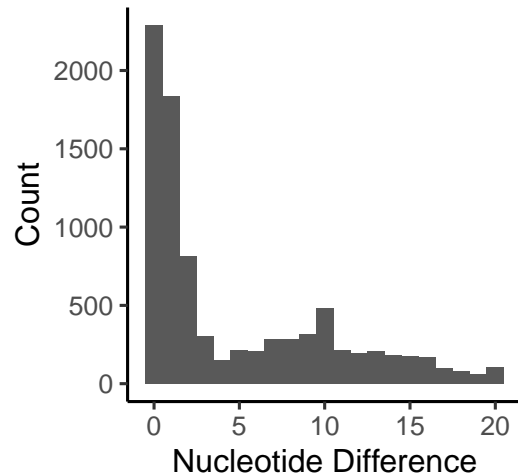


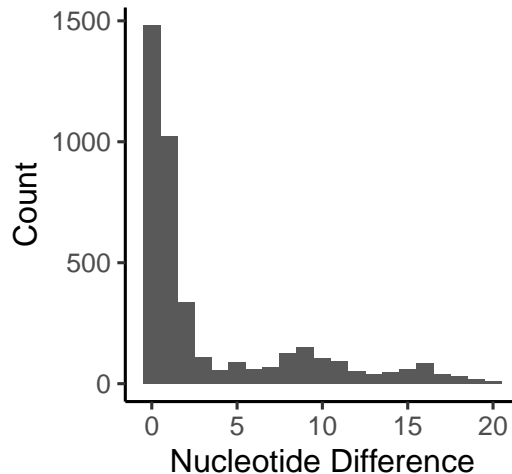
IGHV1-2*02

9680 sequences assigned
2288 (23.6%) exact matches, in which:
2005 unique CDR3
6 unique J



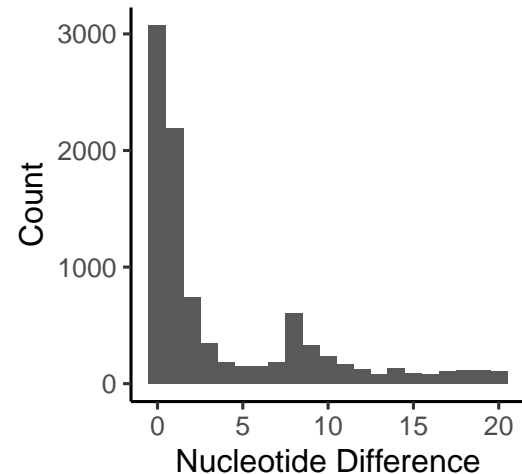
IGHV1-8*01

4723 sequences assigned
1481 (31.4%) exact matches, in which:
1366 unique CDR3
6 unique J



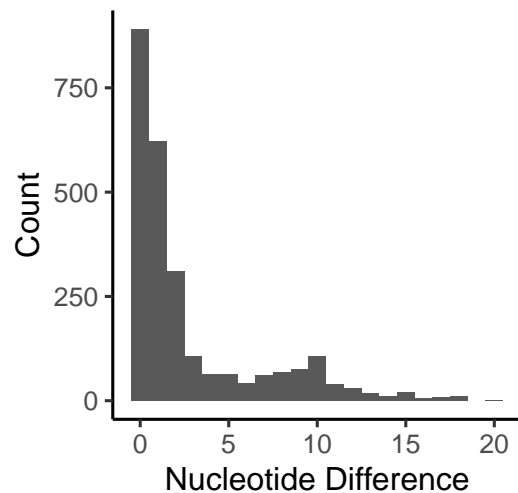
IGHV1-18*04

9945 sequences assigned
3073 (30.9%) exact matches, in which:
2726 unique CDR3
6 unique J



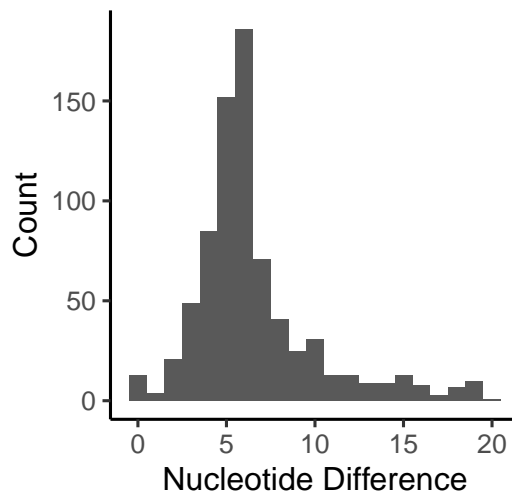
IGHV1-2*04

2625 sequences assigned
891 (33.9%) exact matches, in which:
815 unique CDR3
6 unique J



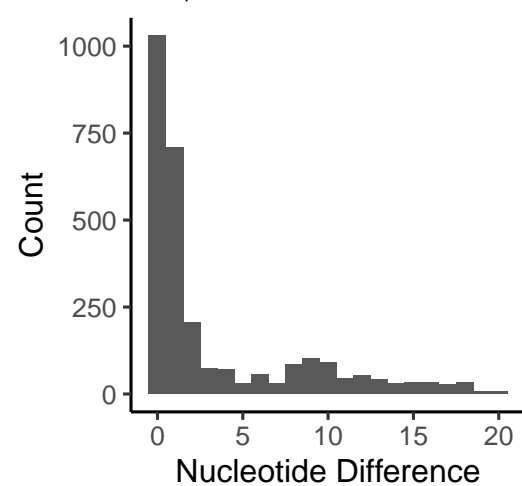
IGHV1-8*02

793 sequences assigned
13 (1.6%) exact matches, in which:
12 unique CDR3
4 unique J



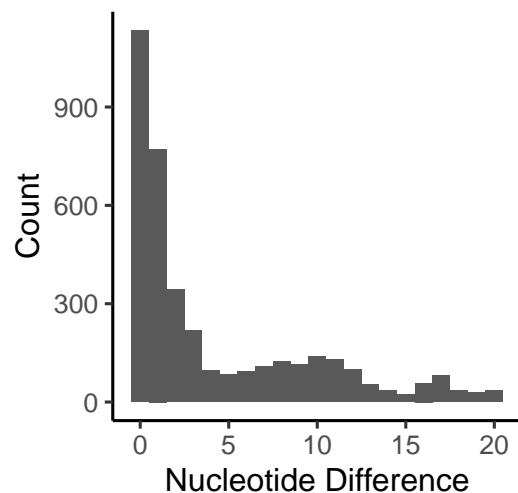
IGHV1-24*01

2966 sequences assigned
1030 (34.7%) exact matches, in which:
933 unique CDR3
6 unique J



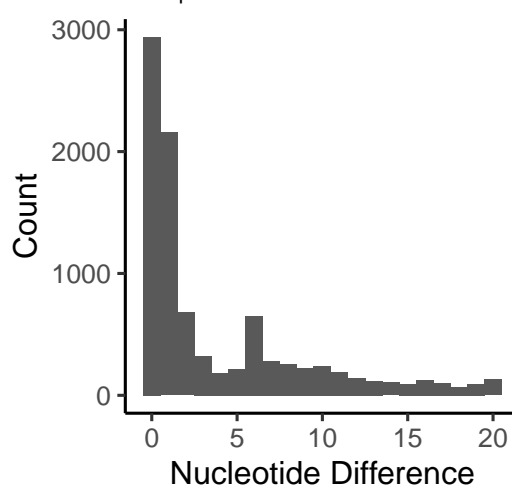
IGHV1-3*01_05

4649 sequences assigned
1134 (24.4%) exact matches, in which:
995 unique CDR3
6 unique J



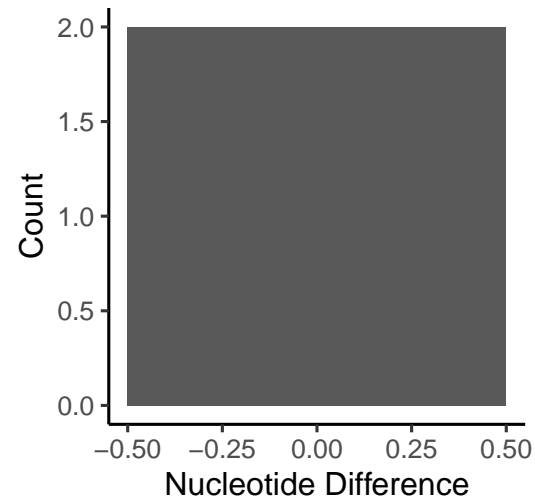
IGHV1-18*01

11689 sequences assigned
2940 (25.2%) exact matches, in which:
2663 unique CDR3
6 unique J



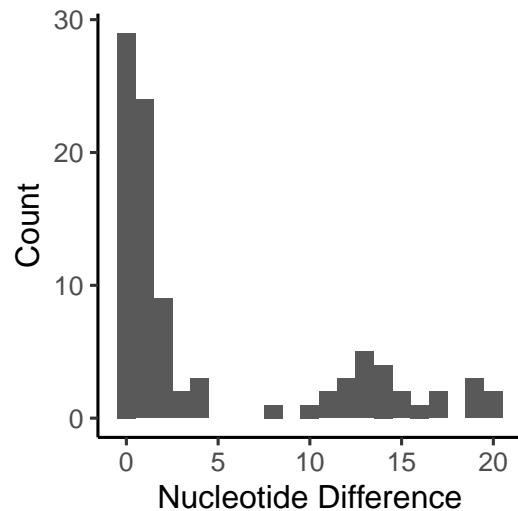
IGHV1-38-4*01

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



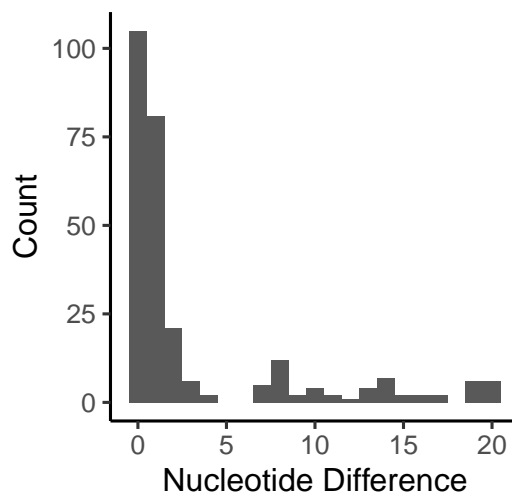
IGHV1-45*02

97 sequences assigned
29 (29.9%) exact matches, in which:
22 unique CDR3
4 unique J



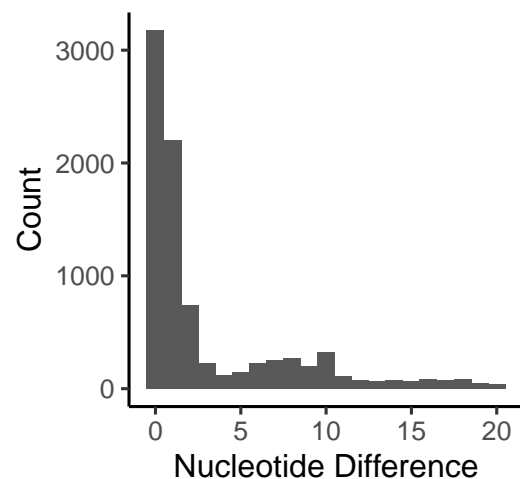
IGHV1-58*02

274 sequences assigned
105 (38.3%) exact matches, in which:
92 unique CDR3
6 unique J



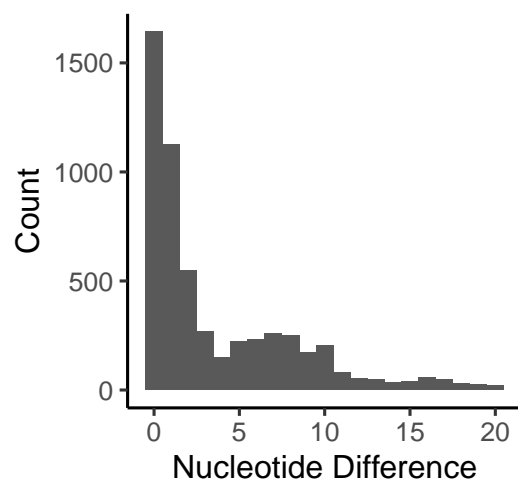
IGHV1-69*01_12_13

9236 sequences assigned
3175 (34.4%) exact matches, in which:
2909 unique CDR3
6 unique J



