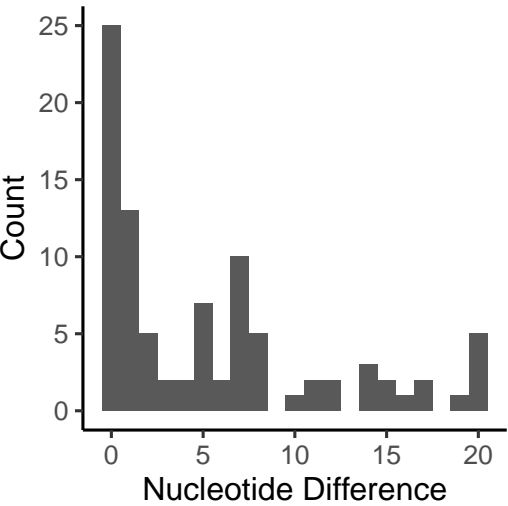
IGHV3-53\*01\_02

2507 sequences assigned  
69 (2.8%) exact matches, in which:  
38 unique CDR3  
3 unique J



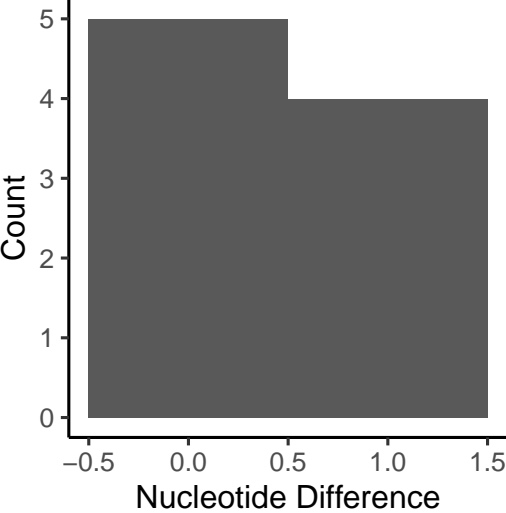
IGHV3-48\*02

207 sequences assigned  
25 (12.1%) exact matches, in which:  
18 unique CDR3  
4 unique J



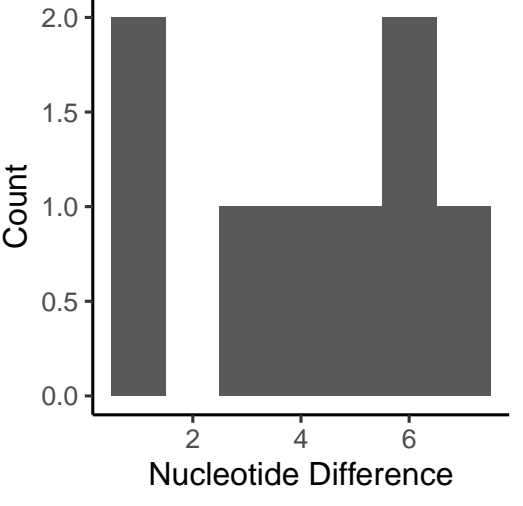
IGHV3-49\*03\_05

10 sequences assigned  
5 (50%) exact matches, in which:  
3 unique CDR3  
2 unique J



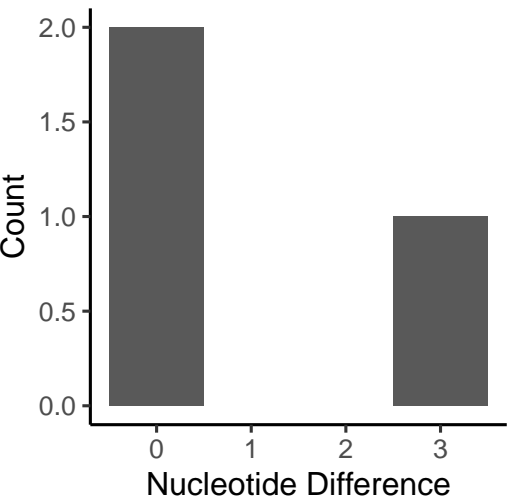
IGHV3-64\*04

8 sequences assigned  
No exact matches.



