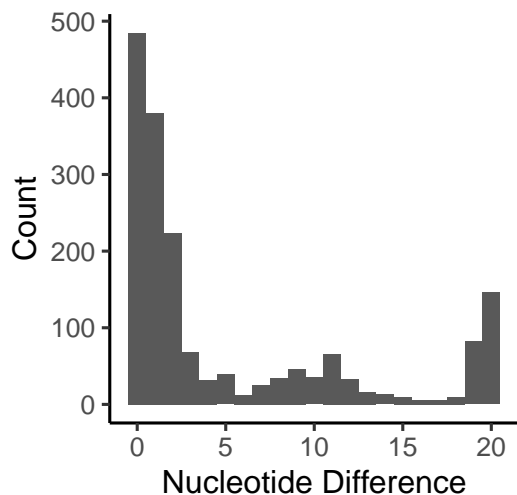


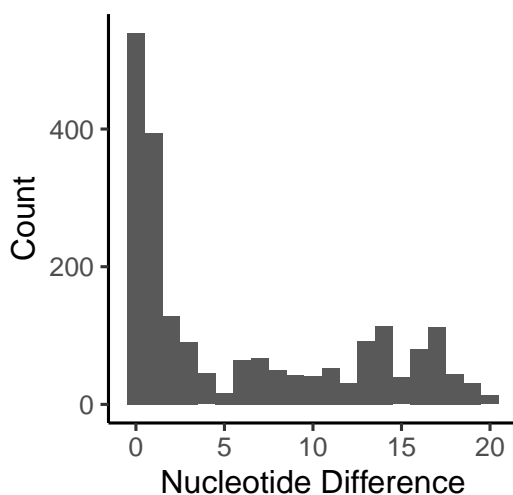
### IGHV1–2\*04

1874 sequences assigned  
485 (25.9%) exact matches, in which:  
450 unique CDR3  
5 unique J



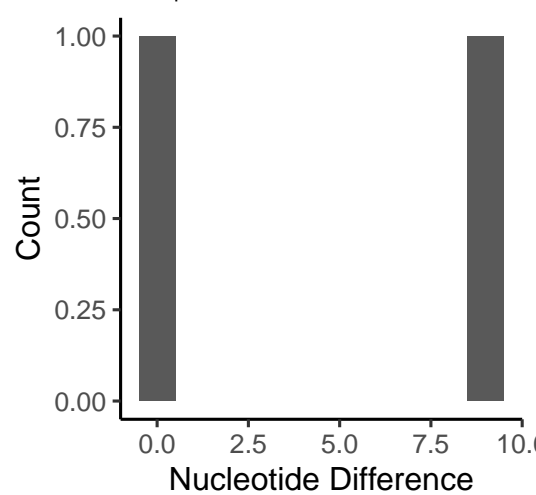
### IGHV1–18\*01

2150 sequences assigned  
540 (25.1%) exact matches, in which:  
503 unique CDR3  
6 unique J



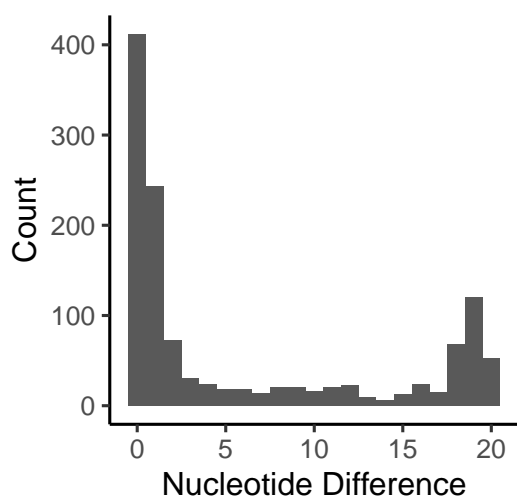
### IGHV1–45\*02

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



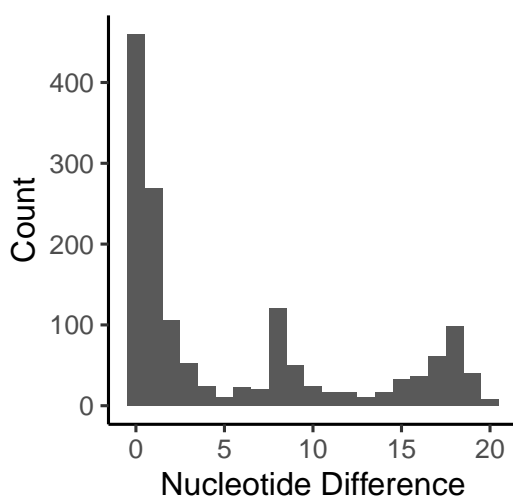
### IGHV1–3\*01\_05

1482 sequences assigned  
412 (27.8%) exact matches, in which:  
382 unique CDR3  
6 unique J



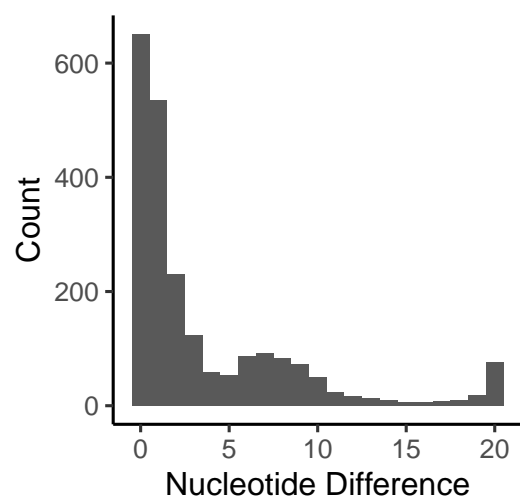
### IGHV1–18\*04

1778 sequences assigned  
460 (25.9%) exact matches, in which:  
434 unique CDR3  
6 unique J



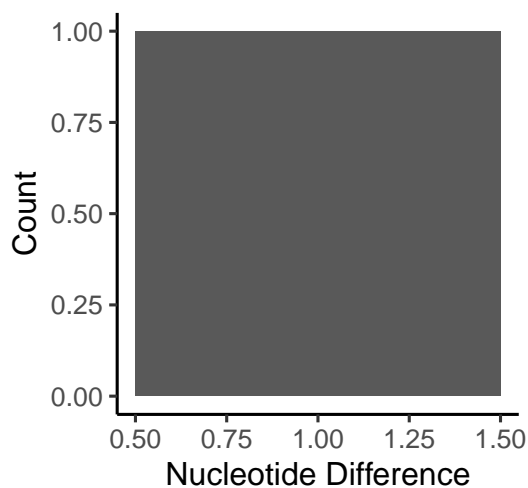
### IGHV1–46\*01

2954 sequences assigned  
651 (22%) exact matches, in which:  
600 unique CDR3  
6 unique J



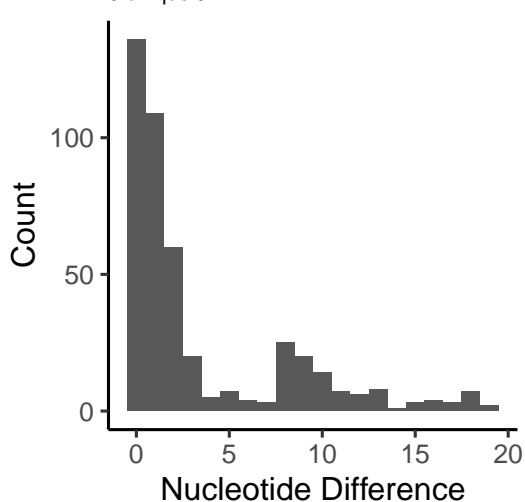
### IGHV1–8\*01

1 sequences assigned  
No exact matches.



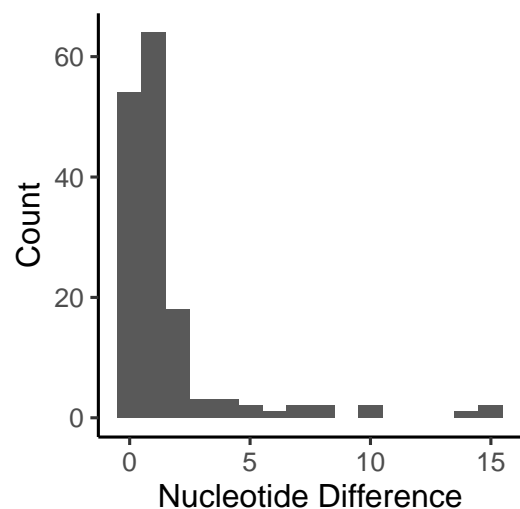
### IGHV1–24\*01

662 sequences assigned  
136 (20.5%) exact matches, in which:  
126 unique CDR3  
5 unique J



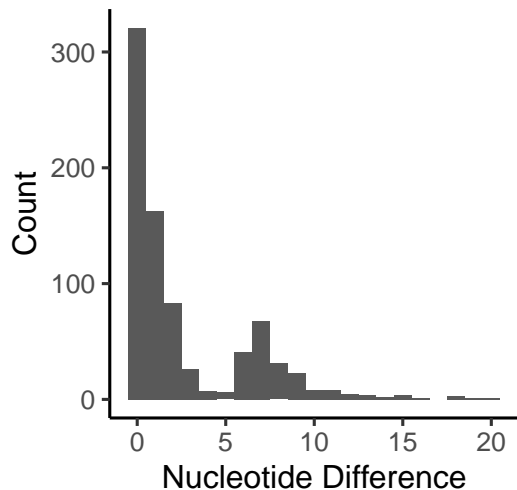
### IGHV1–58\*02

158 sequences assigned  
54 (34.2%) exact matches, in which:  
51 unique CDR3  
4 unique J



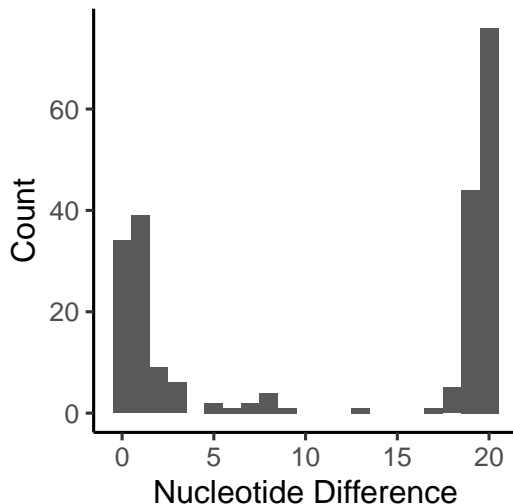
### IGHV1–69\*04\_09

828 sequences assigned  
321 (38.8%) exact matches, in which:  
315 unique CDR3  
6 unique J