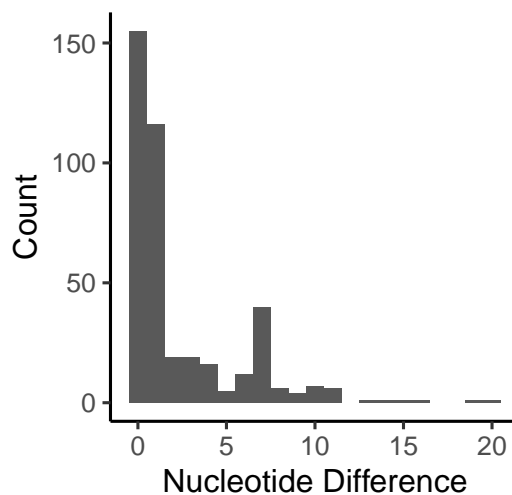
IGHV1-46*01

5756 sequences assigned
1643 (28.5%) exact matches, in which:
1482 unique CDR3
6 unique J



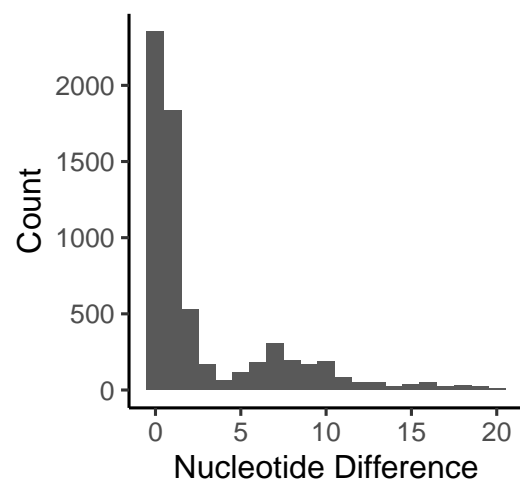
IGHV1-58*01_03

424 sequences assigned
155 (36.6%) exact matches, in which:
139 unique CDR3
6 unique J



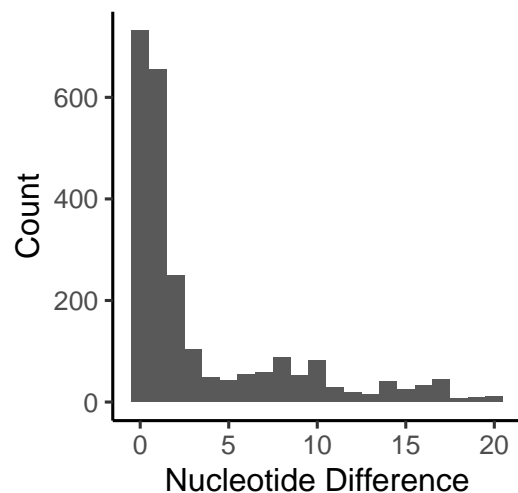
IGHV1-69*04_09

6880 sequences assigned
2352 (34.2%) exact matches, in which:
2132 unique CDR3
6 unique J



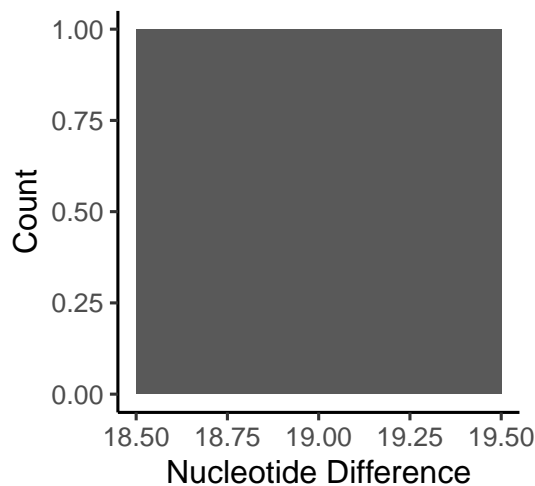
IGHV1-46*03

2699 sequences assigned
732 (27.1%) exact matches, in which:
605 unique CDR3
6 unique J



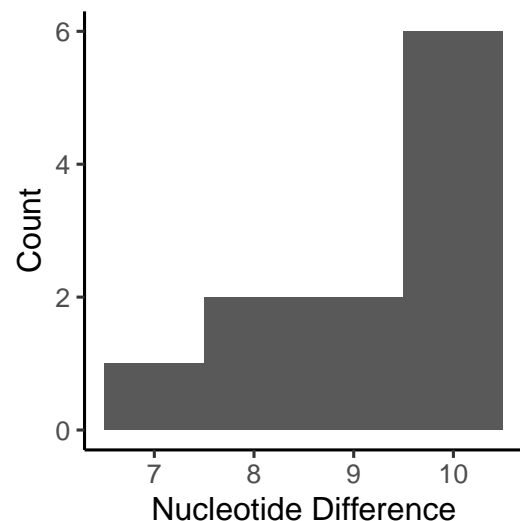
IGHV1-69-2*01

3 sequences assigned
No exact matches.



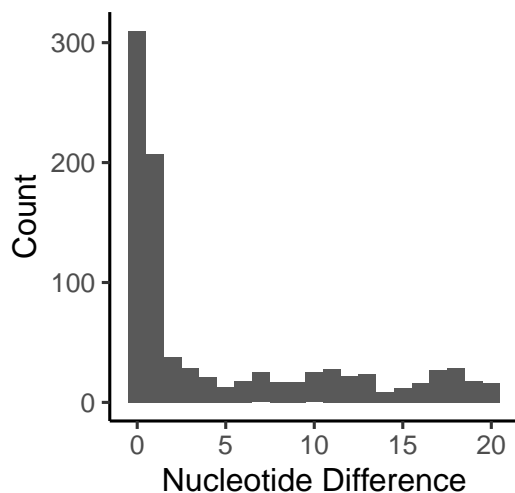
IGHV1-NL1*01

11 sequences assigned
No exact matches.



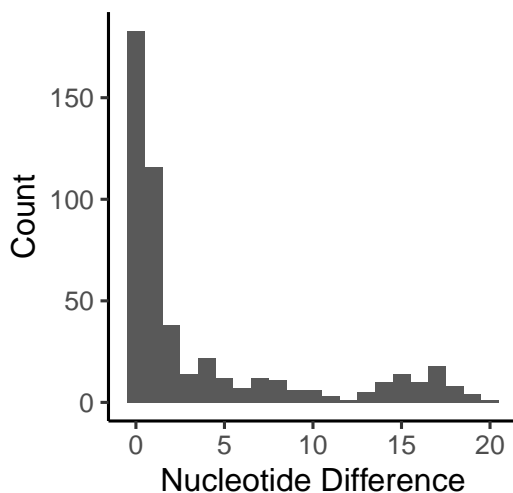
IGHV2-5*01

1361 sequences assigned
310 (22.8%) exact matches, in which:
286 unique CDR3
6 unique J



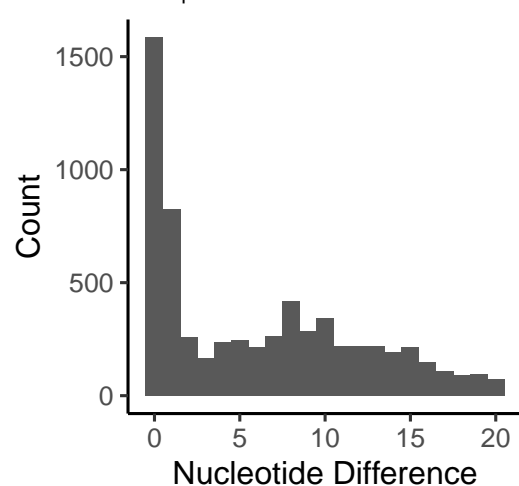
IGHV2-70*01

1072 sequences assigned
183 (17.1%) exact matches, in which:
156 unique CDR3
6 unique J



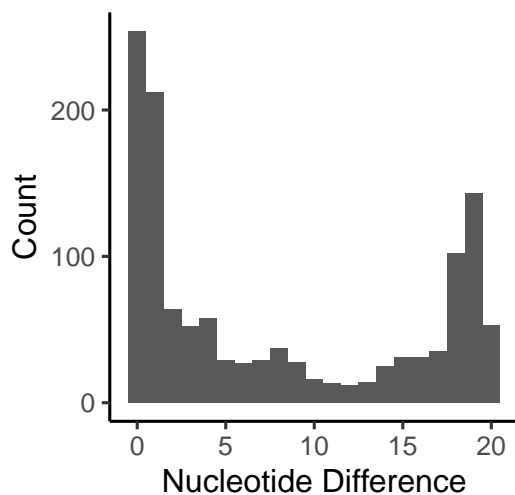
IGHV3-7*01

6865 sequences assigned
1585 (23.1%) exact matches, in which:
1161 unique CDR3
6 unique J



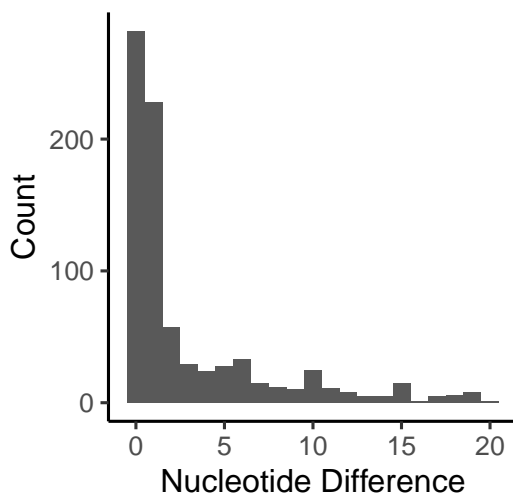
IGHV2-5*02

1470 sequences assigned
254 (17.3%) exact matches, in which:
226 unique CDR3
6 unique J



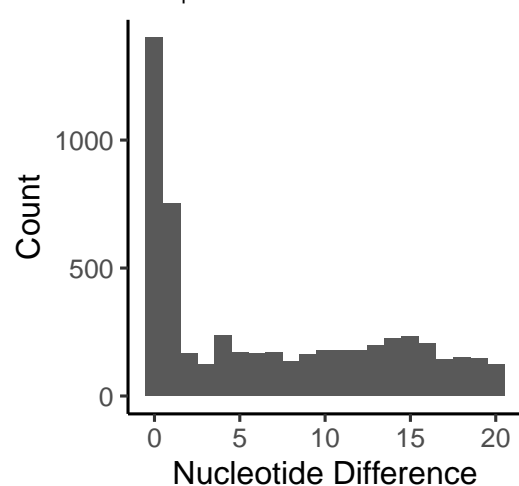
IGHV2-70*11_15

861 sequences assigned
282 (32.8%) exact matches, in which:
249 unique CDR3
6 unique J



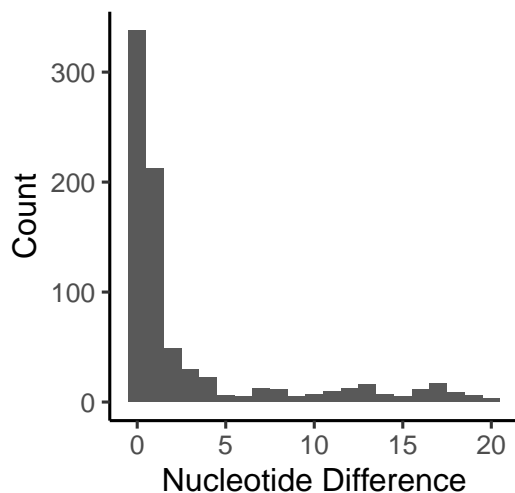
IGHV3-7*03

6277 sequences assigned
1400 (22.3%) exact matches, in which:
933 unique CDR3
6 unique J