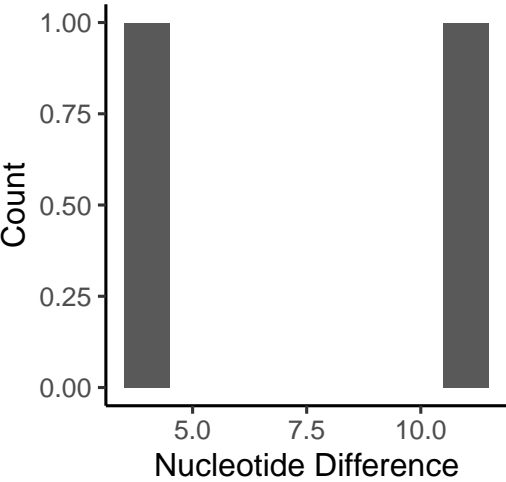
IGHV3-64\*02\_07

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



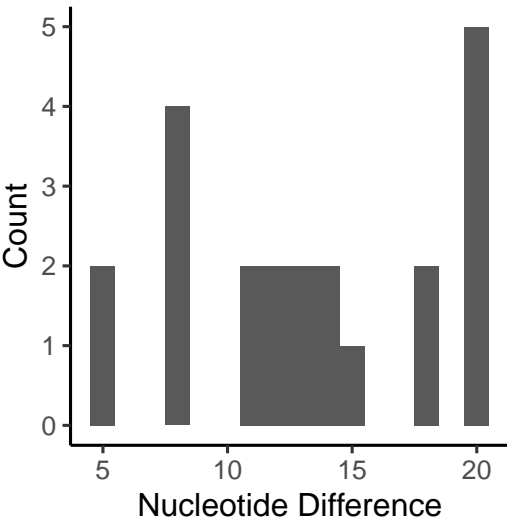
IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



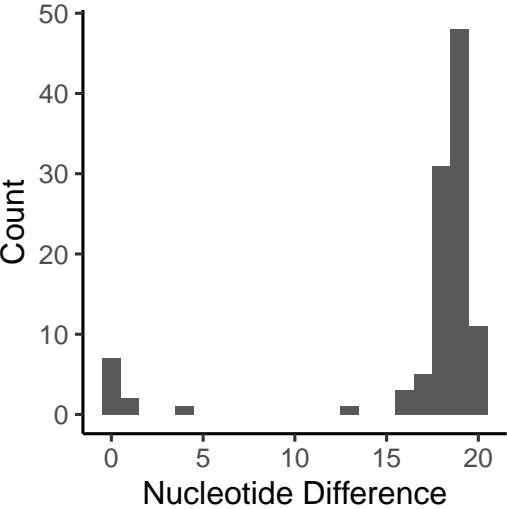
IGHV3-74\*03

79 sequences assigned  
No exact matches.



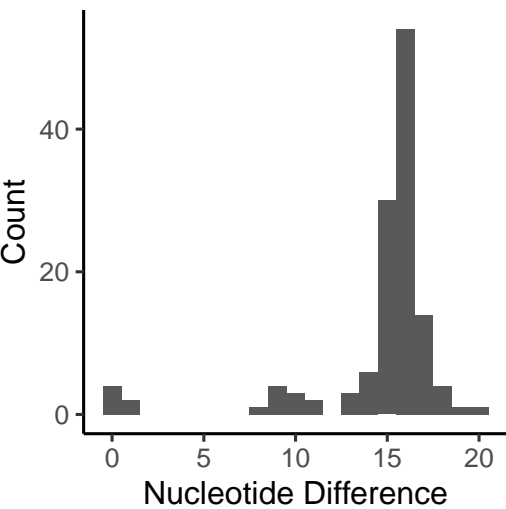
IGHV3-66\*01

124 sequences assigned  
7 (5.6%) exact matches, in which:  
5 unique CDR3  
2 unique J



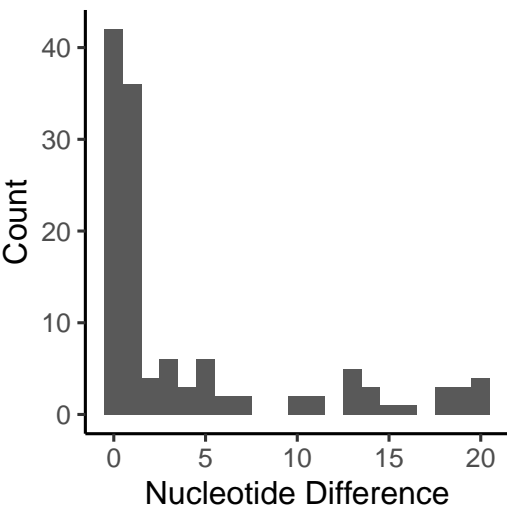
IGHV3-72\*01

168 sequences assigned  
4 (2.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