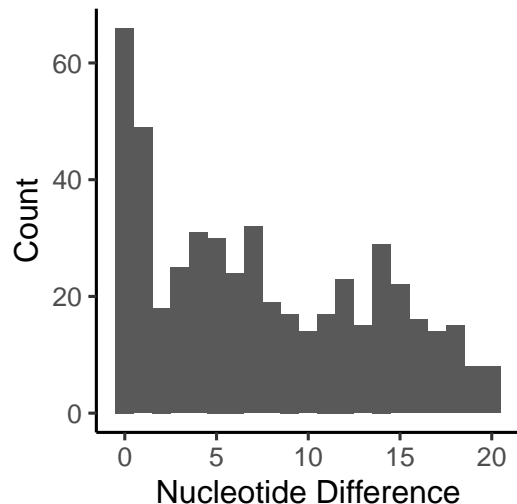
### IGHV2–26\*01

298 sequences assigned  
34 (11.4%) exact matches, in which:  
31 unique CDR3  
3 unique J



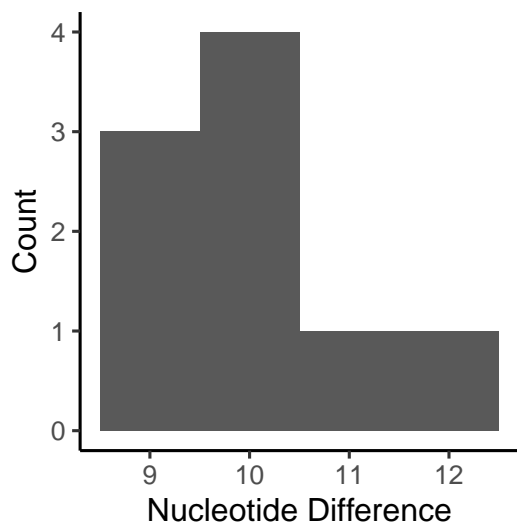
### IGHV3–7\*01

597 sequences assigned  
66 (11.1%) exact matches, in which:  
59 unique CDR3  
4 unique J



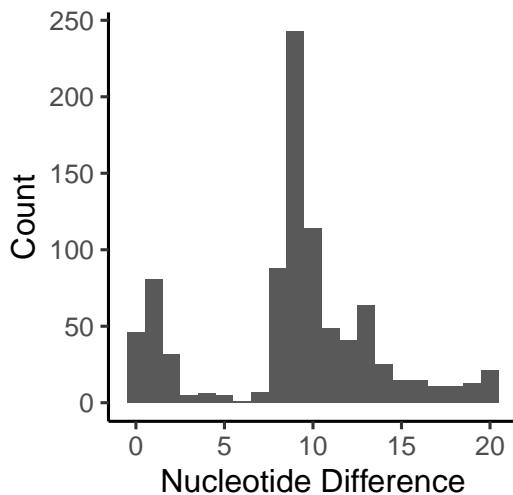
### IGHV1–NL1\*01

9 sequences assigned  
No exact matches.



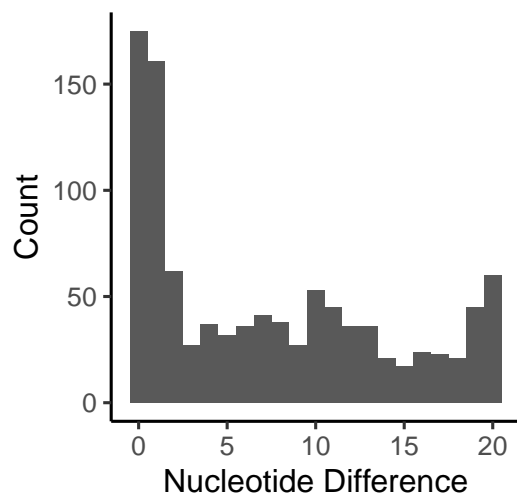
### IGHV2–70\*11\_15

963 sequences assigned  
46 (4.8%) exact matches, in which:  
41 unique CDR3  
4 unique J



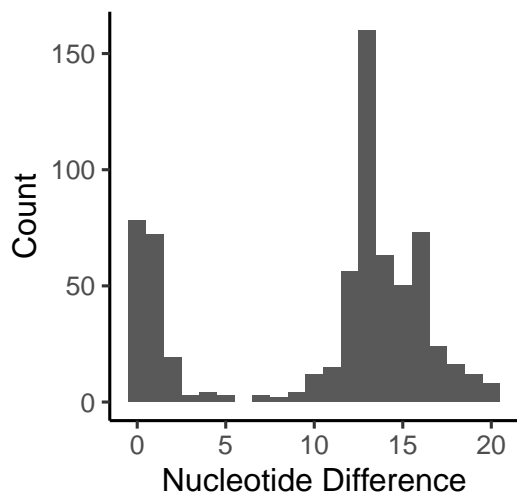
### IGHV3–7\*03

2641 sequences assigned  
175 (6.6%) exact matches, in which:  
125 unique CDR3  
5 unique J



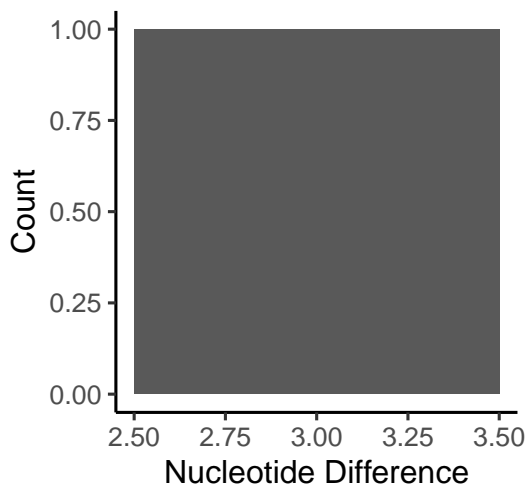
### IGHV2–5\*02

741 sequences assigned  
78 (10.5%) exact matches, in which:  
73 unique CDR3  
5 unique J



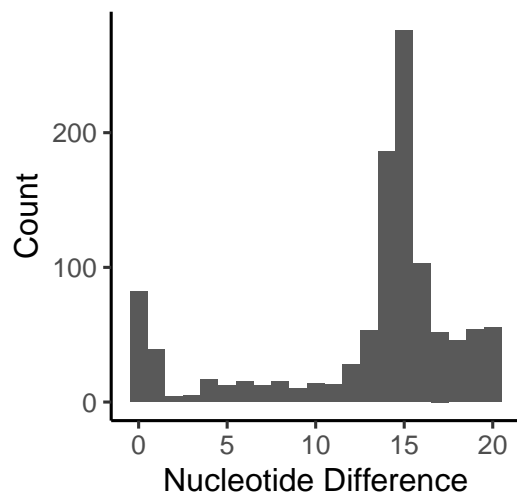
### IGHV2–70D\*04

1 sequences assigned  
No exact matches.



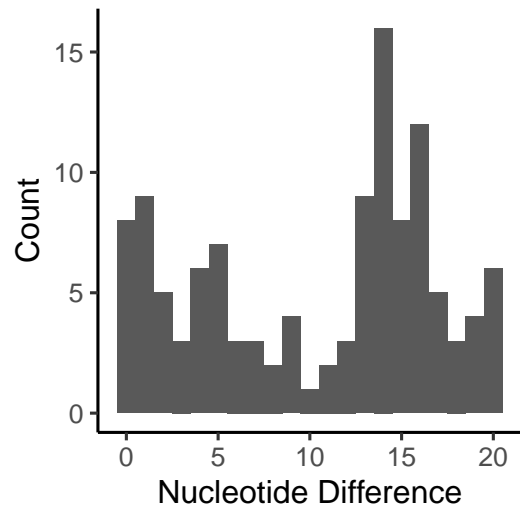
### IGHV3–7\*04

1393 sequences assigned  
82 (5.9%) exact matches, in which:  
64 unique CDR3  
6 unique J



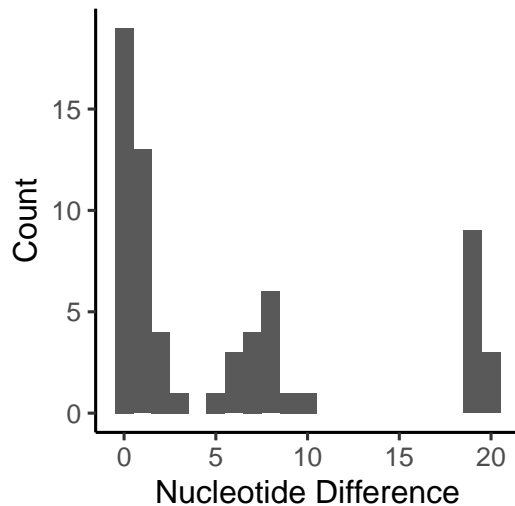
### IGHV3-7\*05

190 sequences assigned  
8 (4.2%) exact matches, in which:  
8 unique CDR3  
4 unique J



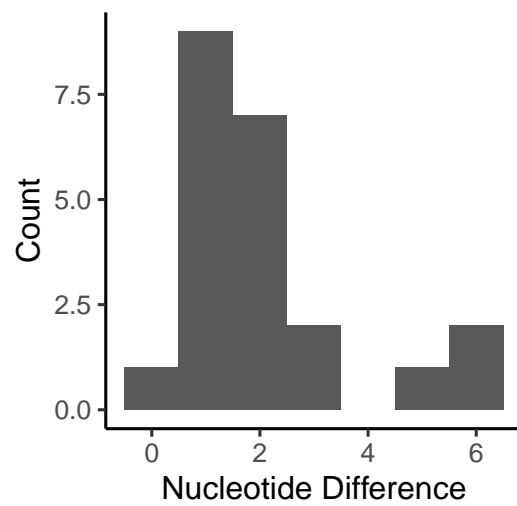
### IGHV3-13\*05

90 sequences assigned  
19 (21.1%) exact matches, in which:  
17 unique CDR3  
2 unique J



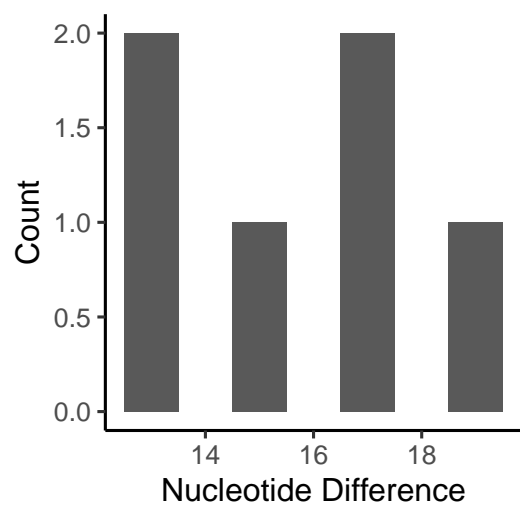
### IGHV3-19\*01

22 sequences assigned  
1 (4.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



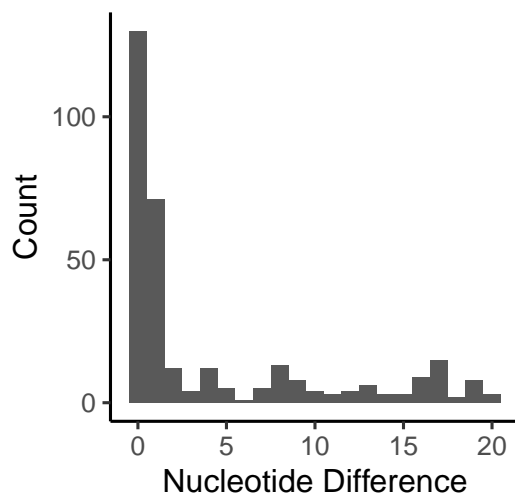
### IGHV3-9\*01

19 sequences assigned  
No exact matches.