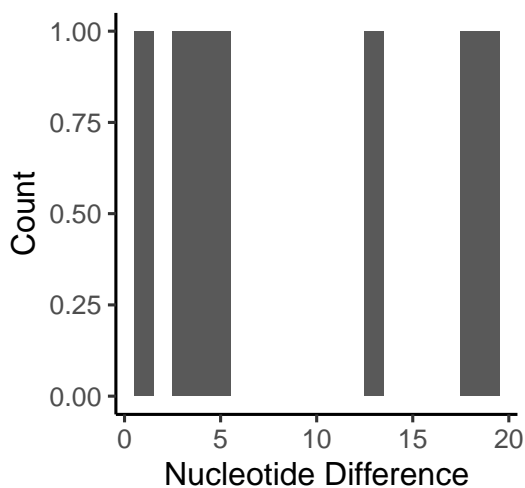
IGHV2-26*01

819 sequences assigned
338 (41.3%) exact matches, in which:
302 unique CDR3
6 unique J



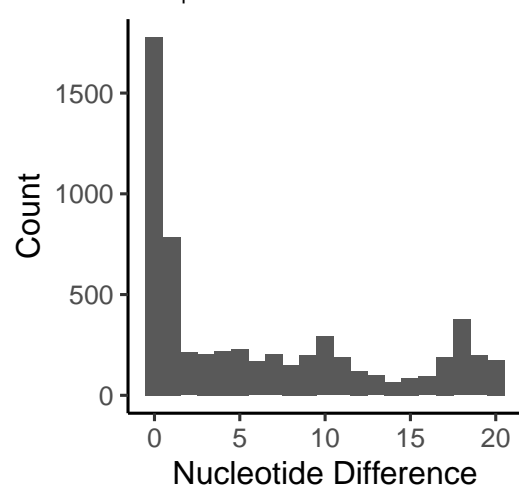
IGHV2-70D*04

7 sequences assigned
No exact matches.



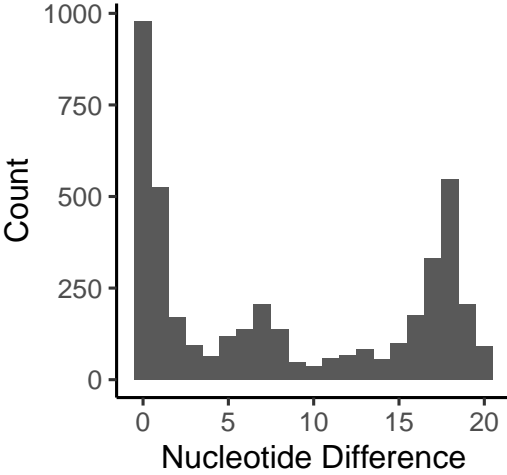
IGHV3-9*01

7210 sequences assigned
1778 (24.7%) exact matches, in which:
1185 unique CDR3
6 unique J



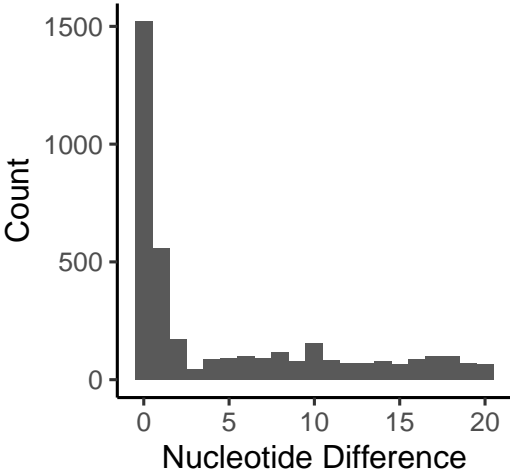
IGHV3-11*06

6402 sequences assigned
978 (15.3%) exact matches, in which:
693 unique CDR3
6 unique J



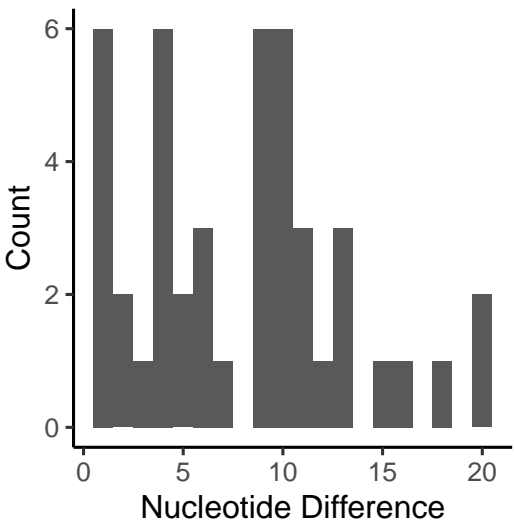
IGHV3-15*01_02

4245 sequences assigned
1521 (35.8%) exact matches, in which:
1030 unique CDR3
6 unique J



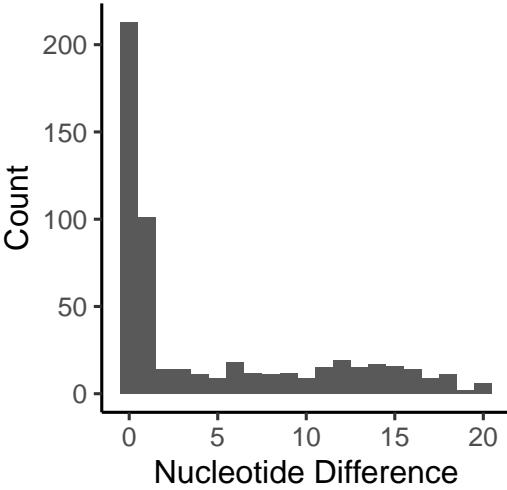
IGHV3-20*03_04

431 sequences assigned
No exact matches.



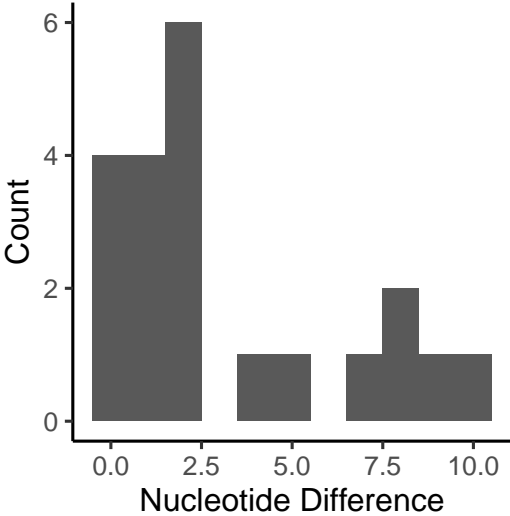
IGHV3-13*01

575 sequences assigned
213 (37%) exact matches, in which:
139 unique CDR3
6 unique J



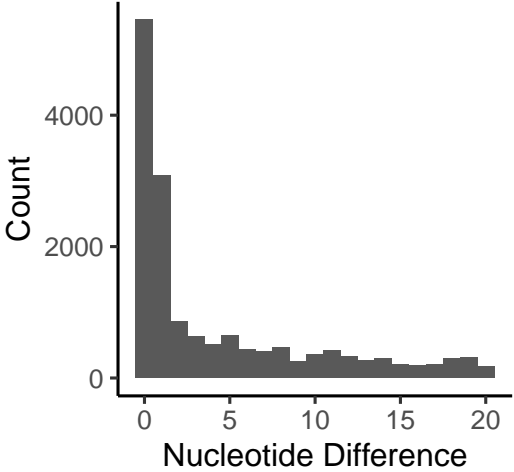
IGHV3-19*01

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



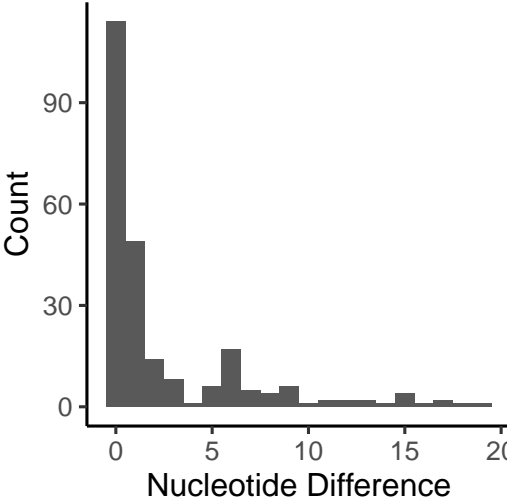
IGHV3-21*01_02

17444 sequences assigned
5453 (31.3%) exact matches, in which:
3503 unique CDR3
6 unique J



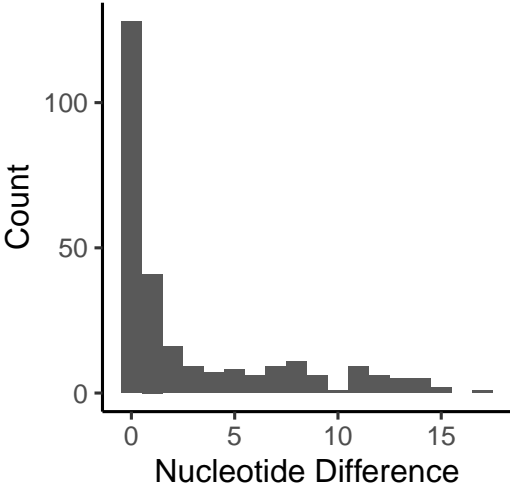
IGHV3-13*05

271 sequences assigned
114 (42.1%) exact matches, in which:
76 unique CDR3
6 unique J



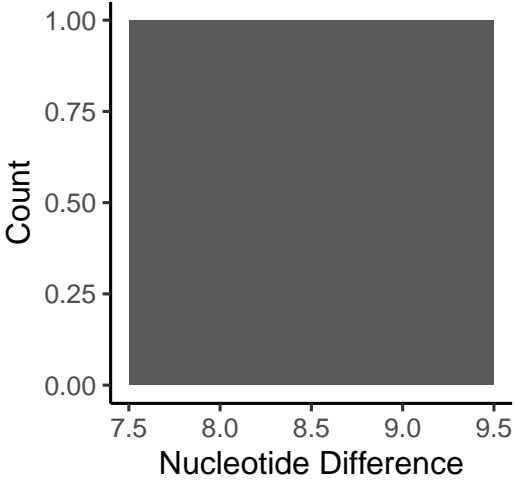
IGHV3-20*01_02

344 sequences assigned
128 (37.2%) exact matches, in which:
79 unique CDR3
6 unique J



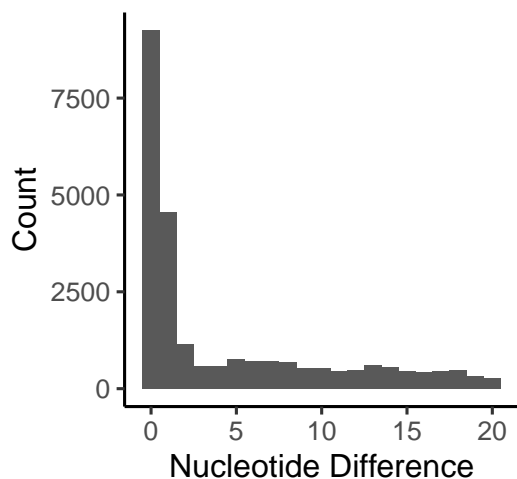
IGHV3-22*01_02

2 sequences assigned
No exact matches.