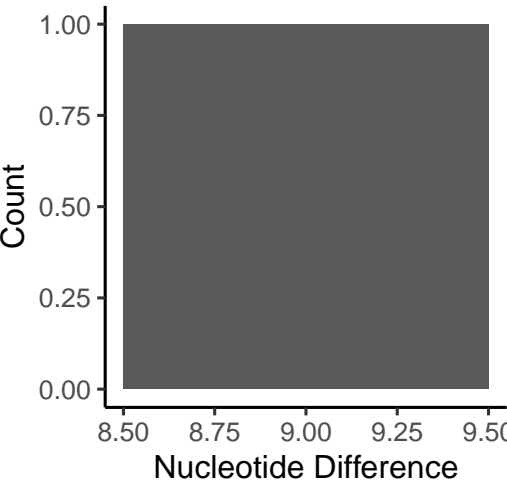
IGHV3-74\*01\_02

136 sequences assigned  
42 (30.9%) exact matches, in which:  
28 unique CDR3  
6 unique J



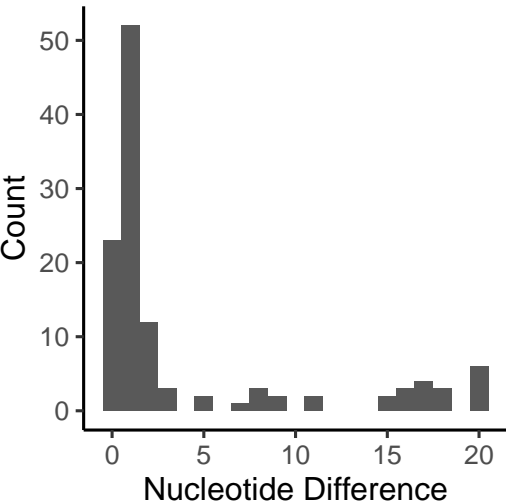
IGHV3-66\*04

2 sequences assigned  
No exact matches.



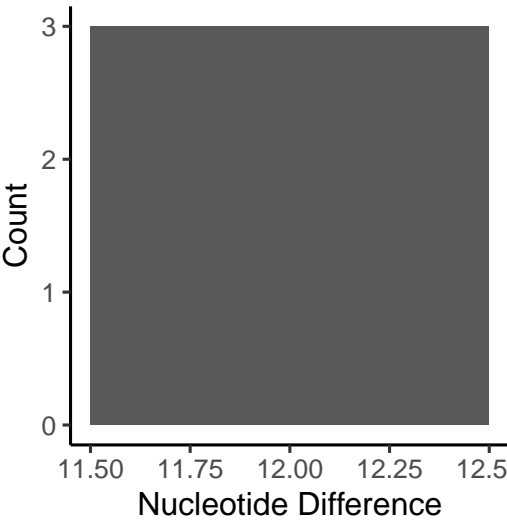
IGHV3-73\*01\_02

142 sequences assigned  
23 (16.2%) exact matches, in which:  
13 unique CDR3  
2 unique J



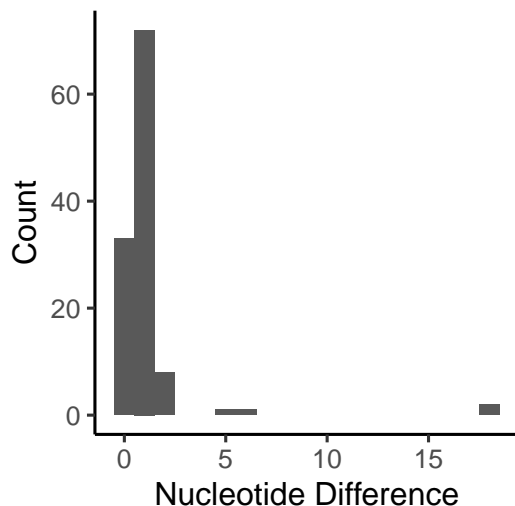
IGHV3-43D\*04

3 sequences assigned  
No exact matches.



