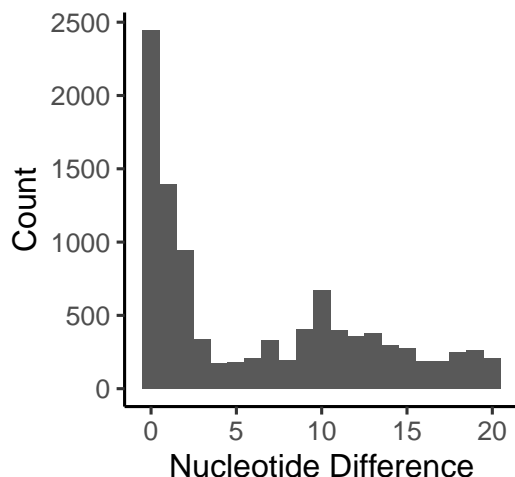


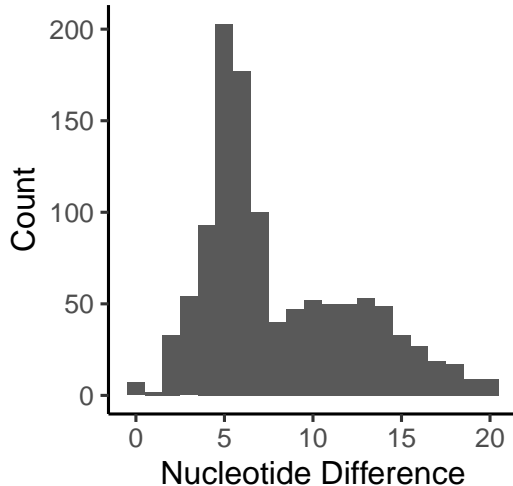
IGHV1-2*02

11201 sequences assigned
2444 (21.8%) exact matches, in which:
2294 unique CDR3
7 unique J



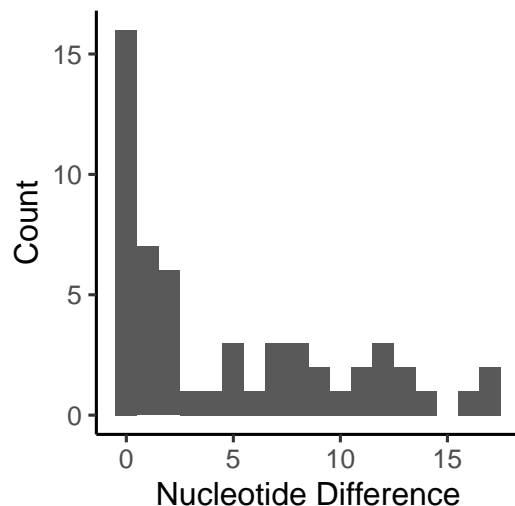
IGHV1-8*02

1200 sequences assigned
7 (0.6%) exact matches, in which:
7 unique CDR3
5 unique J



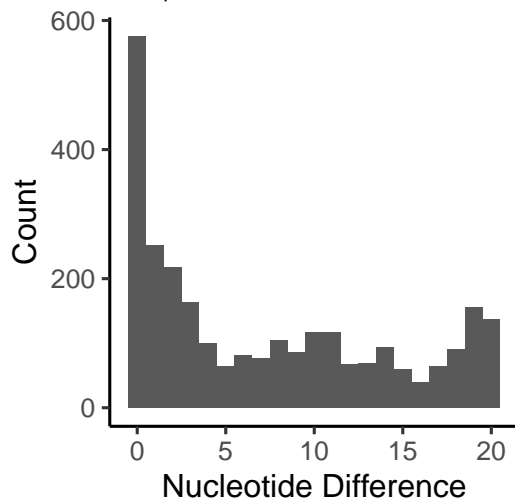
IGHV1-45*02

56 sequences assigned
16 (28.6%) exact matches, in which:
16 unique CDR3
4 unique J