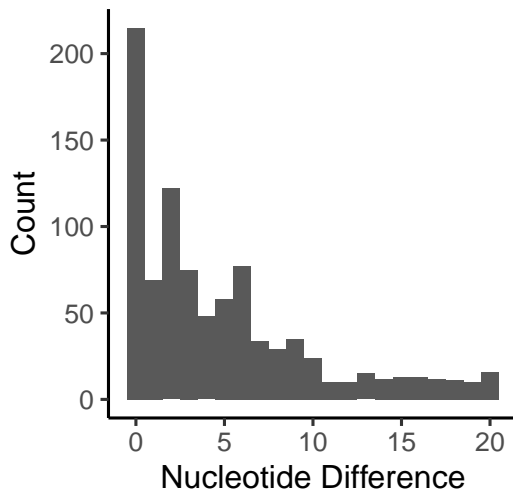
IGHV3-23*01_04

28309 sequences assigned
9247 (32.7%) exact matches, in which:
5722 unique CDR3
6 unique J



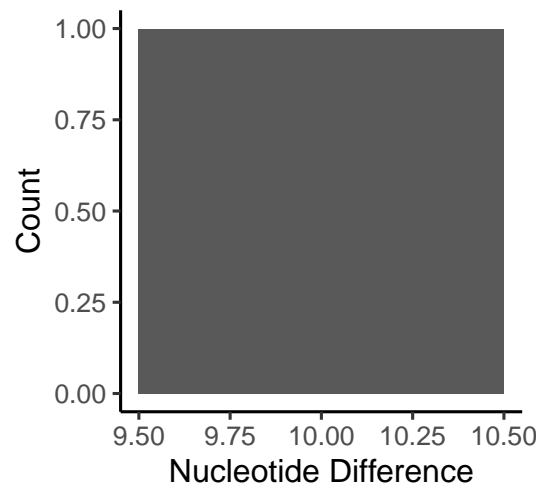
IGHV3-33*08

1230 sequences assigned
215 (17.5%) exact matches, in which:
200 unique CDR3
6 unique J



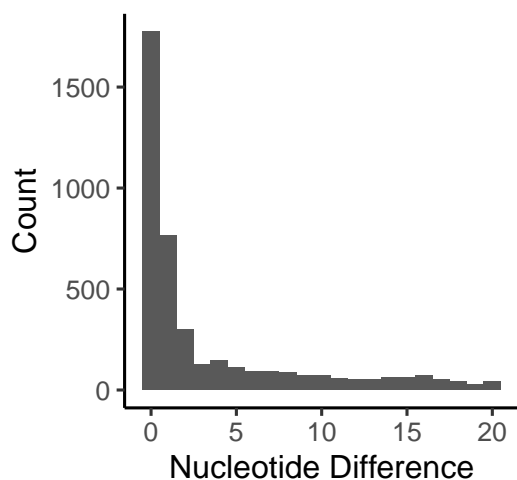
IGHV3-38*03

1 sequences assigned
No exact matches.



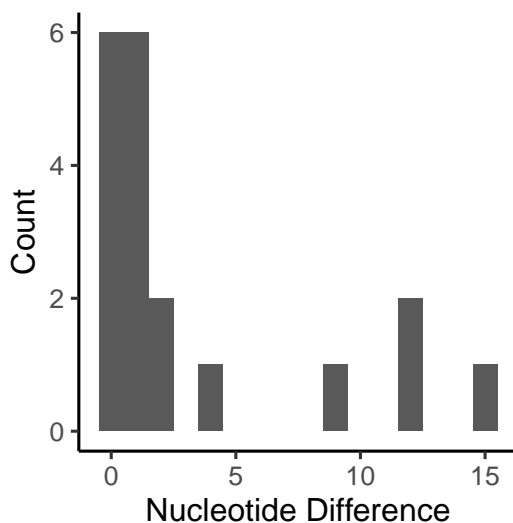
IGHV3-33*01

4852 sequences assigned
1774 (36.6%) exact matches, in which:
1187 unique CDR3
6 unique J



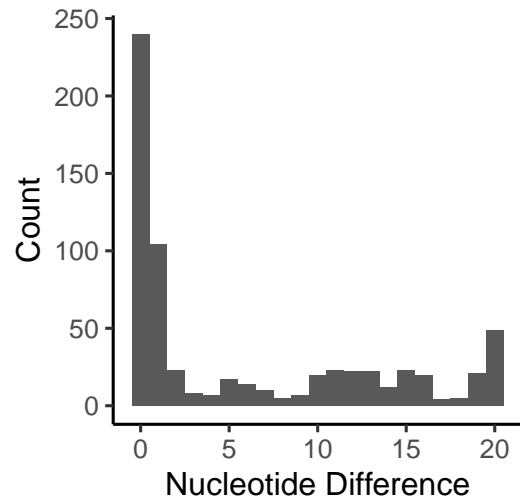
IGHV3-35*01

19 sequences assigned
6 (31.6%) exact matches, in which:
4 unique CDR3
2 unique J



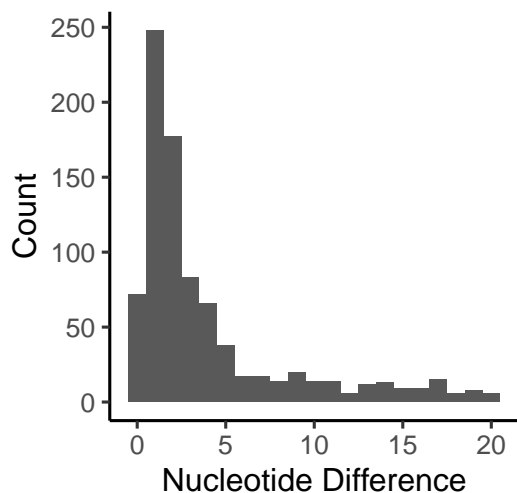
IGHV3-43*01

1033 sequences assigned
240 (23.2%) exact matches, in which:
157 unique CDR3
6 unique J



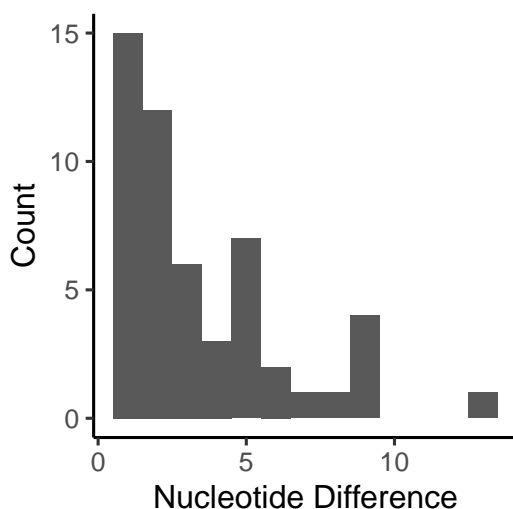
IGHV3-33*06

945 sequences assigned
72 (7.6%) exact matches, in which:
71 unique CDR3
6 unique J



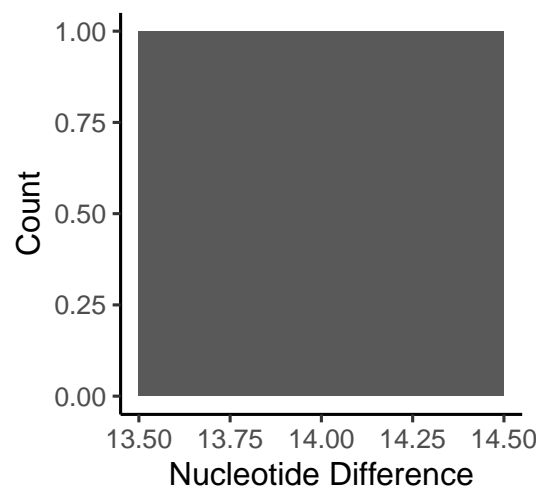
IGHV3-38-3*01

52 sequences assigned
No exact matches.



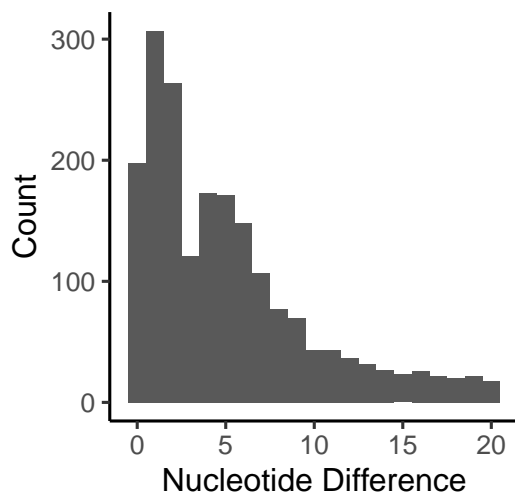
IGHV3-47*02

1 sequences assigned
No exact matches.



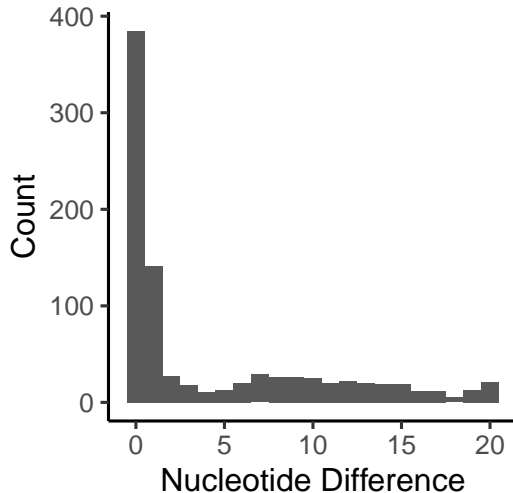
IGHV3-48*01

2104 sequences assigned
198 (9.4%) exact matches, in which:
193 unique CDR3
5 unique J



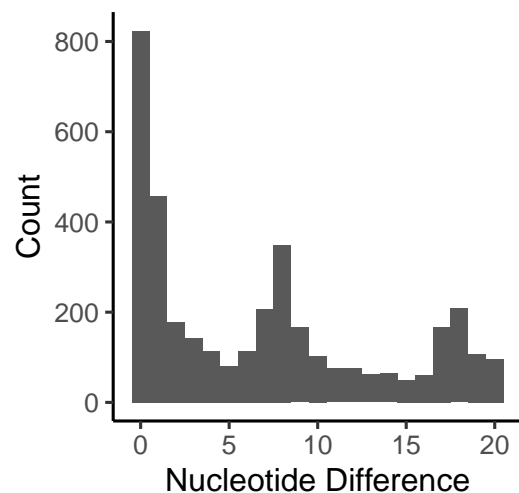
IGHV3-49*03_05

973 sequences assigned
385 (39.6%) exact matches, in which:
267 unique CDR3
6 unique J



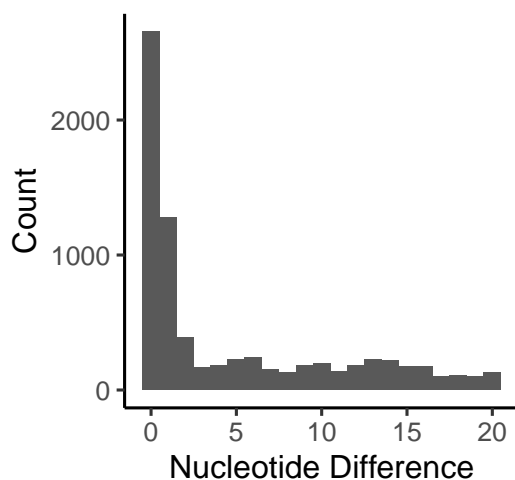
IGHV3-53*01_02

4093 sequences assigned
824 (20.1%) exact matches, in which:
558 unique CDR3
6 unique J



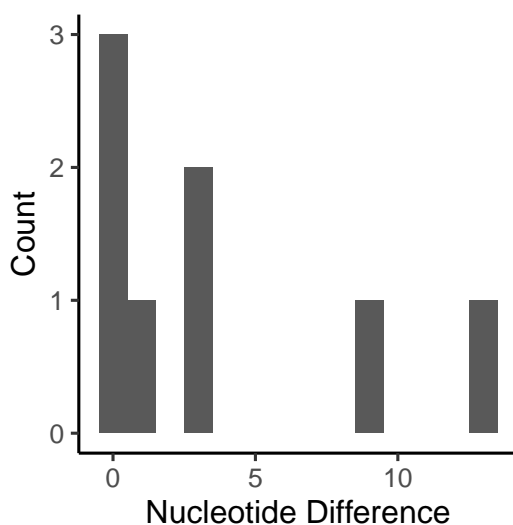
IGHV3-48*02

8548 sequences assigned
2654 (31%) exact matches, in which:
1697 unique CDR3
6 unique J