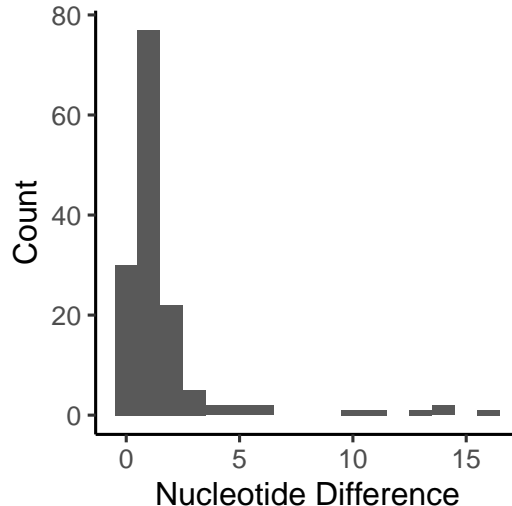
### IGHV3-64D\*06

120 sequences assigned  
33 (27.5%) exact matches, in which:  
15 unique CDR3  
2 unique J



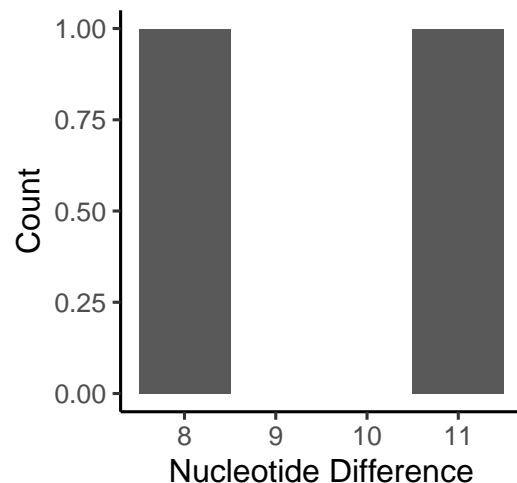
### IGHV4-4\*07

166 sequences assigned  
30 (18.1%) exact matches, in which:  
26 unique CDR3  
5 unique J



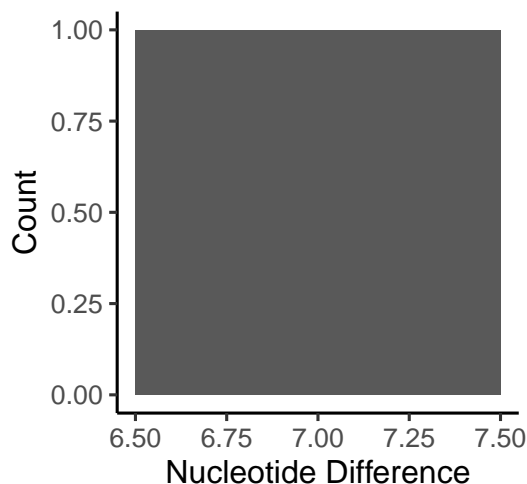
### IGHV4-30-4\*08

3 sequences assigned  
No exact matches.



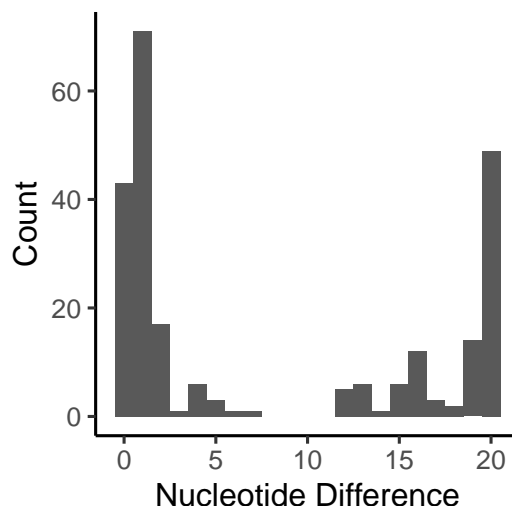
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



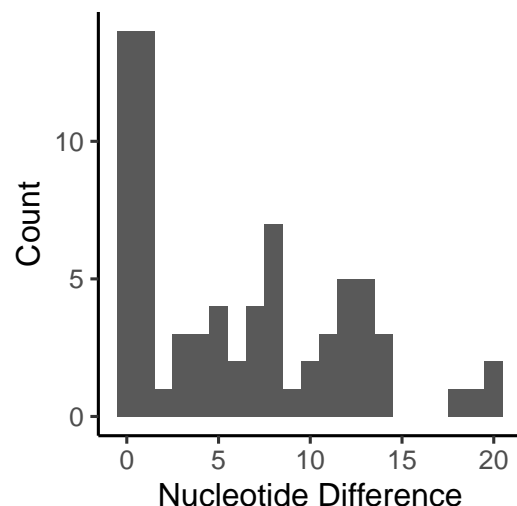
### IGHV4-4\*02\_03

414 sequences assigned  
43 (10.4%) exact matches, in which:  
26 unique CDR3  
3 unique J