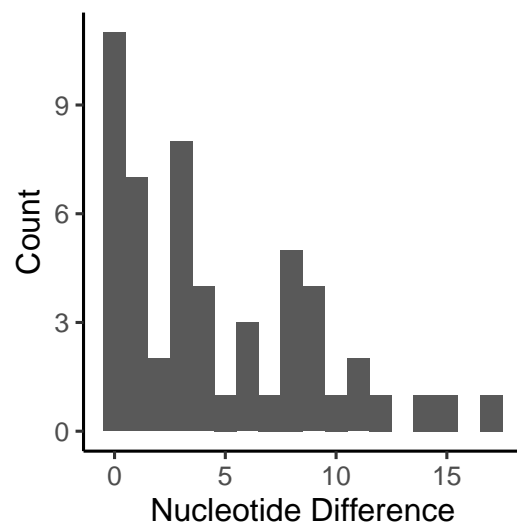
### IGHV3-15\*07

524 sequences assigned  
130 (24.8%) exact matches, in which:  
94 unique CDR3  
5 unique J



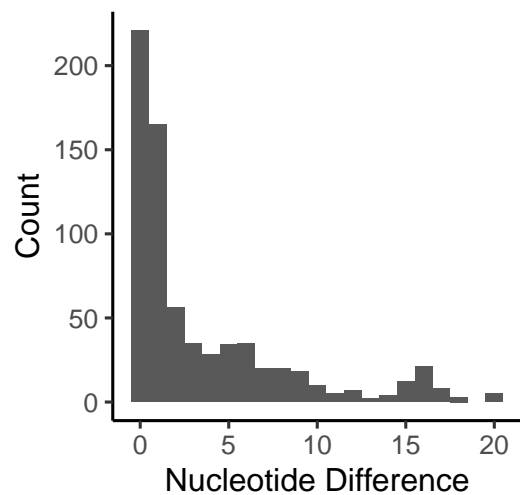
### IGHV3-20\*03\_04

55 sequences assigned  
11 (20%) exact matches, in which:  
9 unique CDR3  
4 unique J



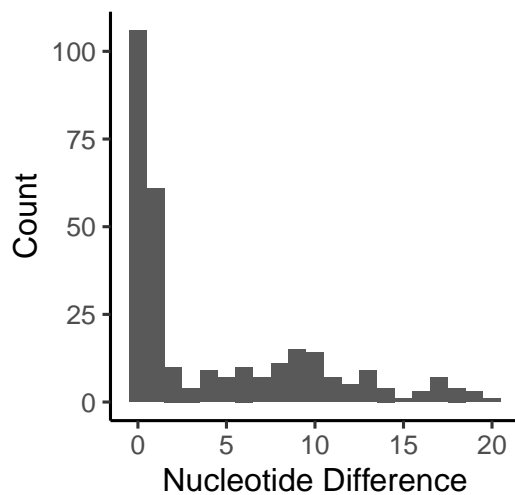
### IGHV3-11\*06

737 sequences assigned  
221 (30%) exact matches, in which:  
187 unique CDR3  
5 unique J



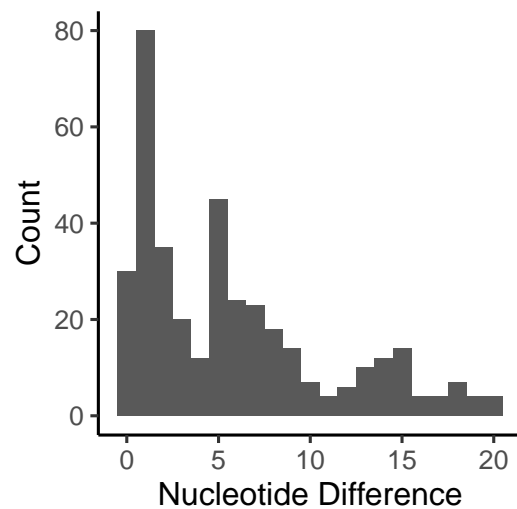
### IGHV3-15\*01\_02

381 sequences assigned  
106 (27.8%) exact matches, in which:  
74 unique CDR3  
6 unique J



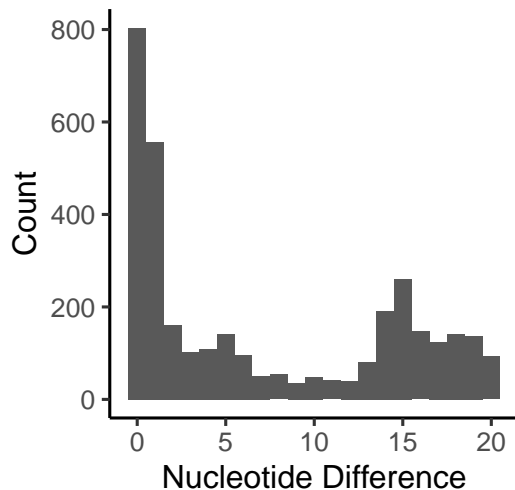
### IGHV3-21\*04

464 sequences assigned  
30 (6.5%) exact matches, in which:  
27 unique CDR3  
4 unique J



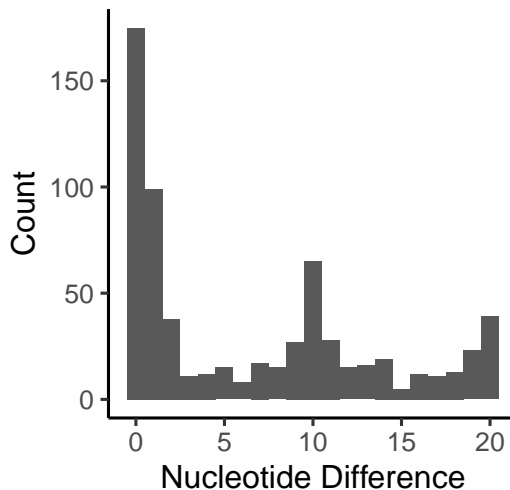
### IGHV3-21\*01\_02

3728 sequences assigned  
804 (21.6%) exact matches, in which:  
663 unique CDR3  
6 unique J



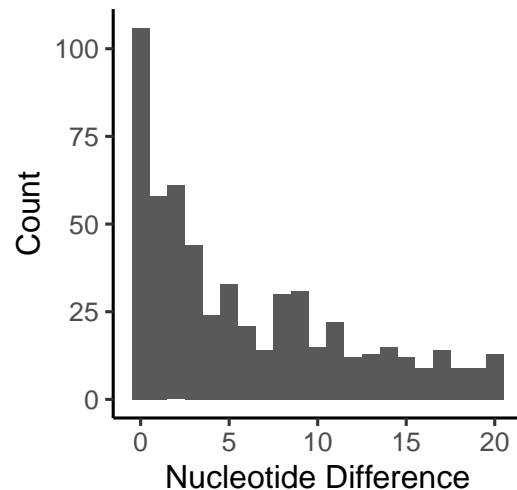
### IGHV3-30\*03

720 sequences assigned  
175 (24.3%) exact matches, in which:  
164 unique CDR3  
6 unique J



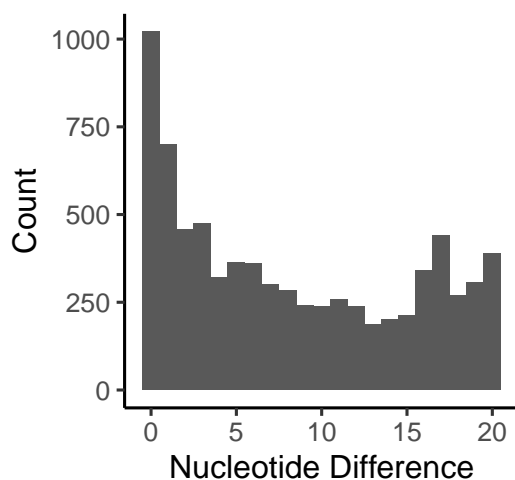
### IGHV3-33\*08

792 sequences assigned  
106 (13.4%) exact matches, in which:  
95 unique CDR3  
6 unique J



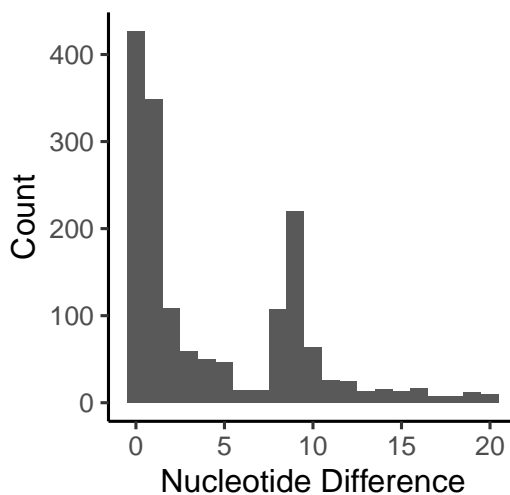
### IGHV3-23\*01\_04

12666 sequences assigned  
1021 (8.1%) exact matches, in which:  
773 unique CDR3  
6 unique J



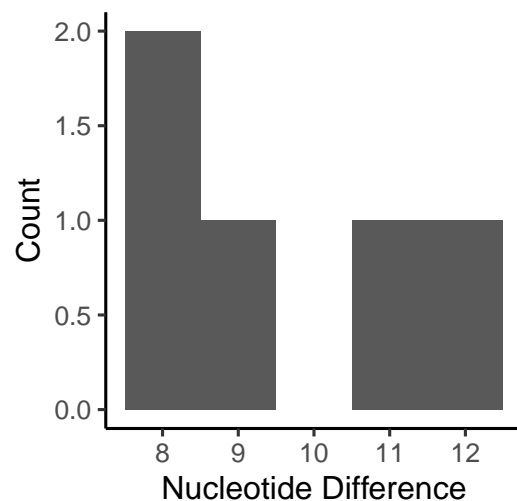
### IGHV3-33\*01

2936 sequences assigned  
427 (14.5%) exact matches, in which:  
350 unique CDR3  
6 unique J



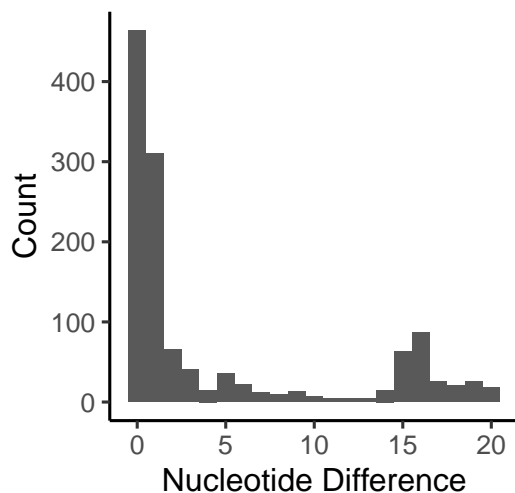
### IGHV3-35\*01

5 sequences assigned  
No exact matches.