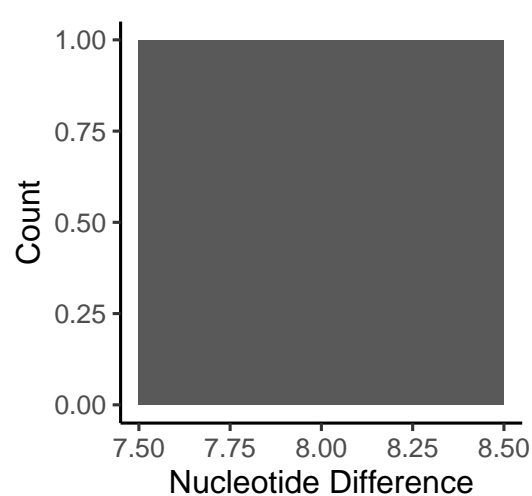
IGHV3-52*02

8 sequences assigned
3 (37.5%) exact matches, in which:
3 unique CDR3
3 unique J



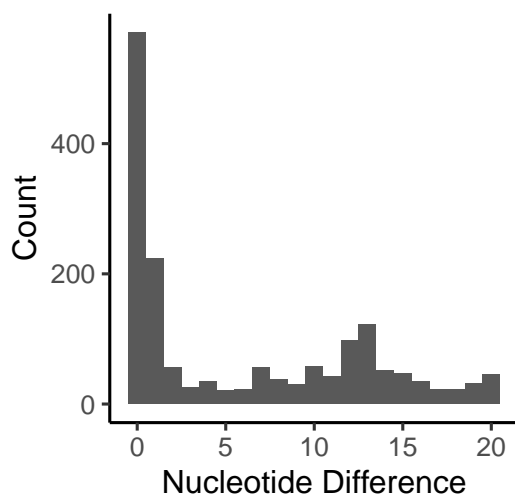
IGHV3-62*03

1 sequences assigned
No exact matches.



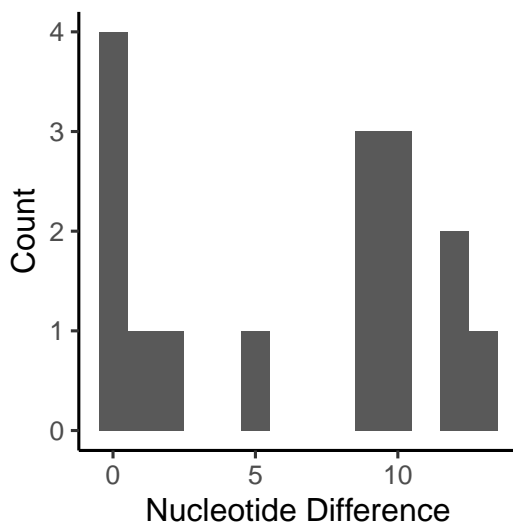
IGHV3-49*04

2151 sequences assigned
571 (26.5%) exact matches, in which:
400 unique CDR3
6 unique J



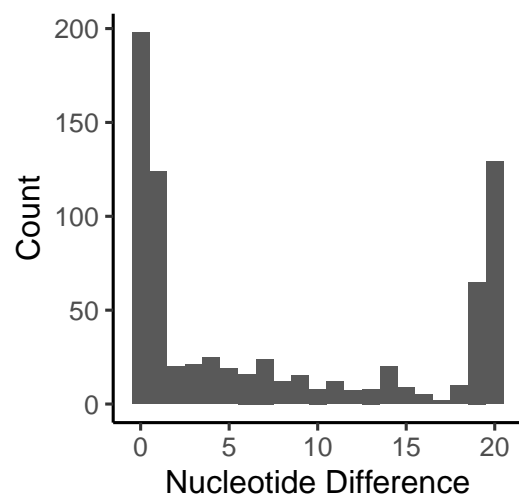
IGHV3-52*01_03

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



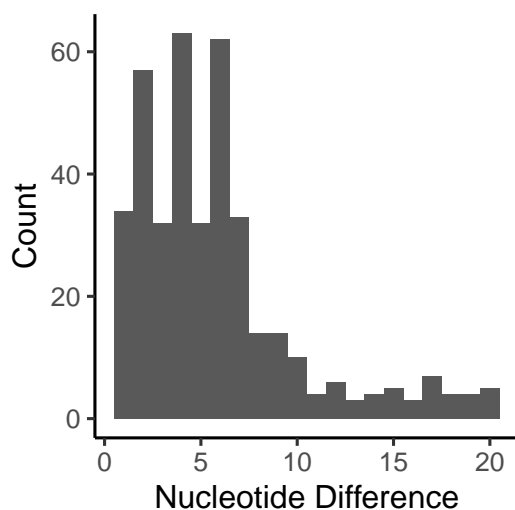
IGHV3-64*01

972 sequences assigned
198 (20.4%) exact matches, in which:
132 unique CDR3
6 unique J



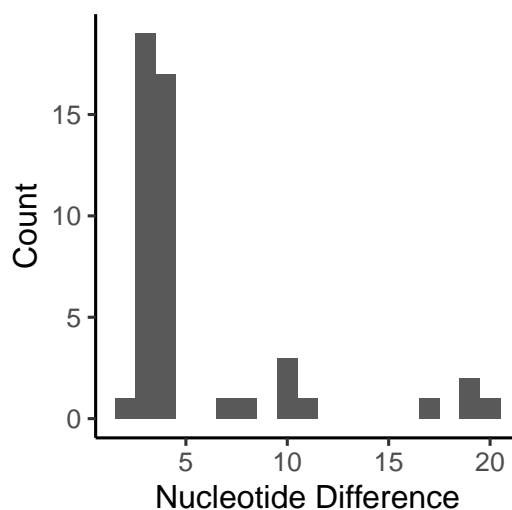
IGHV3-64*04

443 sequences assigned
No exact matches.



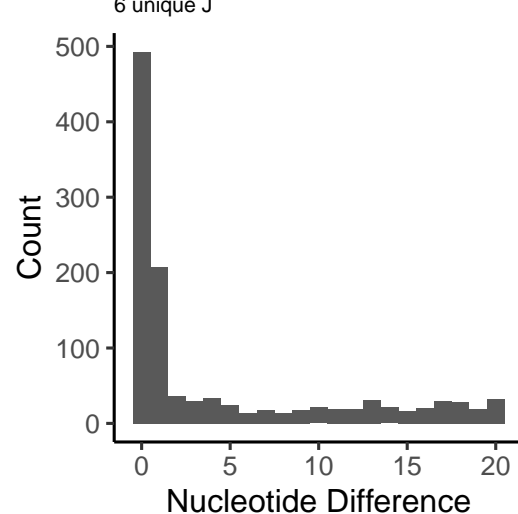
IGHV3-69-1*02

57 sequences assigned
No exact matches.



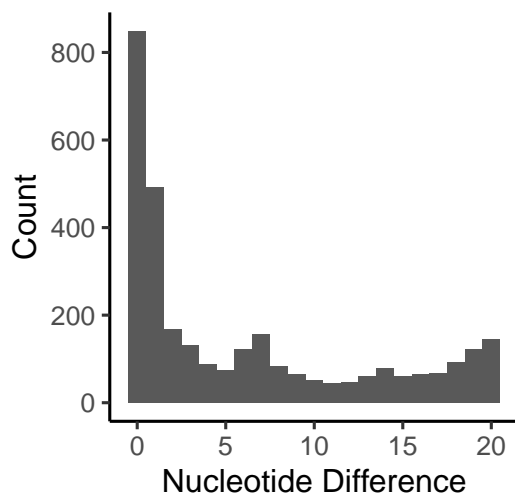
IGHV3-73*01_02

1699 sequences assigned
493 (29%) exact matches, in which:
309 unique CDR3
6 unique J



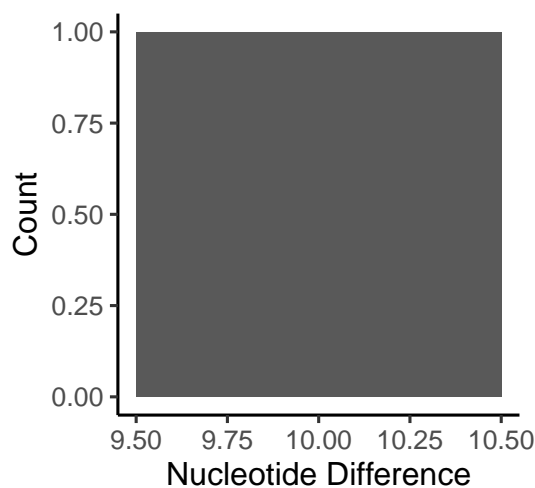
IGHV3-66*01

4033 sequences assigned
849 (21.1%) exact matches, in which:
586 unique CDR3
6 unique J



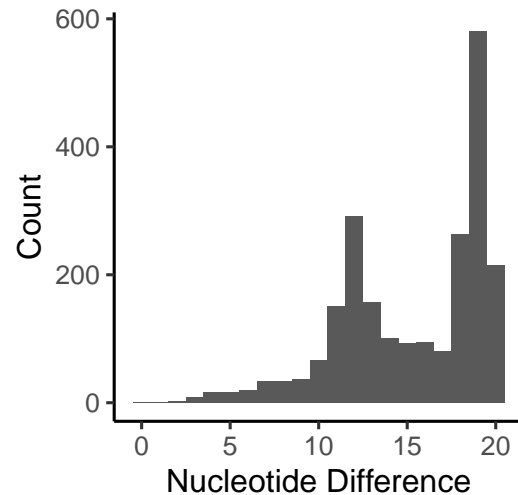
IGHV3-71*01_04

4 sequences assigned
No exact matches.



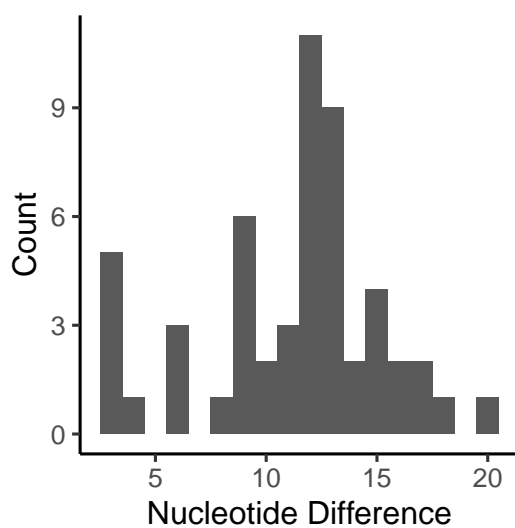
IGHV3-74*03

2849 sequences assigned
1 (0%) exact matches, in which:
1 unique CDR3
1 unique J



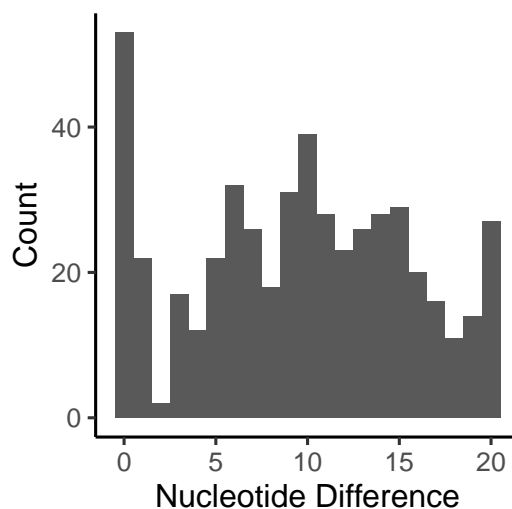
IGHV3-69-1*01

73 sequences assigned
No exact matches.