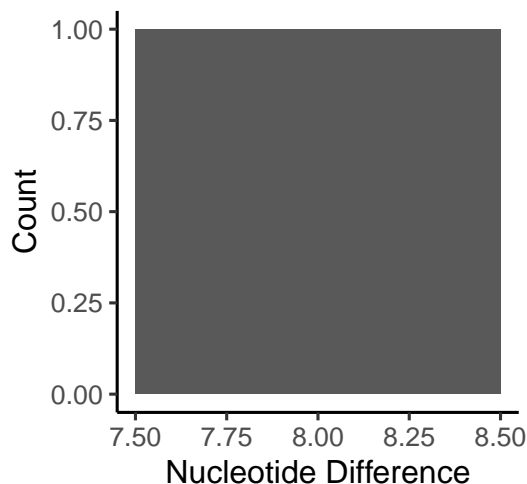
### IGHV4-31\*02

85 sequences assigned  
14 (16.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



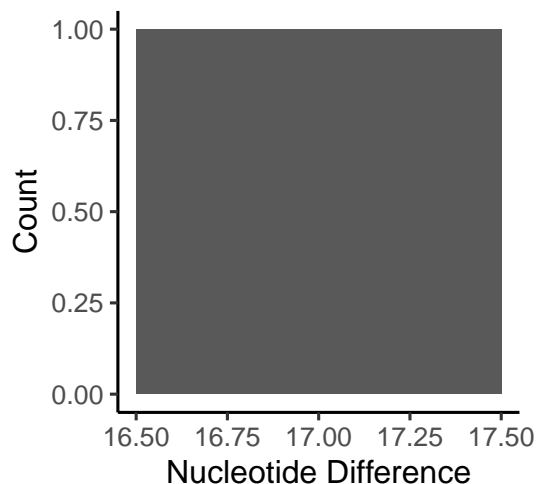
### IGHV3-NL1\*01

3 sequences assigned  
No exact matches.



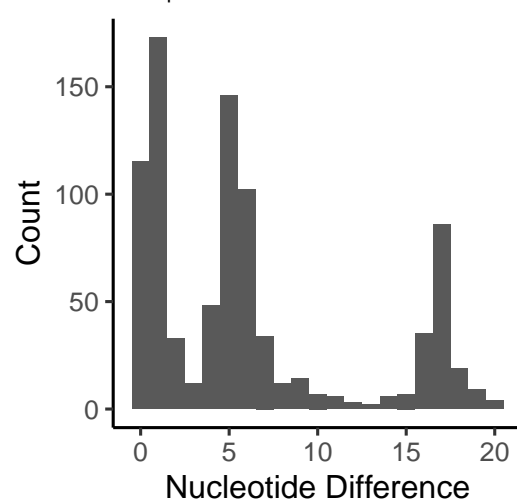
### IGHV4-30-2\*03

2 sequences assigned  
No exact matches.



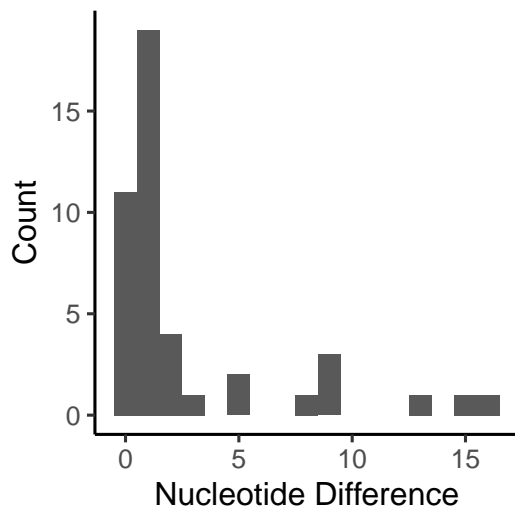
### IGHV4-34\*01\_02

910 sequences assigned  
115 (12.6%) exact matches, in which:  
81 unique CDR3  
6 unique J