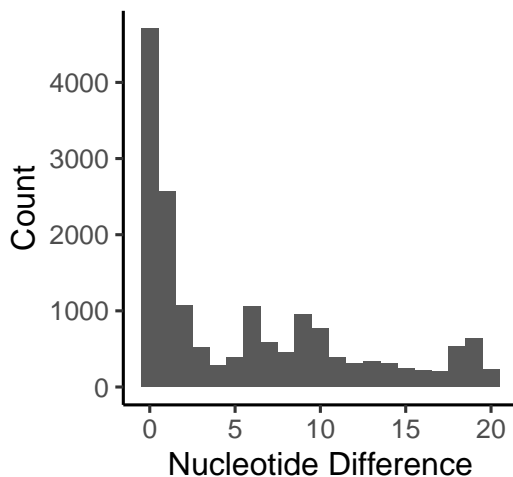
IGHV1-3*01_05

3676 sequences assigned
576 (15.7%) exact matches, in which:
534 unique CDR3
7 unique J



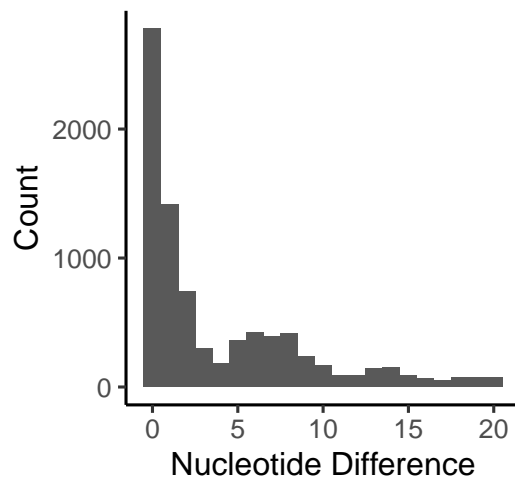
IGHV1-18*01

23951 sequences assigned
4705 (19.6%) exact matches, in which:
4338 unique CDR3
7 unique J



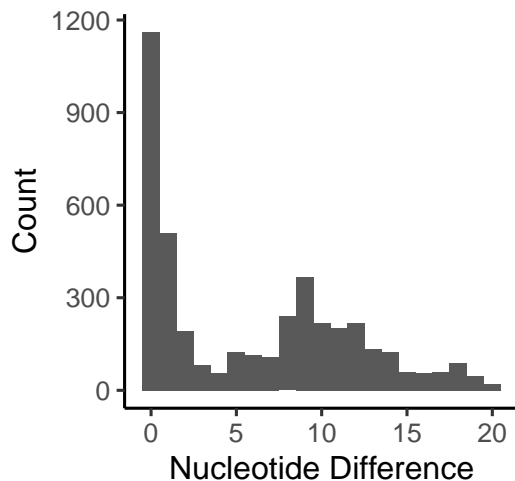
IGHV1-46*01

9371 sequences assigned
2778 (29.6%) exact matches, in which:
2627 unique CDR3
7 unique J



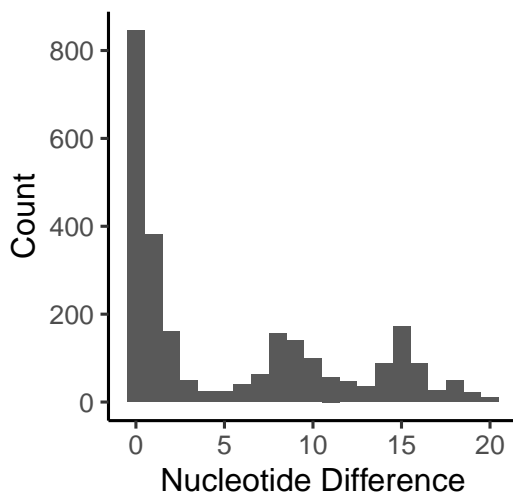
IGHV1-8*01

4700 sequences assigned
1161 (24.7%) exact matches, in which:
1111 unique CDR3
7 unique J



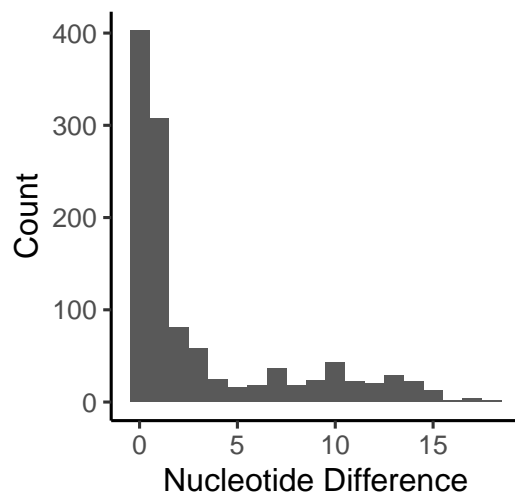
IGHV1-24*01

2639 sequences assigned
846 (32.1%) exact matches, in which:
801 unique CDR3
7 unique J