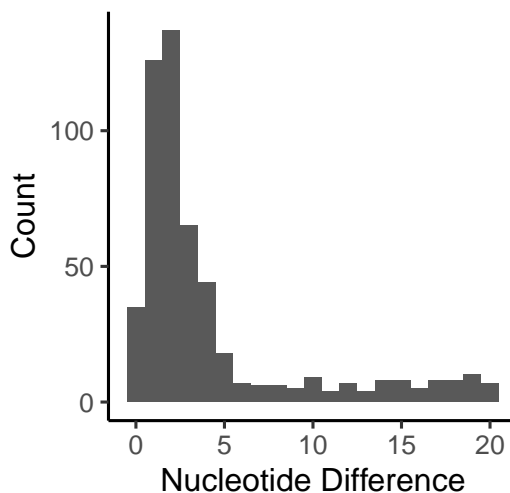
### IGHV3-30-3\*01

1425 sequences assigned  
464 (32.6%) exact matches, in which:  
354 unique CDR3  
6 unique J



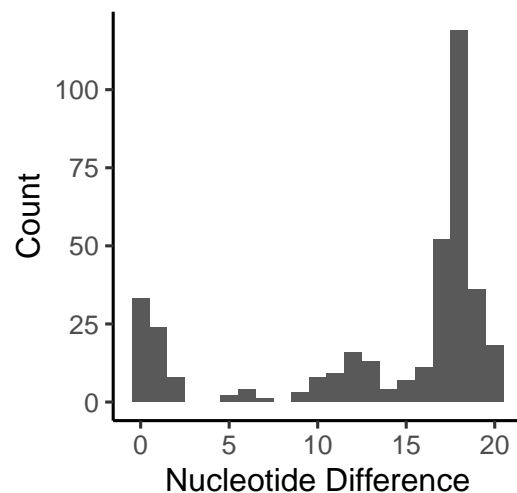
### IGHV3-33\*06

627 sequences assigned  
35 (5.6%) exact matches, in which:  
34 unique CDR3  
3 unique J



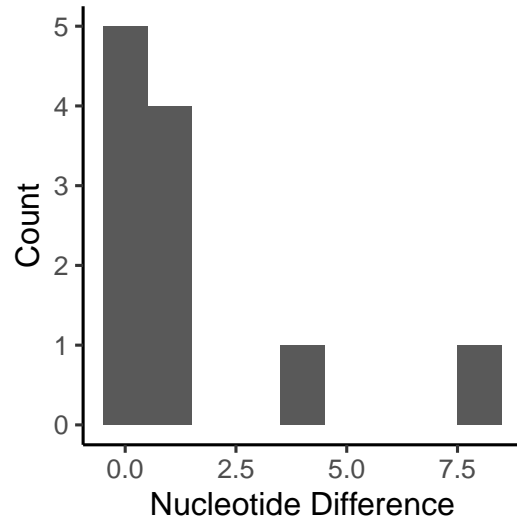
### IGHV3-43\*02

465 sequences assigned  
33 (7.1%) exact matches, in which:  
27 unique CDR3  
5 unique J



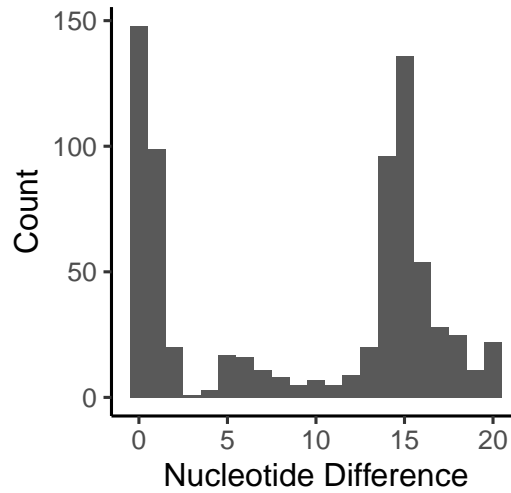
### IGHV3-47\*02

11 sequences assigned  
5 (45.5%) exact matches, in which:  
3 unique CDR3  
1 unique J



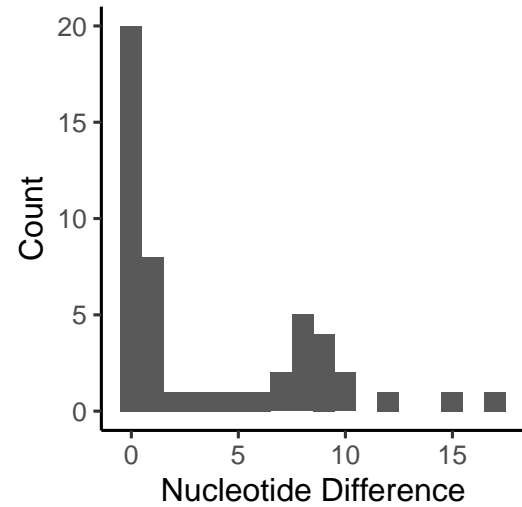
### IGHV3-48\*03

1455 sequences assigned  
148 (10.2%) exact matches, in which:  
112 unique CDR3  
5 unique J



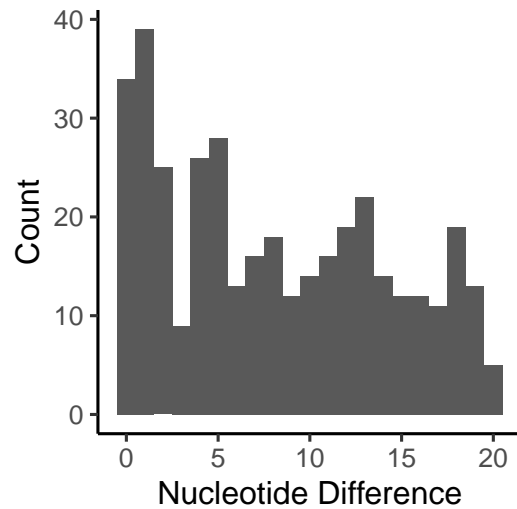
### IGHV3-49\*03\_05

50 sequences assigned  
20 (40%) exact matches, in which:  
13 unique CDR3  
3 unique J



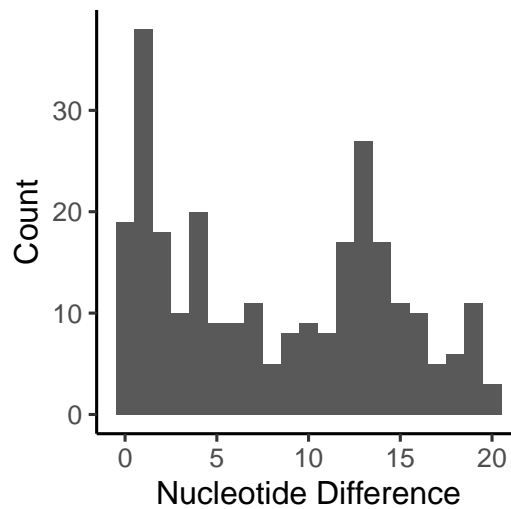
### IGHV3-48\*01

425 sequences assigned  
34 (8%) exact matches, in which:  
33 unique CDR3  
4 unique J



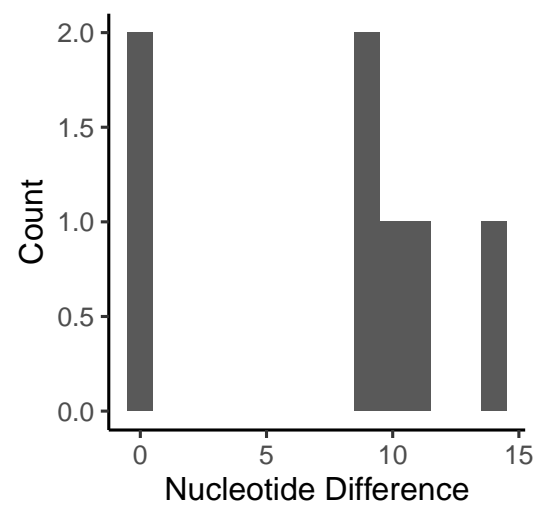
### IGHV3-48\*04

299 sequences assigned  
19 (6.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



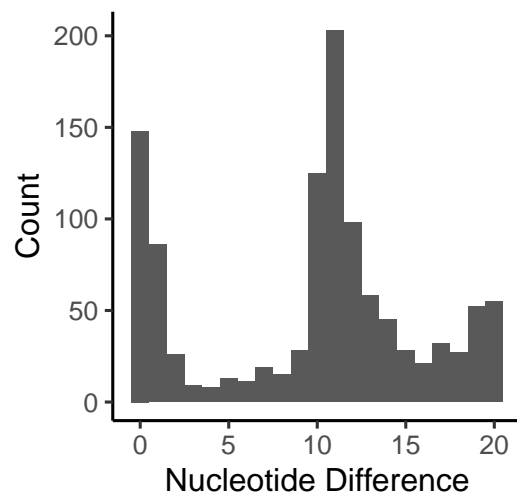
### IGHV3-52\*02

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



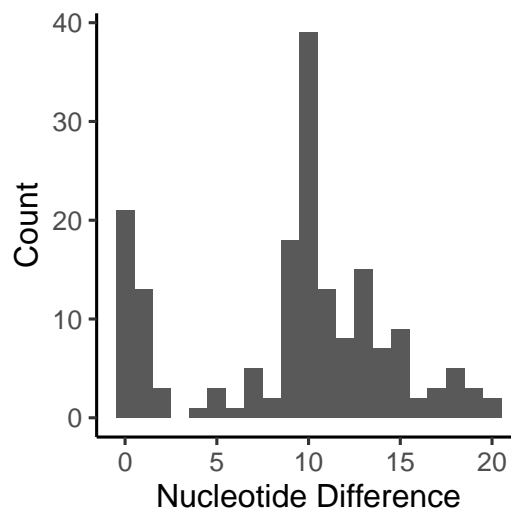
### IGHV3-48\*02

1577 sequences assigned  
148 (9.4%) exact matches, in which:  
114 unique CDR3  
5 unique J



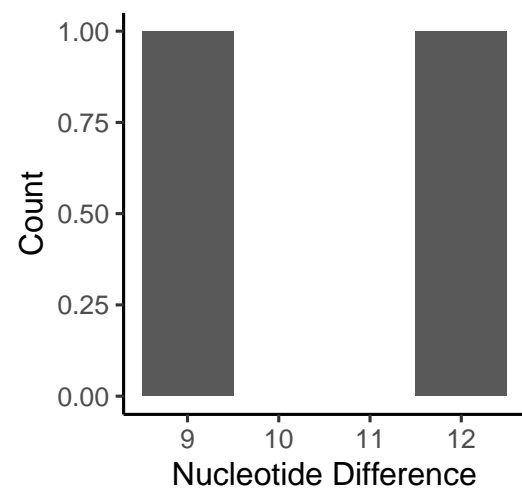
### IGHV3-49\*04

200 sequences assigned  
21 (10.5%) exact matches, in which:  
18 unique CDR3  
4 unique J



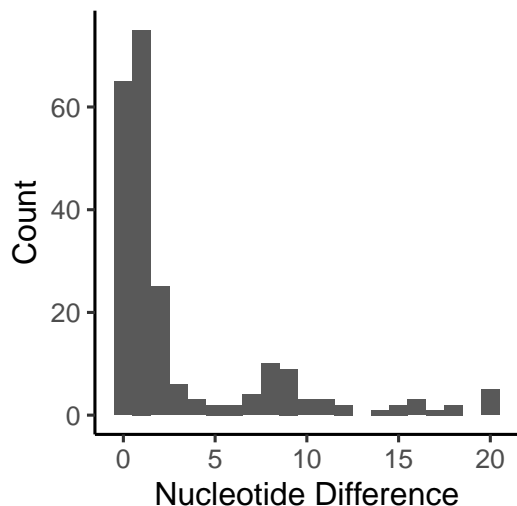
### IGHV3-52\*01\_03

2 sequences assigned  
No exact matches.