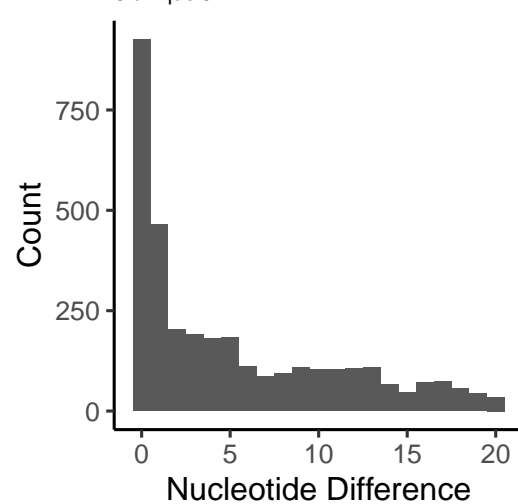
IGHV3-72*01

663 sequences assigned
53 (8%) exact matches, in which:
33 unique CDR3
5 unique J



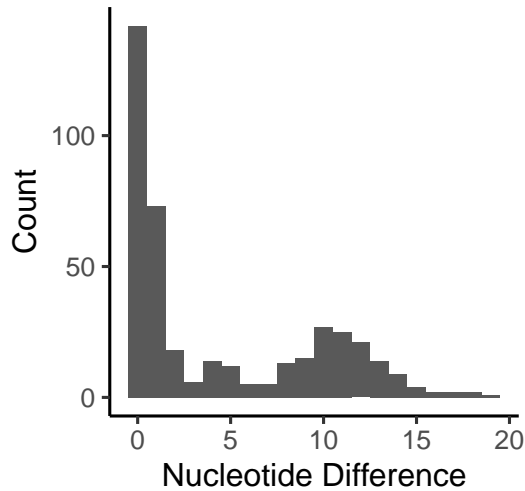
IGHV3-74*01_02

3544 sequences assigned
926 (26.1%) exact matches, in which:
586 unique CDR3
6 unique J



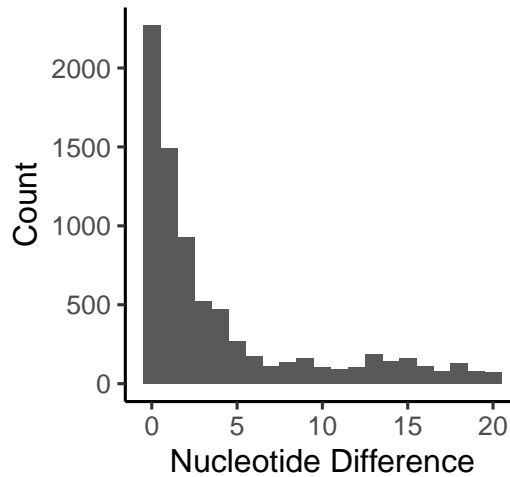
IGHV3-43D*03

428 sequences assigned
142 (33.2%) exact matches, in which:
95 unique CDR3
6 unique J



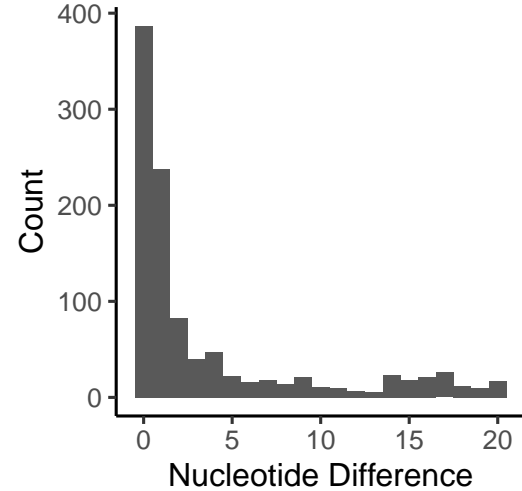
IGHV4-4*02_03

9063 sequences assigned
2270 (25%) exact matches, in which:
1987 unique CDR3
6 unique J



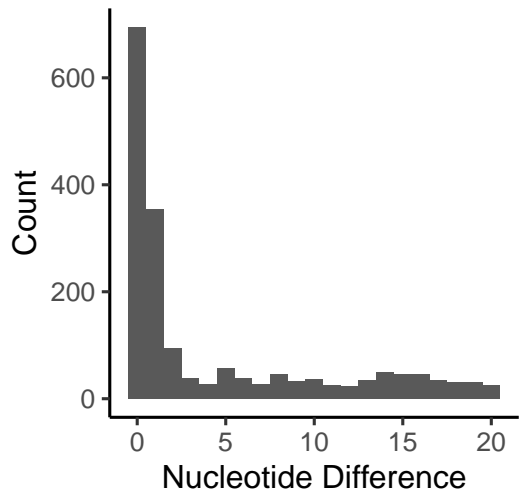
IGHV4-30-2*01

1184 sequences assigned
387 (32.7%) exact matches, in which:
301 unique CDR3
6 unique J



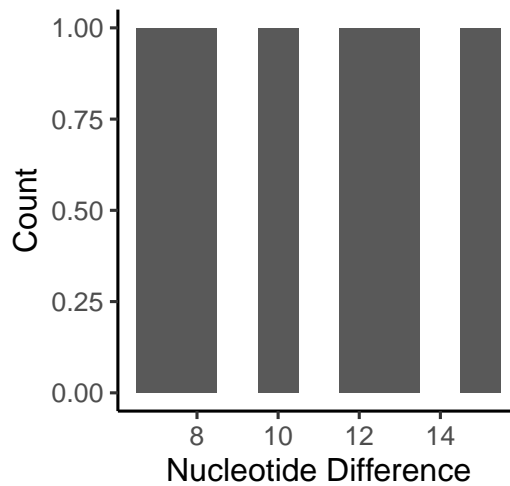
IGHV3-64D*06

2809 sequences assigned
695 (24.7%) exact matches, in which:
421 unique CDR3
6 unique J



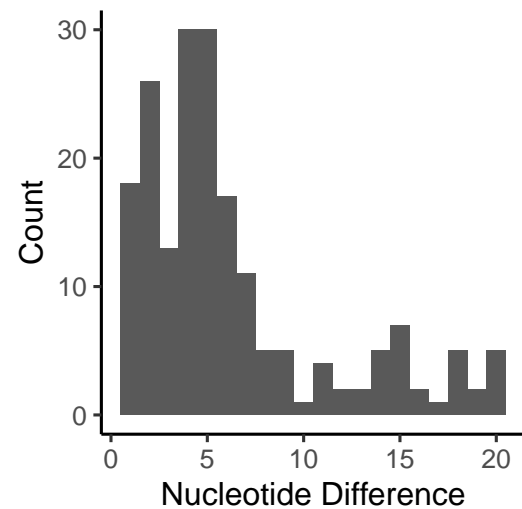
IGHV4-28*03

7 sequences assigned
No exact matches.



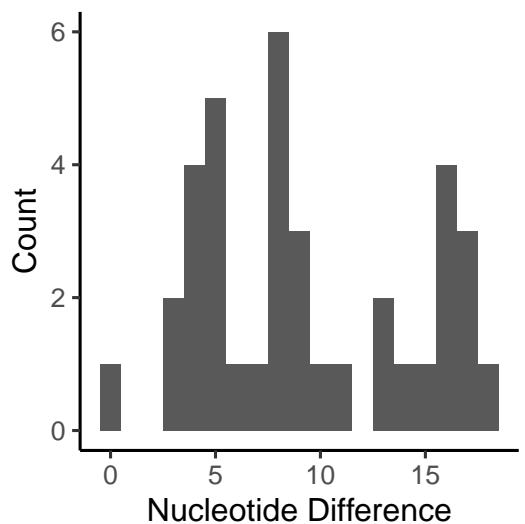
IGHV4-30-2*03

752 sequences assigned
No exact matches.



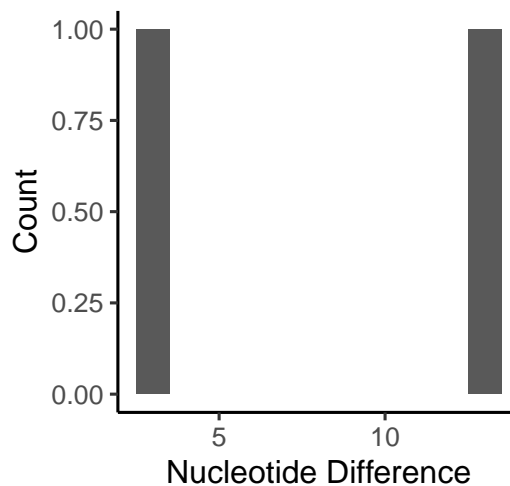
IGHV3-NL1*01

44 sequences assigned
1 (2.3%) exact matches, in which:
1 unique CDR3
1 unique J



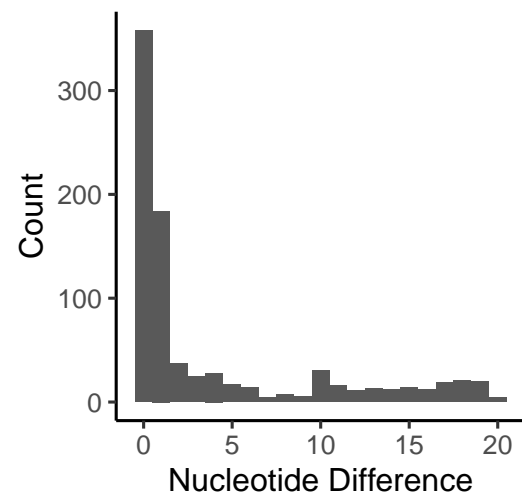
IGHV4-28*01_07

2 sequences assigned
No exact matches.



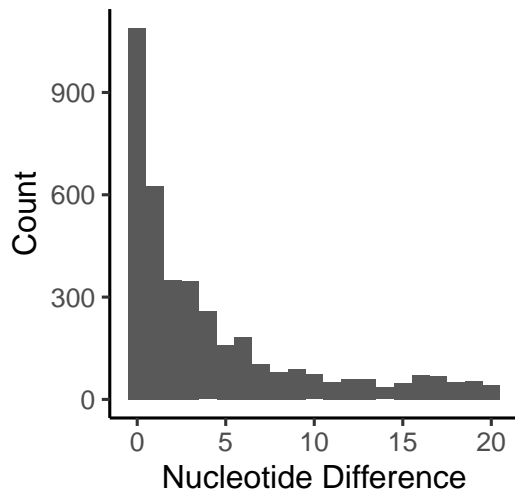
IGHV4-30-4*07

1490 sequences assigned
358 (24%) exact matches, in which:
298 unique CDR3
6 unique J



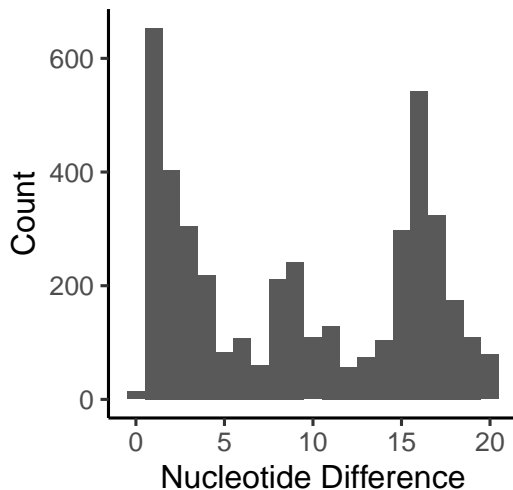
IGHV4-31*02

4727 sequences assigned
1090 (23.1%) exact matches, in which:
978 unique CDR3
6 unique J