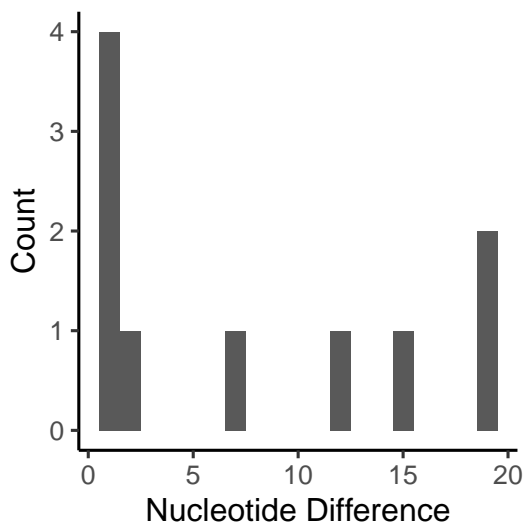
## IGHV4-38-2\*01

45 sequences assigned  
11 (24.4%) exact matches, in which:  
11 unique CDR3  
3 unique J



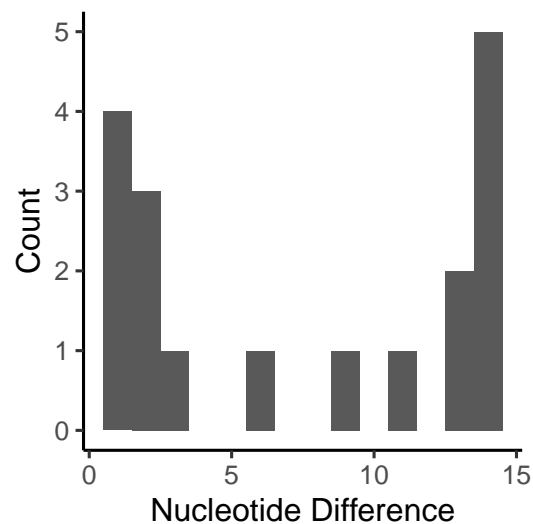
## IGHV4-59\*08

11 sequences assigned  
No exact matches.



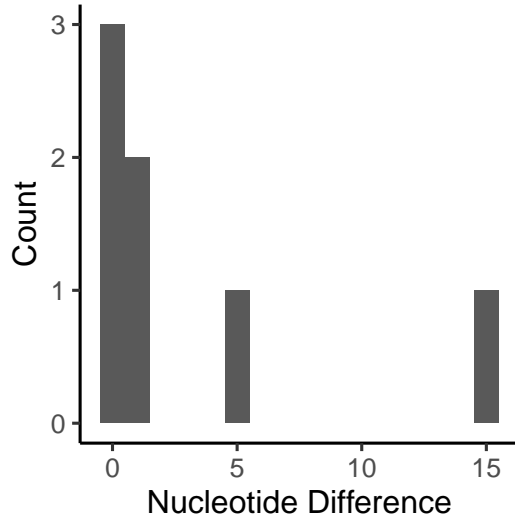
## IGHV4-59\*12

25 sequences assigned  
No exact matches.



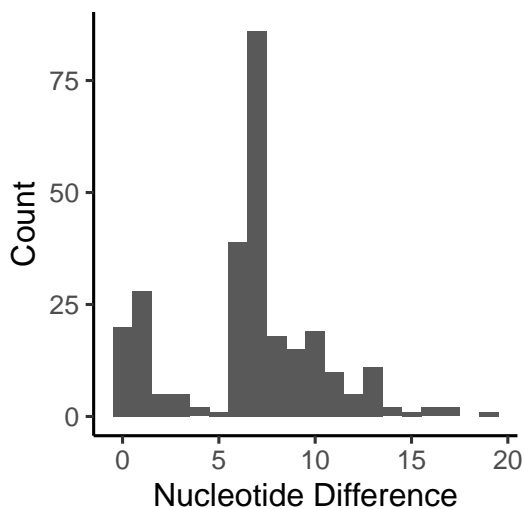
## IGHV4-38-2\*02

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



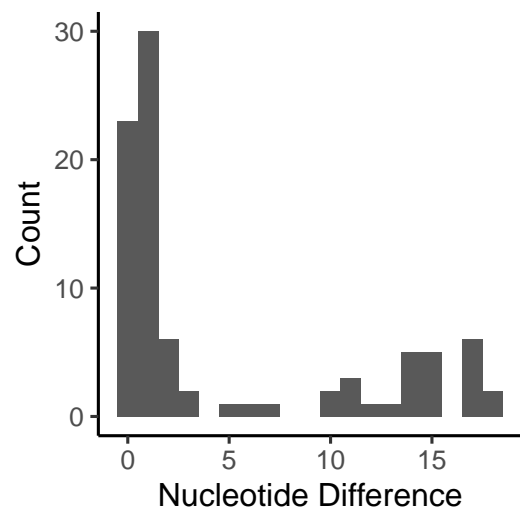
## IGHV4-59\*01\_07

308 sequences assigned  
20 (6.5%) exact matches, in which:  
17 unique CDR3  
3 unique J