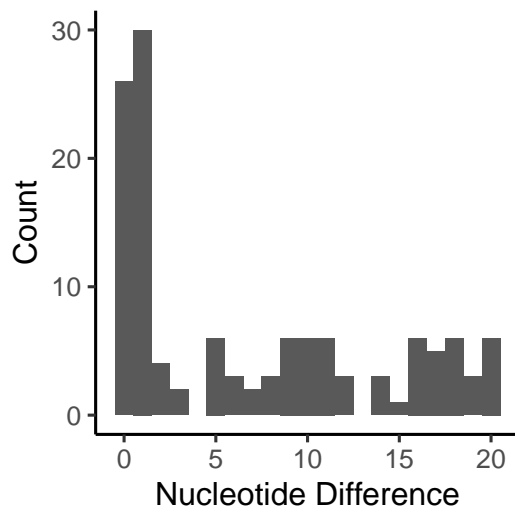
### IGHV3-53\*04

399 sequences assigned  
65 (16.3%) exact matches, in which:  
47 unique CDR3  
4 unique J



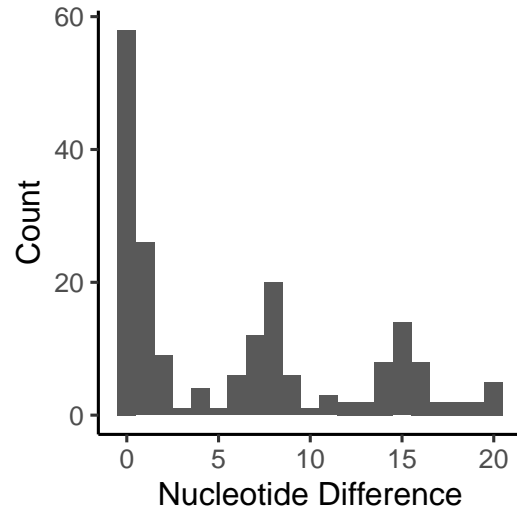
### IGHV3-53\*01\_02\_G81A\_

184 sequences assigned  
26 (14.1%) exact matches, in which:  
26 unique CDR3  
3 unique J



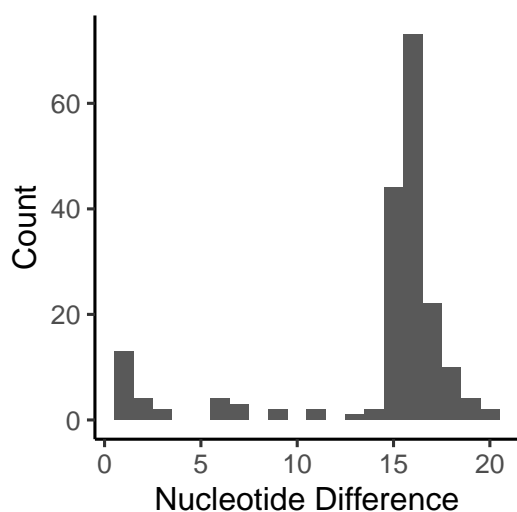
### IGHV3-66\*02

243 sequences assigned  
58 (23.9%) exact matches, in which:  
49 unique CDR3  
6 unique J



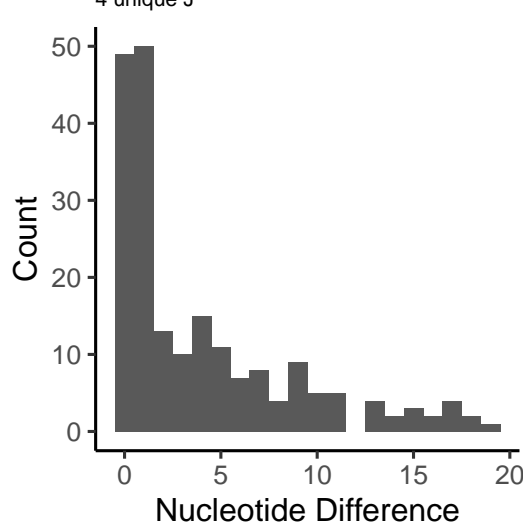
### IGHV3-53\*05

222 sequences assigned  
No exact matches.



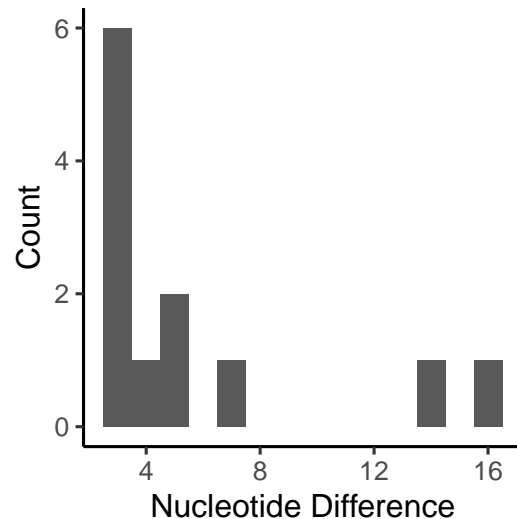
### IGHV3-64\*01

249 sequences assigned  
49 (19.7%) exact matches, in which:  
39 unique CDR3  
4 unique J



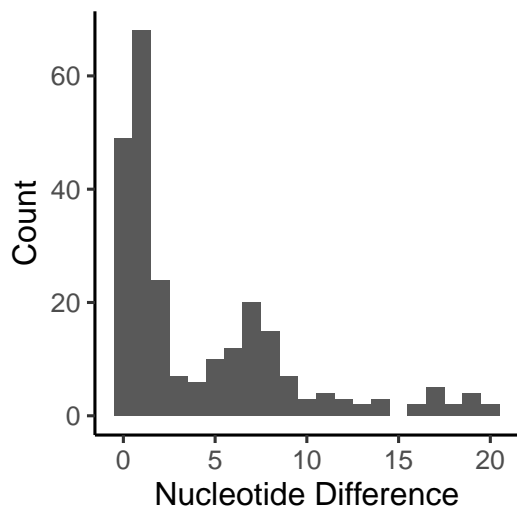
### IGHV3-69-1\*01

15 sequences assigned  
No exact matches.



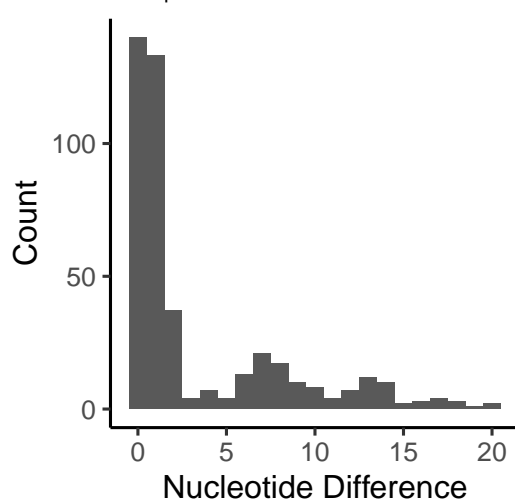
### IGHV3-53\*01\_02

260 sequences assigned  
49 (18.8%) exact matches, in which:  
42 unique CDR3  
4 unique J



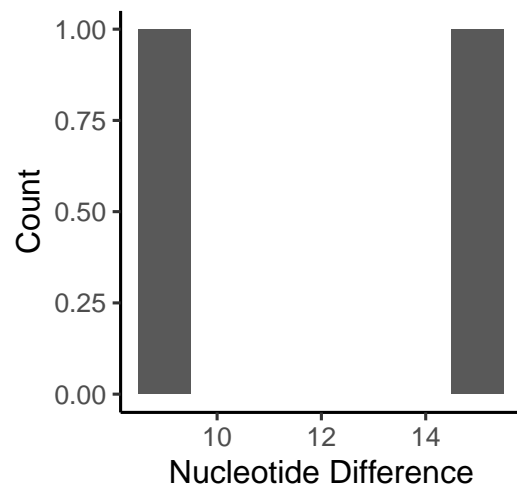
### IGHV3-66\*01

519 sequences assigned  
140 (27%) exact matches, in which:  
114 unique CDR3  
5 unique J



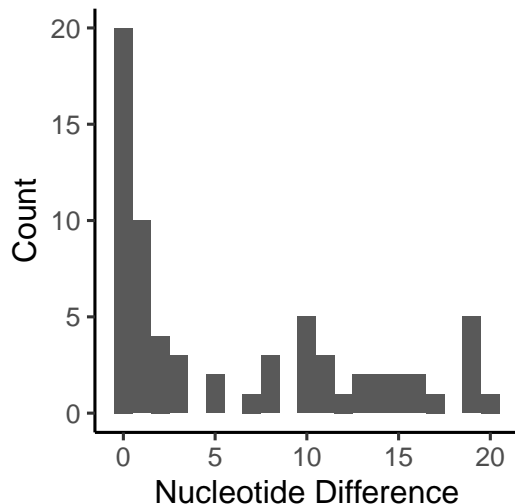
### IGHV3-69-1\*02

35 sequences assigned  
No exact matches.