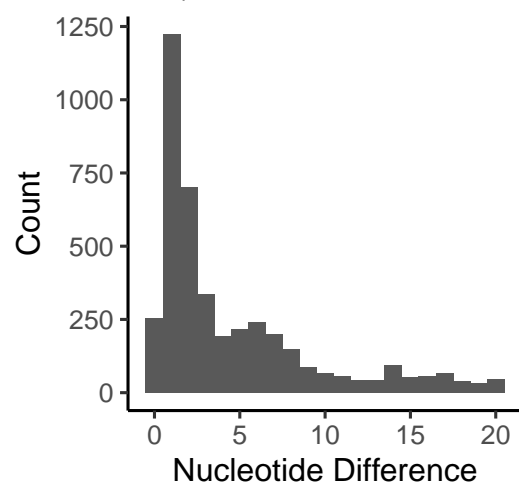
IGHV4-39*07

4960 sequences assigned
14 (0.3%) exact matches, in which:
14 unique CDR3
4 unique J



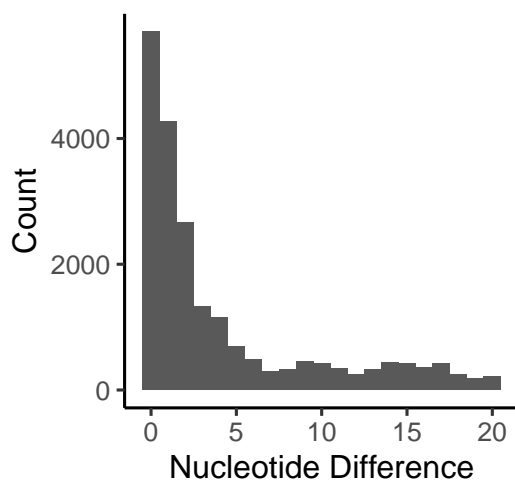
IGHV4-59*12

4824 sequences assigned
256 (5.3%) exact matches, in which:
251 unique CDR3
6 unique J



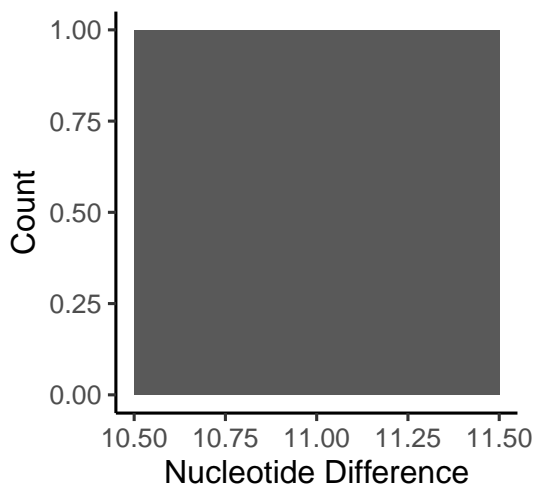
IGHV4-34*01_02

23289 sequences assigned
5698 (24.5%) exact matches, in which:
4874 unique CDR3
6 unique J



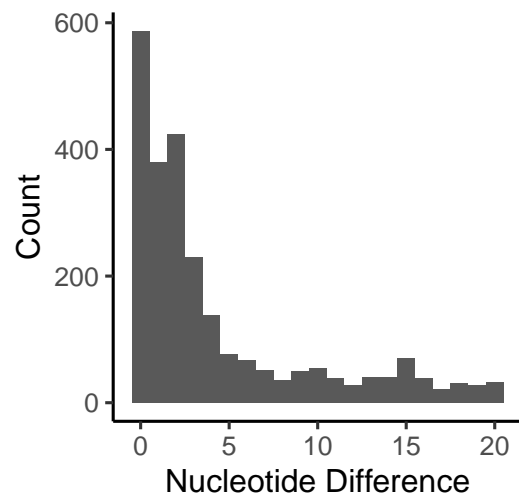
IGHV4-55*09

1 sequences assigned
No exact matches.



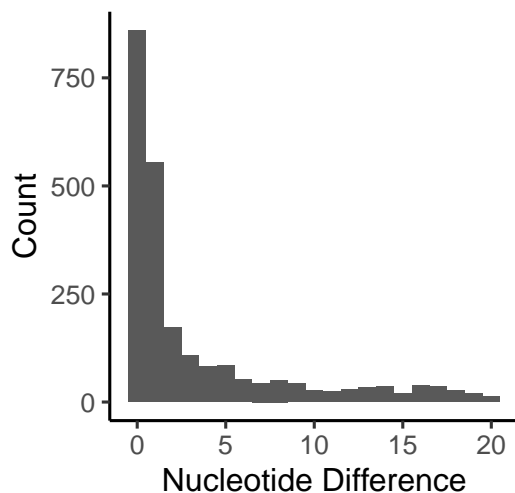
IGHV4-61*01

2683 sequences assigned
587 (21.9%) exact matches, in which:
558 unique CDR3
6 unique J



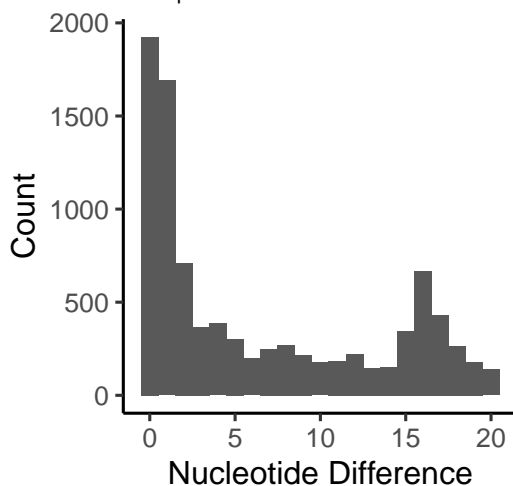
IGHV4-38-2*02

2577 sequences assigned
860 (33.4%) exact matches, in which:
788 unique CDR3
6 unique J



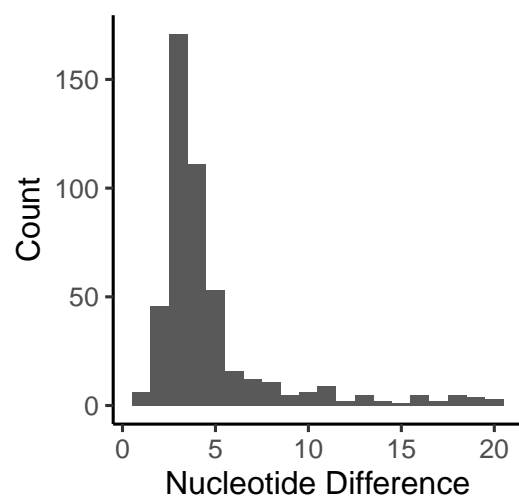
IGHV4-59*08

10597 sequences assigned
1924 (18.2%) exact matches, in which:
1701 unique CDR3
6 unique J



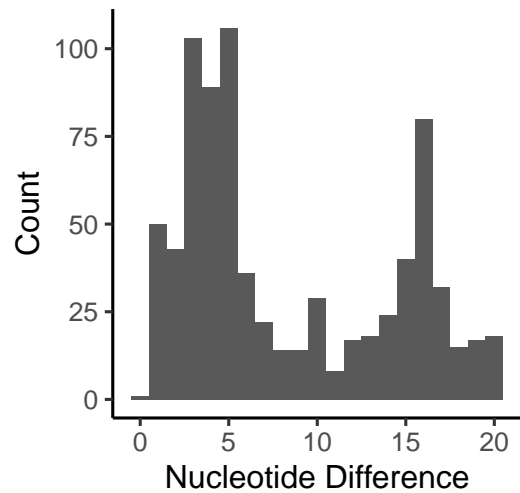
IGHV4-61*05

489 sequences assigned
No exact matches.



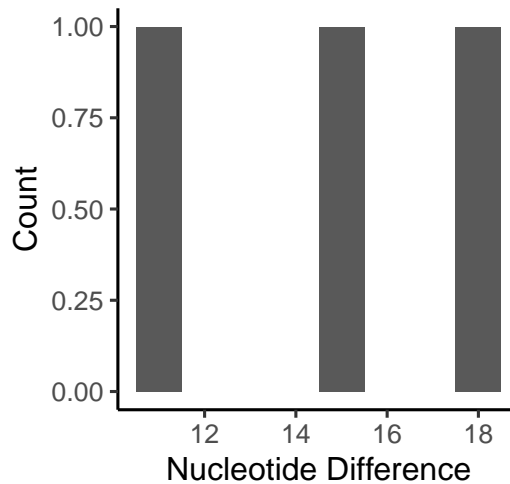
IGHV4–61*08

1587 sequences assigned
1 (0.1%) exact matches, in which:
1 unique CDR3
1 unique J



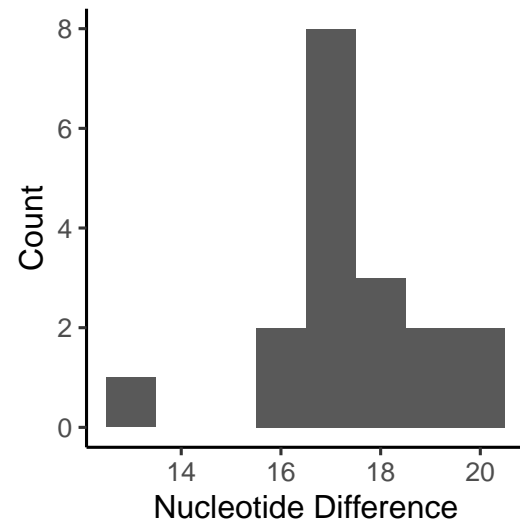
IGHV1/OR15–3*02

4 sequences assigned
No exact matches.



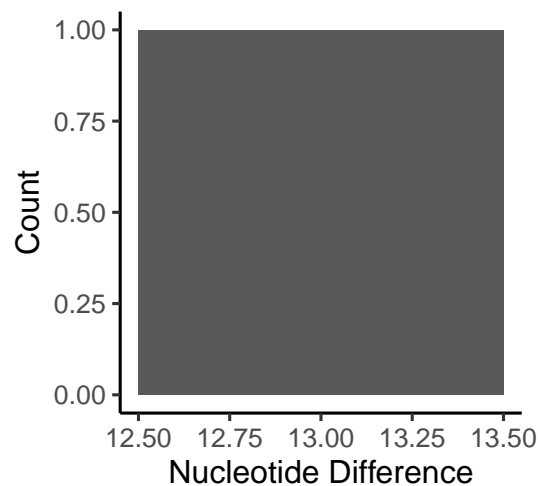
IGHV4/OR15–8*02

48 sequences assigned
No exact matches.



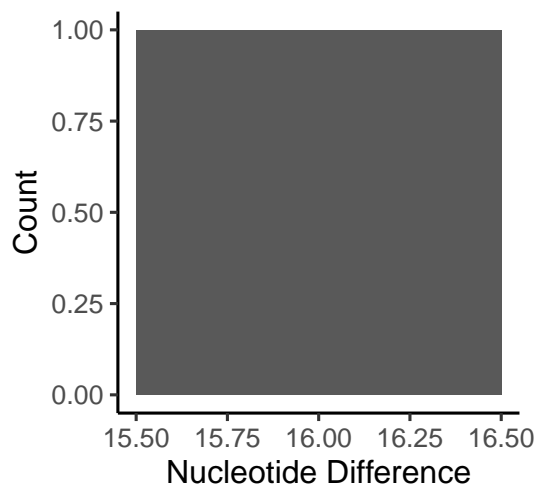
IGHV1/OR15–1*02

1 sequences assigned
No exact matches.



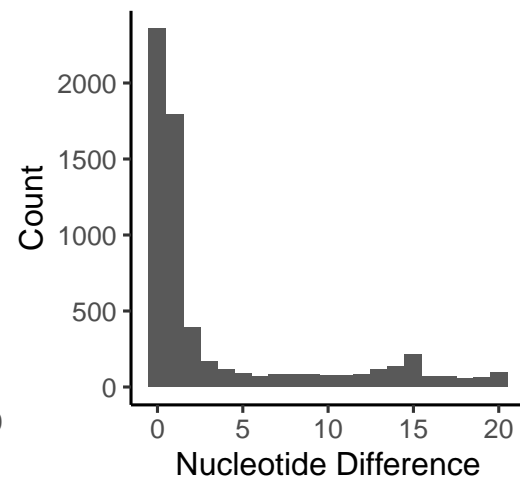
IGHV1/OR15–4*01

1 sequences assigned
No exact matches.