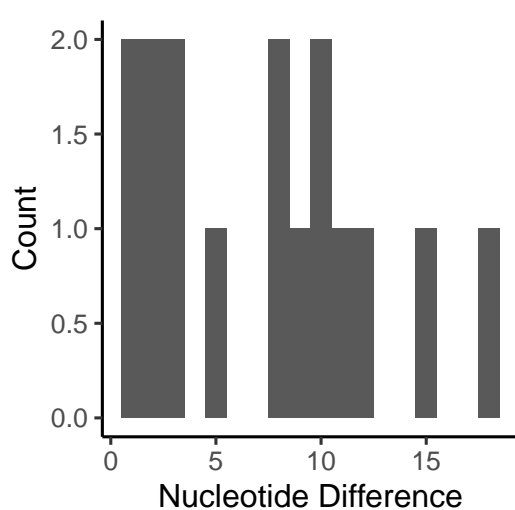
## IGHV4-61\*01

91 sequences assigned  
23 (25.3%) exact matches, in which:  
20 unique CDR3  
4 unique J



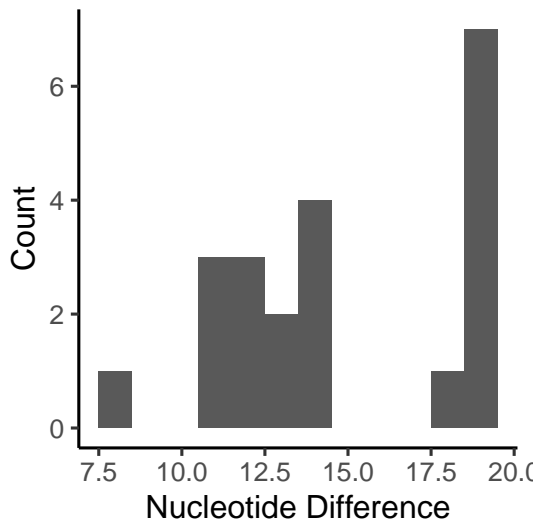
## IGHV4-39\*07

17 sequences assigned  
No exact matches.



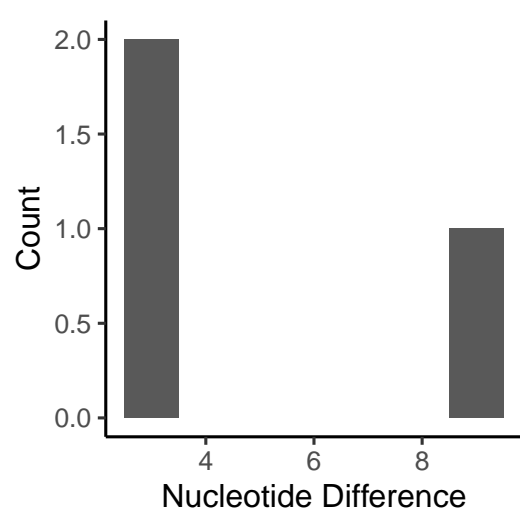
## IGHV4-59\*11

24 sequences assigned  
No exact matches.



## IGHV4-61\*02

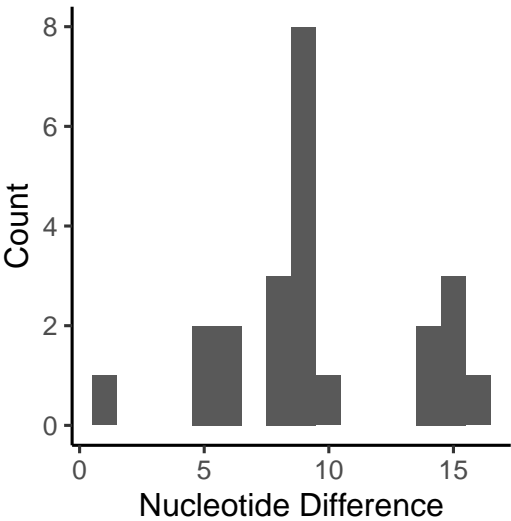
5 sequences assigned  
No exact matches.