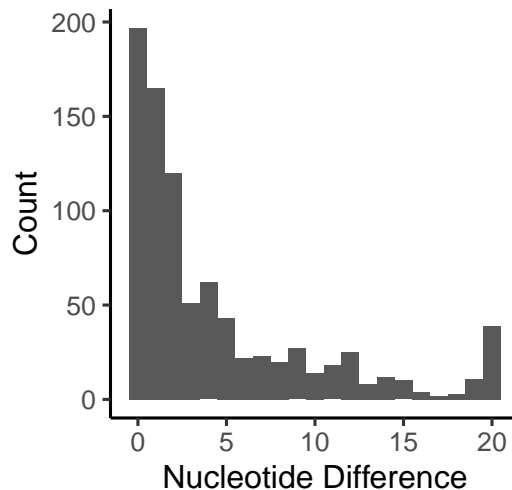
### IGHV3-72\*01

913 sequences assigned  
20 (2.2%) exact matches, in which:  
15 unique CDR3  
4 unique J



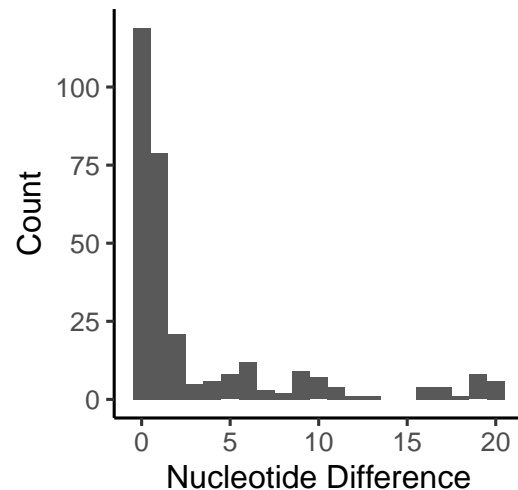
### IGHV3-74\*01\_02

1005 sequences assigned  
197 (19.6%) exact matches, in which:  
167 unique CDR3  
5 unique J



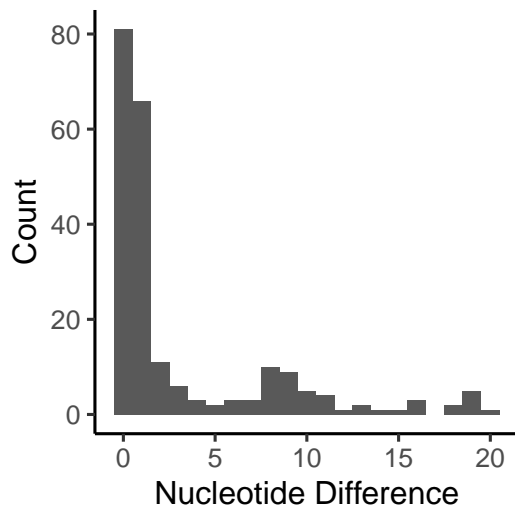
### IGHV3-64D\*06

1530 sequences assigned  
119 (7.8%) exact matches, in which:  
97 unique CDR3  
5 unique J



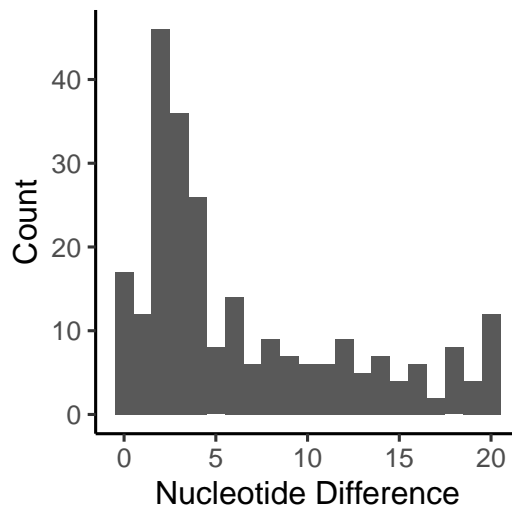
### IGHV3-73\*01\_02

304 sequences assigned  
81 (26.6%) exact matches, in which:  
58 unique CDR3  
4 unique J



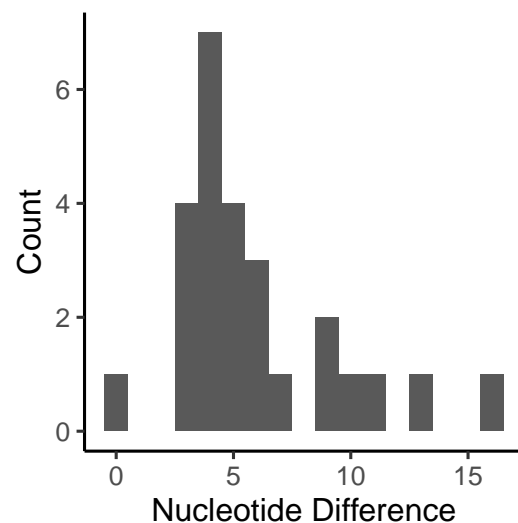
### IGHV3-74\*01\_02\_C246T\_

368 sequences assigned  
17 (4.6%) exact matches, in which:  
17 unique CDR3  
3 unique J



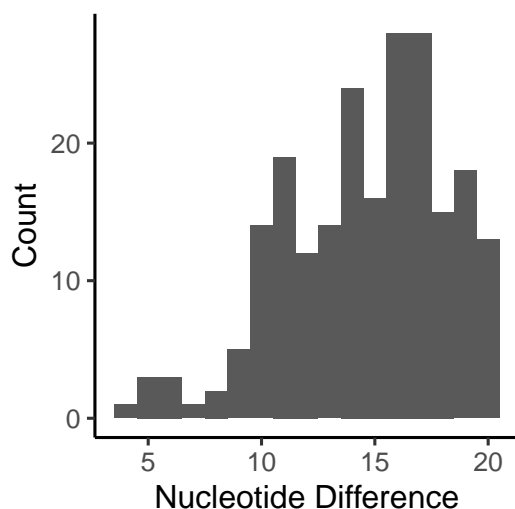
### IGHV3-NL1\*01

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



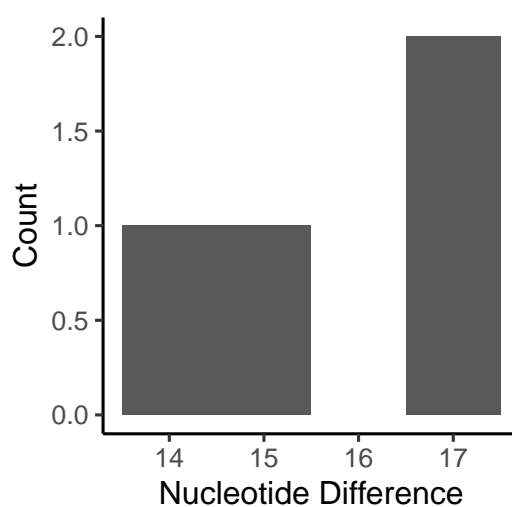
### IGHV3-74\*03

1728 sequences assigned  
No exact matches.



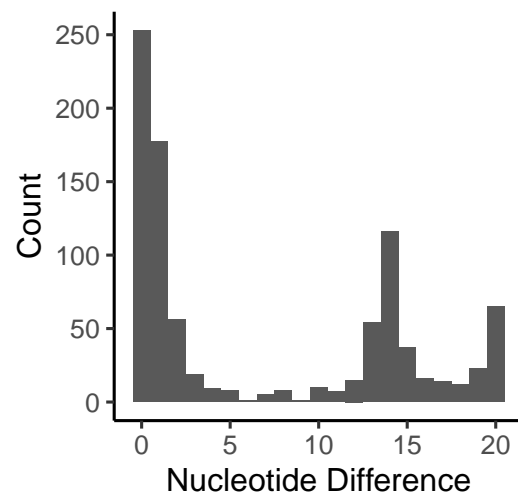
### IGHV3-43D\*04

4 sequences assigned  
No exact matches.



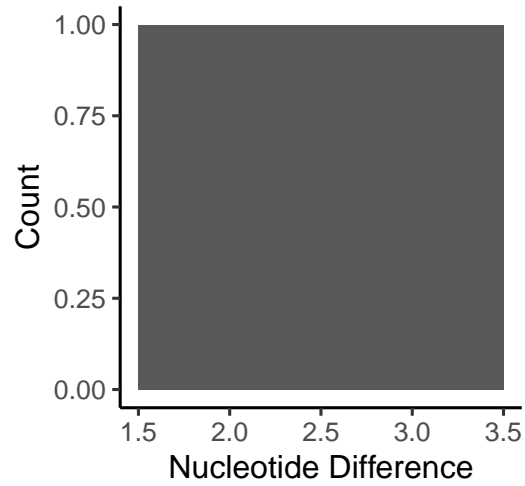
### IGHV4-4\*02\_03

1255 sequences assigned  
253 (20.2%) exact matches, in which:  
217 unique CDR3  
5 unique J



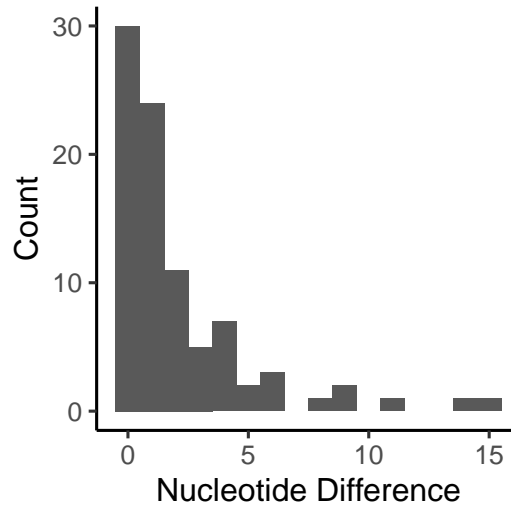
### IGHV4-28\*03

3 sequences assigned  
No exact matches.



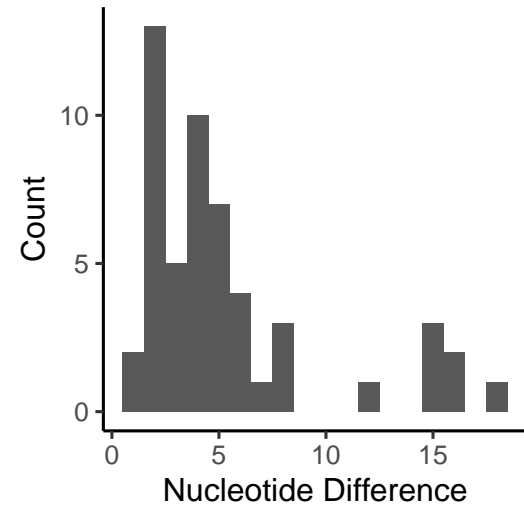
### IGHV4-30-2\*01

89 sequences assigned  
30 (33.7%) exact matches, in which:  
23 unique CDR3  
4 unique J



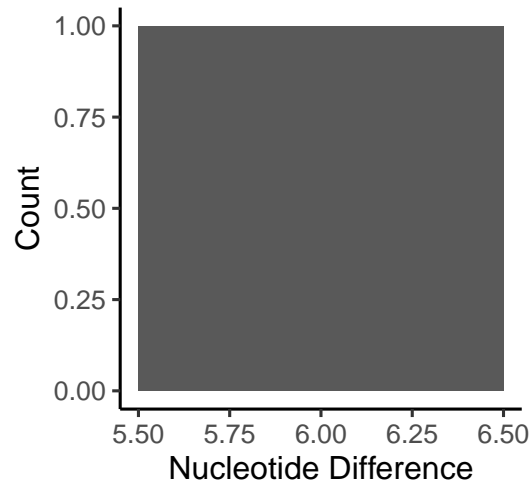
### IGHV4-30-4\*08

63 sequences assigned  
No exact matches.