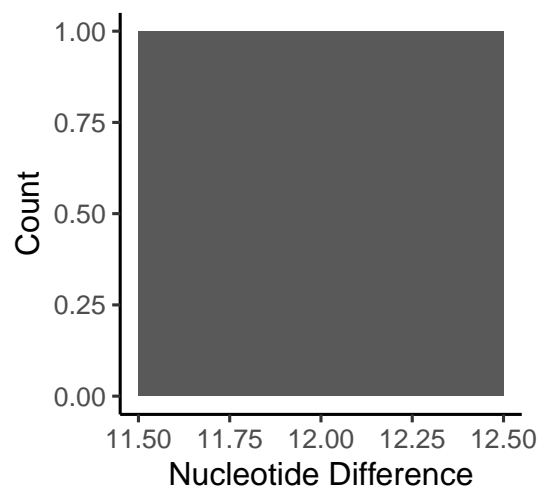
IGHV5–10–1*01_03

7244 sequences assigned
2357 (32.5%) exact matches, in which:
1813 unique CDR3
6 unique J



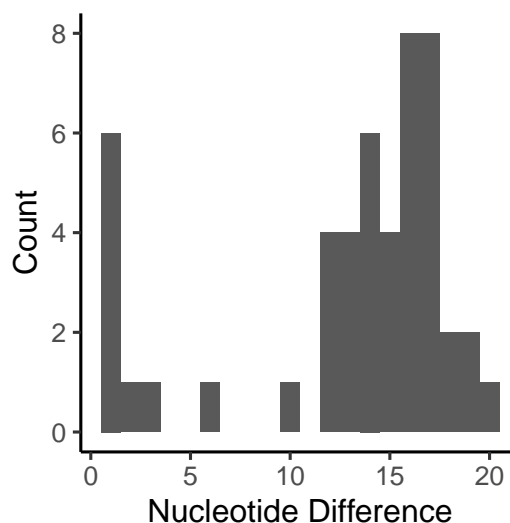
IGHV1/OR15–2*02_03

2 sequences assigned
No exact matches.



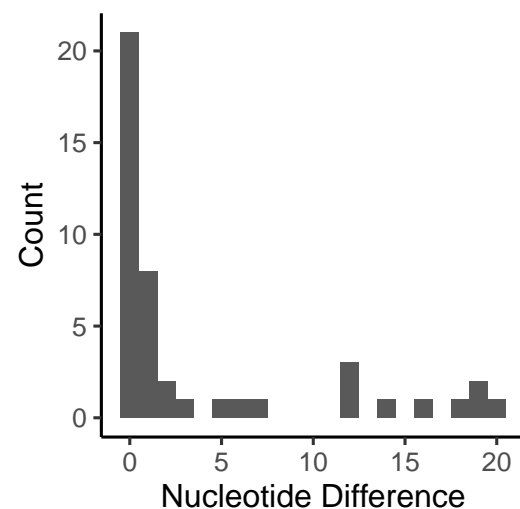
IGHV4/OR15–8*01

61 sequences assigned
No exact matches.



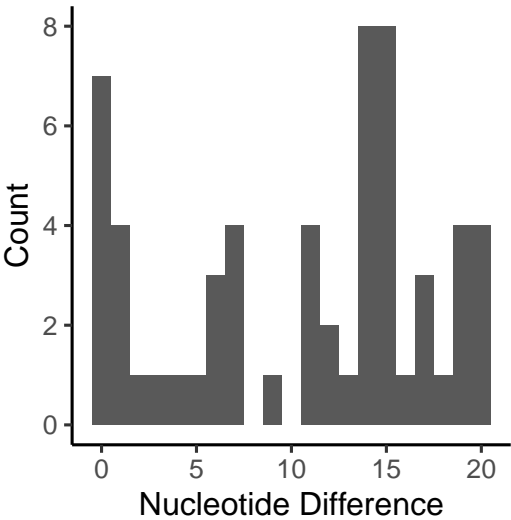
IGHV5–51*04

50 sequences assigned
21 (42%) exact matches, in which:
20 unique CDR3
5 unique J



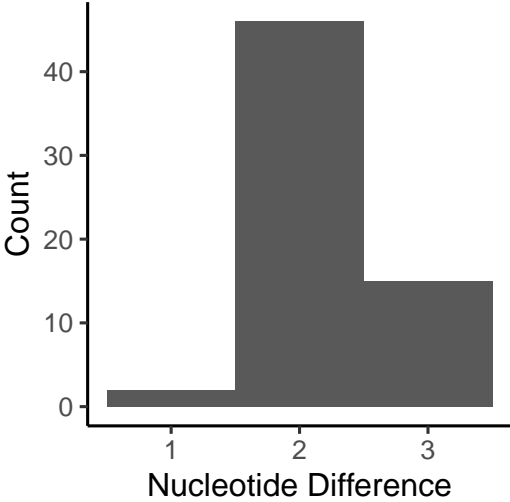
IGHV5-51*06

119 sequences assigned
7 (5.9%) exact matches, in which:
7 unique CDR3
4 unique J



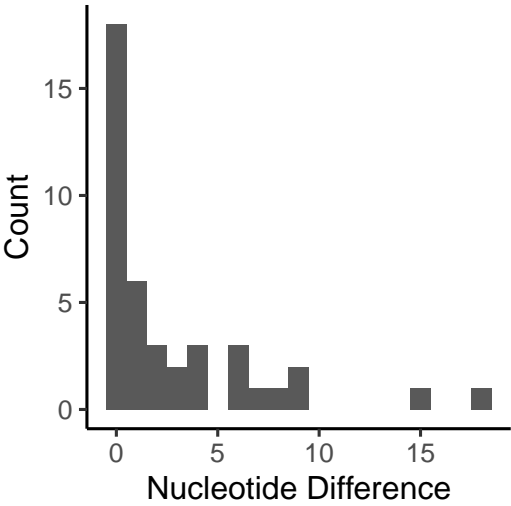
IGHV3/OR16-9*01

63 sequences assigned
No exact matches.



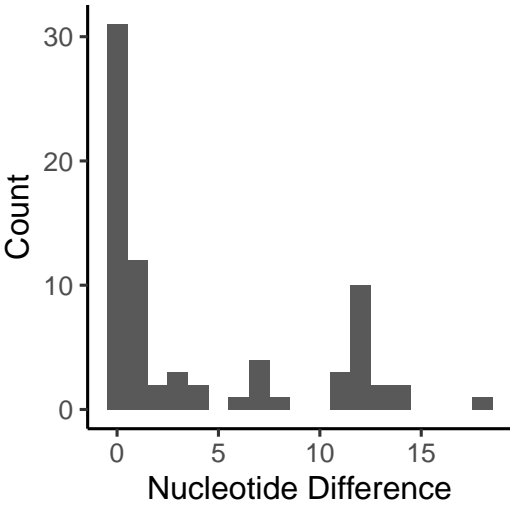
IGHV5-51*07

49 sequences assigned
18 (36.7%) exact matches, in which:
18 unique CDR3
5 unique J



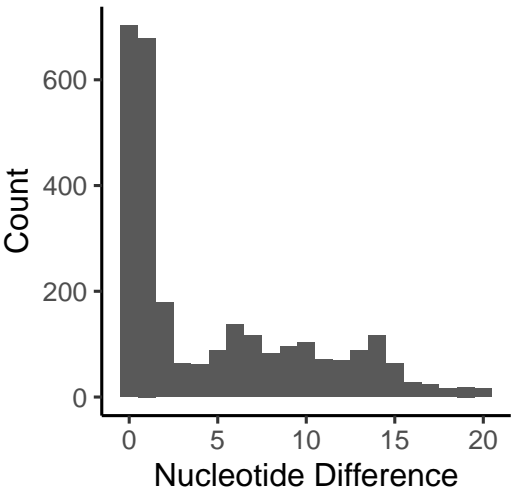
IGHV7-4-1*01

75 sequences assigned
31 (41.3%) exact matches, in which:
29 unique CDR3
4 unique J



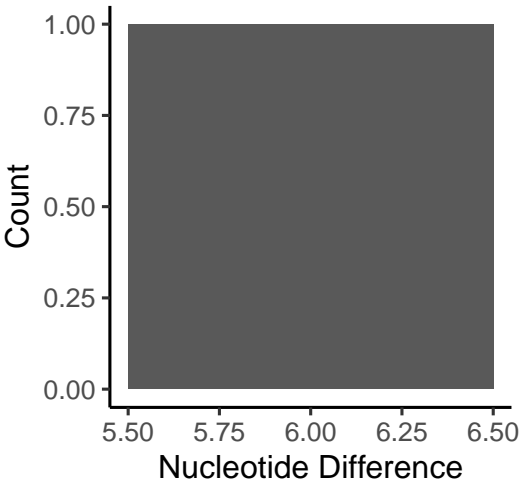
IGHV6-1*01_02

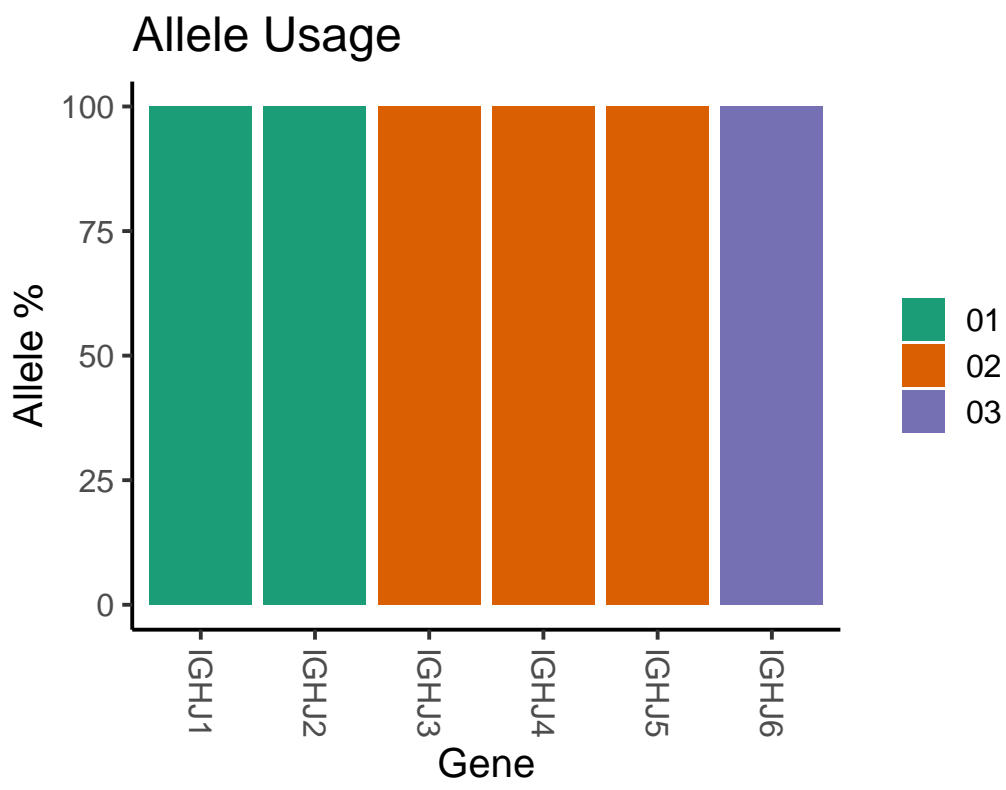
3044 sequences assigned
703 (23.1%) exact matches, in which:
629 unique CDR3
6 unique J



IGHV7-40*03

1 sequences assigned
No exact matches.





[illegible]