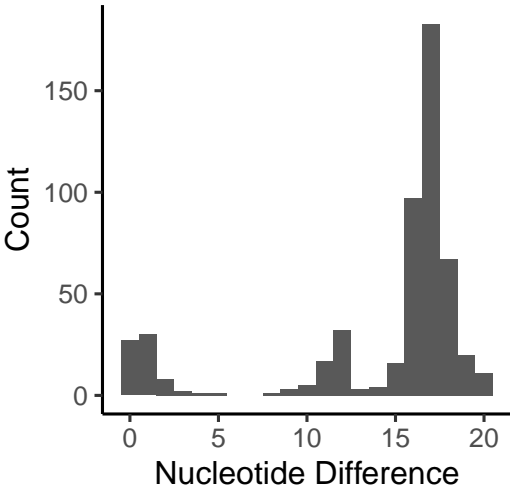
IGHV4-61\*08

31 sequences assigned  
No exact matches.



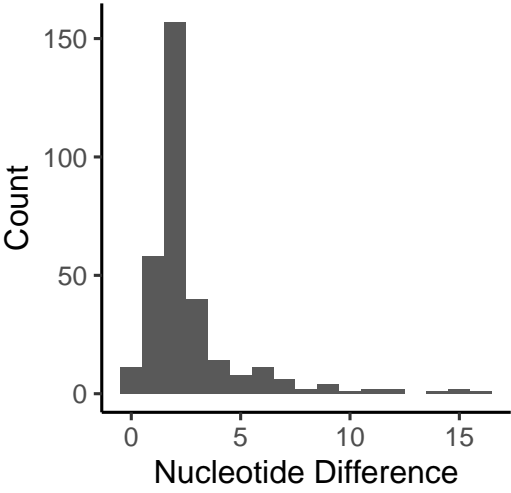
IGHV5-51\*01\_03

559 sequences assigned  
27 (4.8%) exact matches, in which:  
17 unique CDR3  
3 unique J



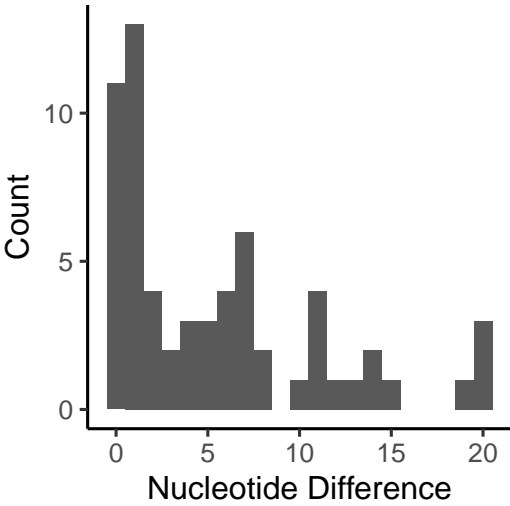
IGHV5-10-1\*01\_03

328 sequences assigned  
11 (3.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



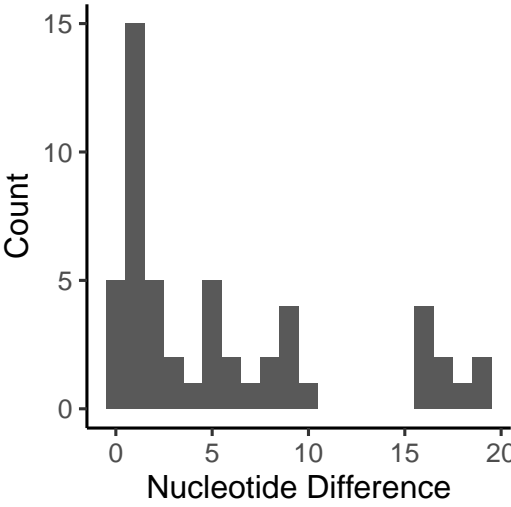
IGHV6-1\*01\_02

63 sequences assigned  
11 (17.5%) exact matches, in which:  
8 unique CDR3  
5 unique J



IGHV5-51\*07

55 sequences assigned  
5 (9.1%) exact matches, in which:  
4 unique CDR3  
2 unique J





[illegible]