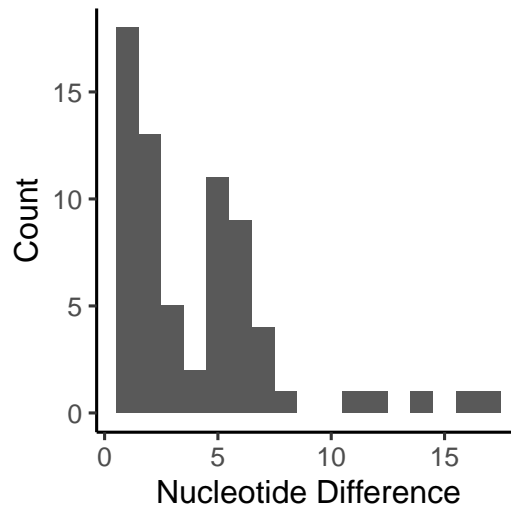
### IGHV4-28\*01\_07

1 sequences assigned  
No exact matches.



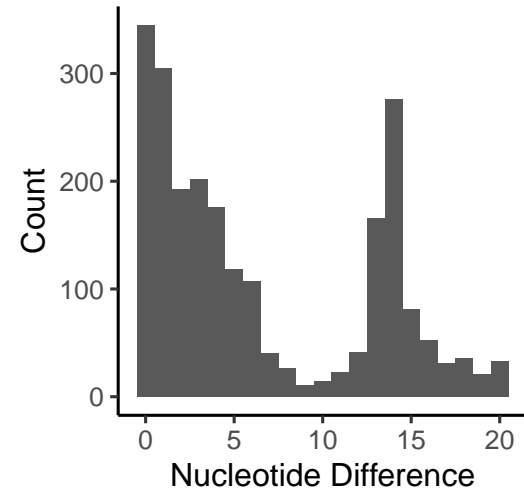
### IGHV4-30-2\*03

74 sequences assigned  
No exact matches.



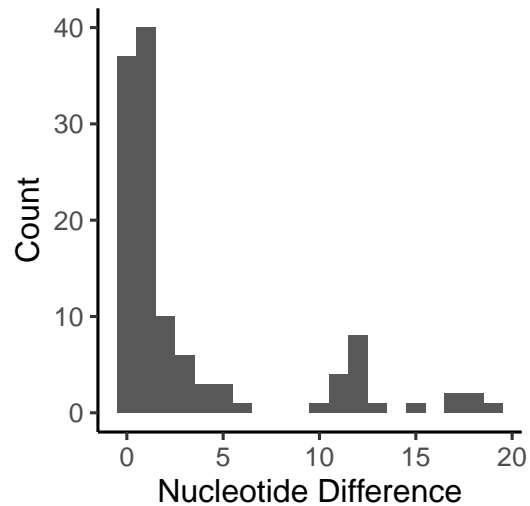
### IGHV4-31\*02

3576 sequences assigned  
345 (9.6%) exact matches, in which:  
303 unique CDR3  
6 unique J



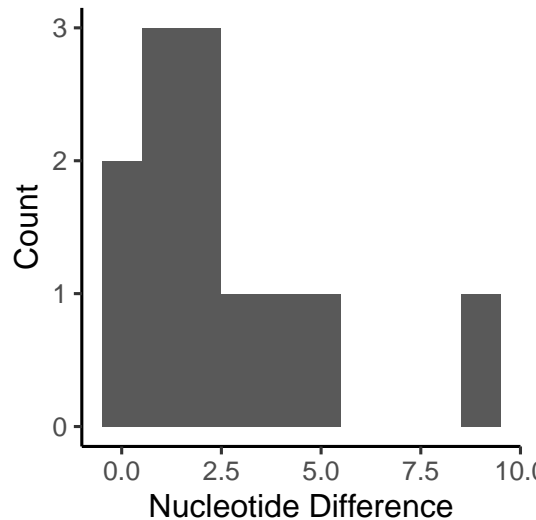
### IGHV4-30-4\*01

209 sequences assigned  
37 (17.7%) exact matches, in which:  
30 unique CDR3  
5 unique J



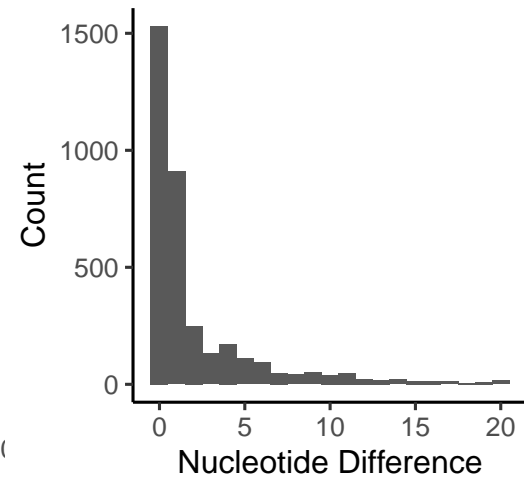
### IGHV4-30-2\*05

12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



### IGHV4-34\*01\_02

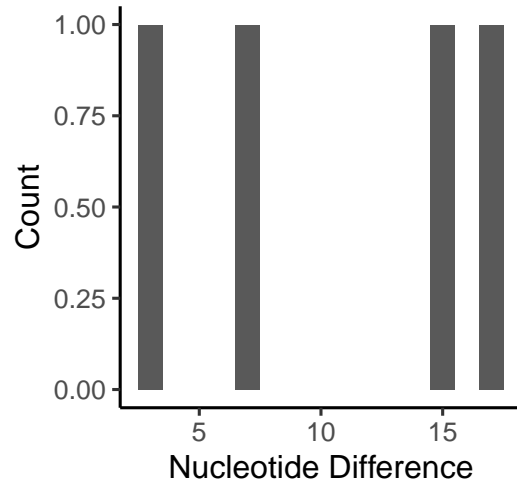
3643 sequences assigned  
1531 (42%) exact matches, in which:  
1299 unique CDR3  
6 unique J





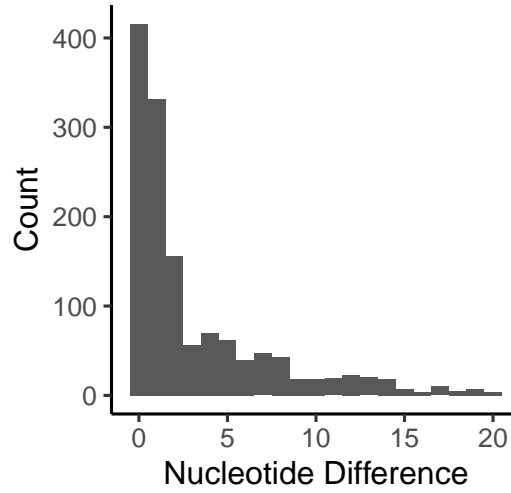
### IGHV4-38-2\*02

8 sequences assigned  
No exact matches.



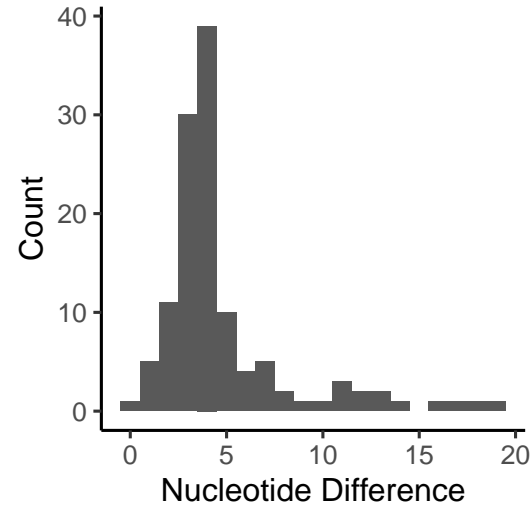
### IGHV4-59\*08

1911 sequences assigned  
416 (21.8%) exact matches, in which:  
392 unique CDR3  
6 unique J



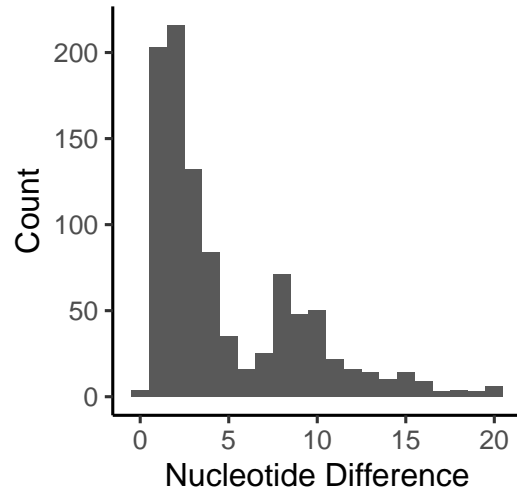
### IGHV4-61\*05

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



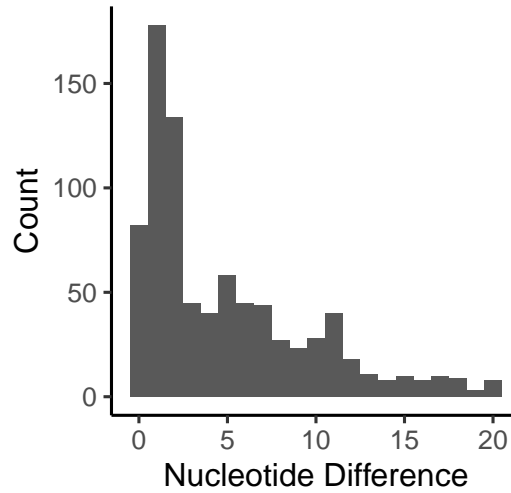
### IGHV4-39\*07

1040 sequences assigned  
4 (0.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



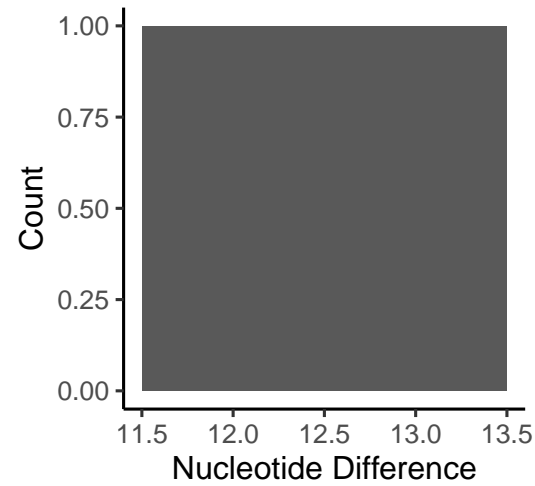
### IGHV4-59\*12

1281 sequences assigned  
82 (6.4%) exact matches, in which:  
82 unique CDR3  
5 unique J



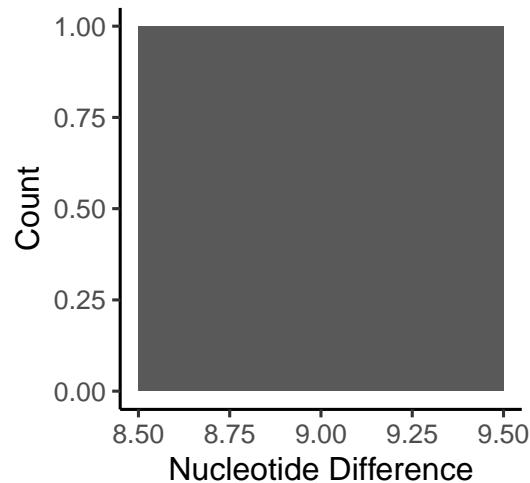
### IGHV1/OR15-2\*02\_03

2 sequences assigned  
No exact matches.



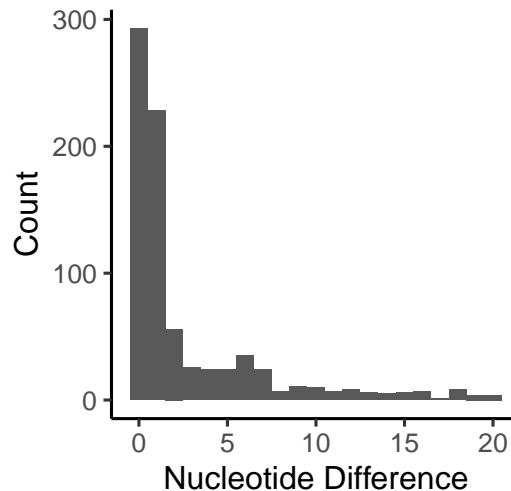
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



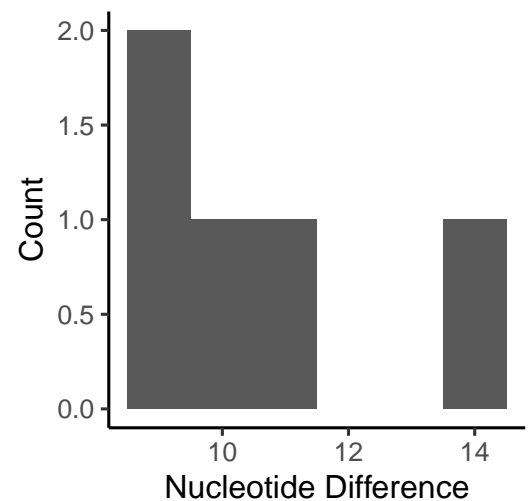
### IGHV4-61\*02

930 sequences assigned  
293 (31.5%) exact matches, in which:  
272 unique CDR3  
6 unique J



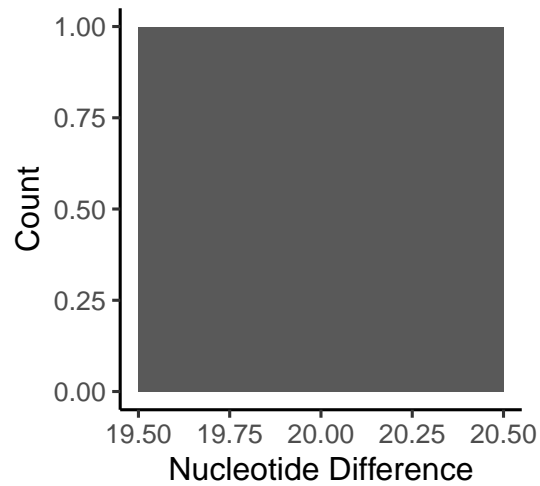
### IGHV1/OR15-3\*02

5 sequences assigned  
No exact matches.



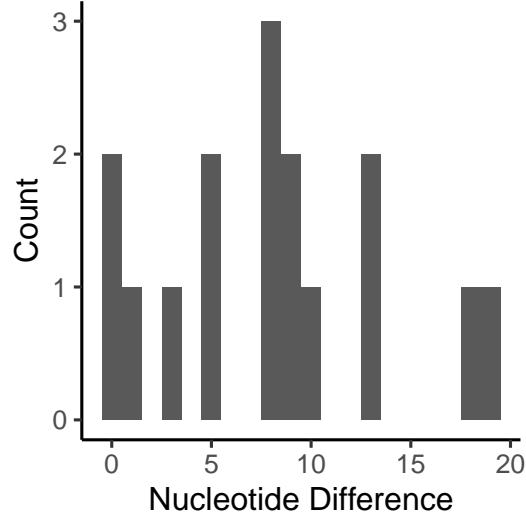
### IGHV1/OR15-3\*03

1 sequences assigned  
No exact matches.



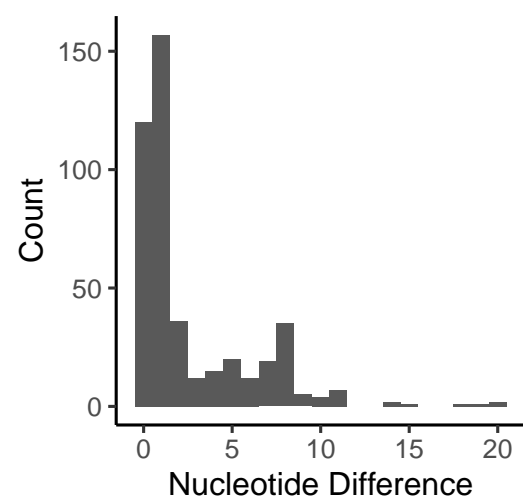
### IGHV5-51\*04

16 sequences assigned  
2 (12.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



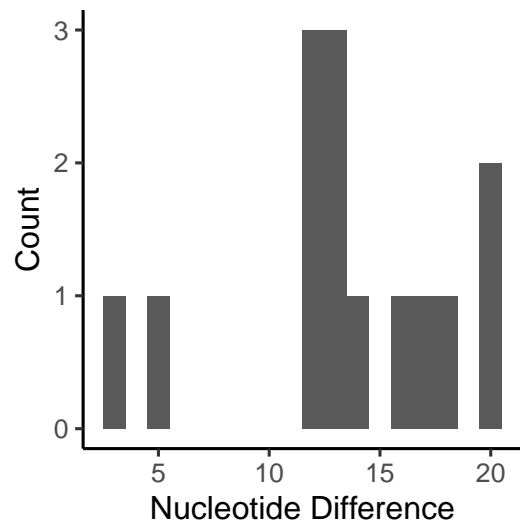
### IGHV6-1\*01\_02

1580 sequences assigned  
120 (7.6%) exact matches, in which:  
108 unique CDR3  
6 unique J



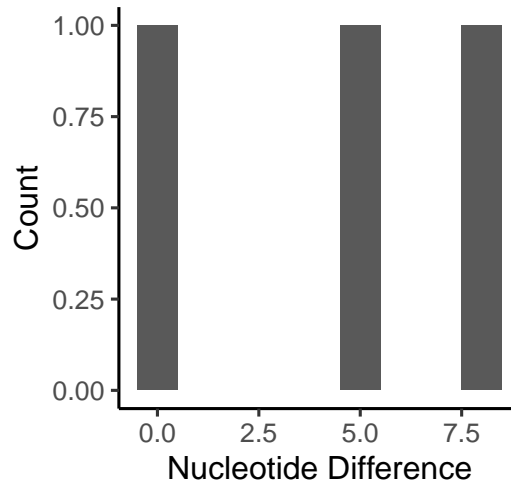
### IGHV4/OR15-8\*01

47 sequences assigned  
No exact matches.



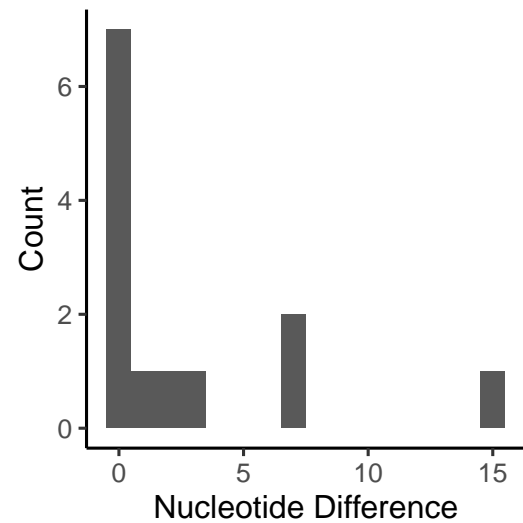
### IGHV5-51\*06

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



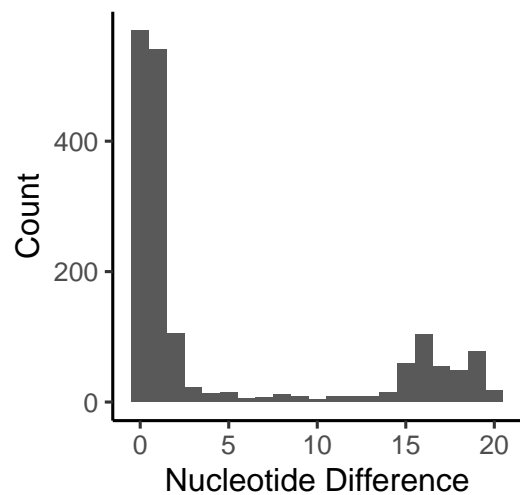
### IGHV7-4-1\*01

13 sequences assigned  
7 (53.8%) exact matches, in which:  
7 unique CDR3  
2 unique J



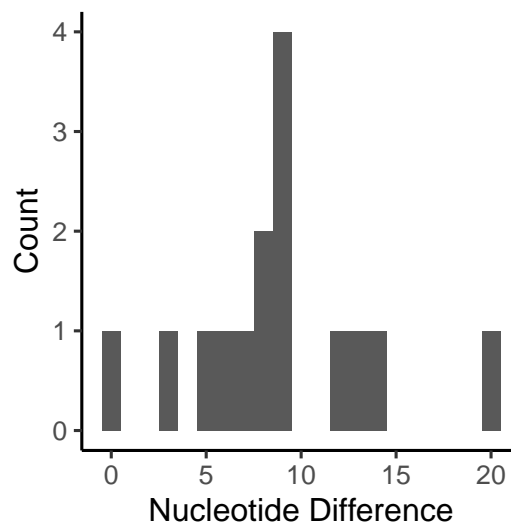
### IGHV5-10-1\*01\_03

1799 sequences assigned  
570 (31.7%) exact matches, in which:  
467 unique CDR3  
6 unique J



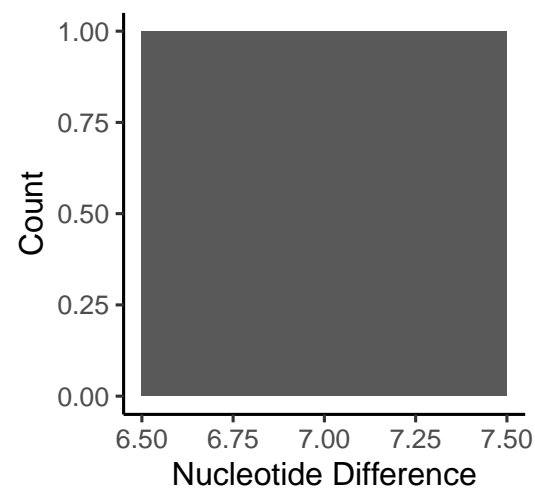
### IGHV5-51\*07

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



### IGHV7-81\*01

1 sequences assigned  
No exact matches.





Warning – no inferred sequences found.