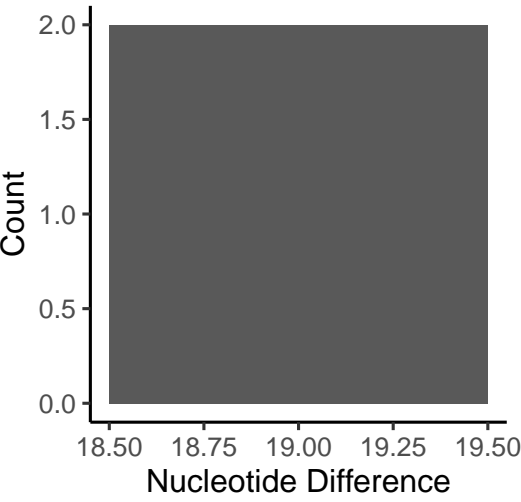
IGHV1-58*01_03

1166 sequences assigned
403 (34.6%) exact matches, in which:
377 unique CDR3
7 unique J



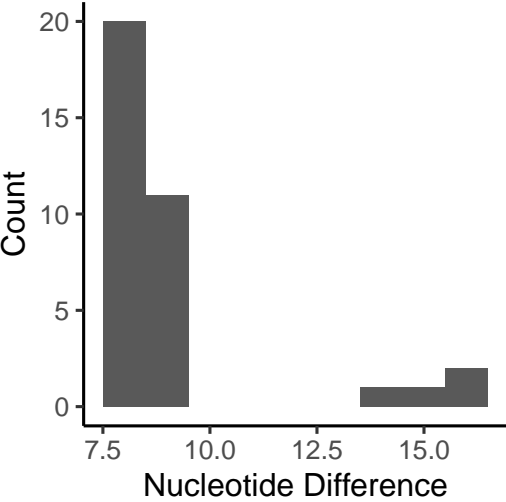
IGHV1-69-2*01

2 sequences assigned
No exact matches.



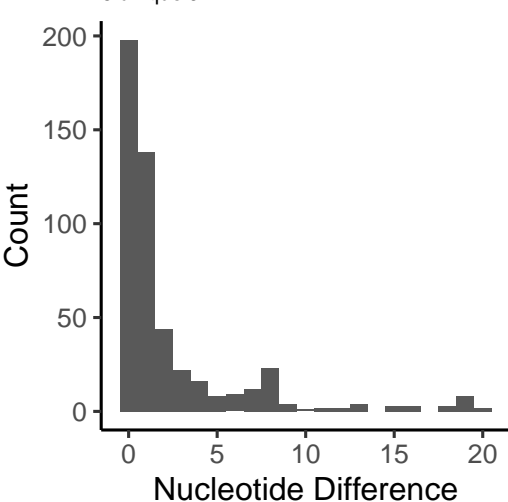
IGHV1-NL1*01

35 sequences assigned
No exact matches.



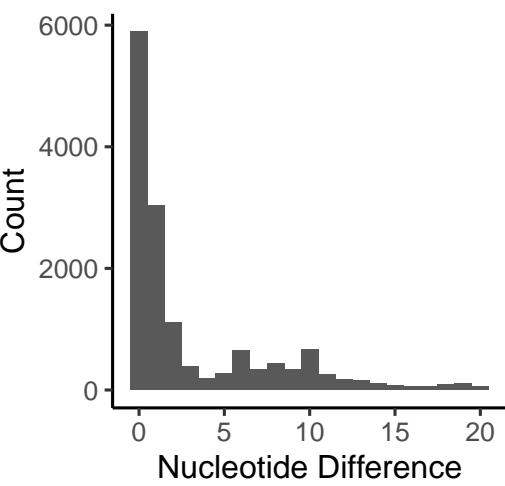
IGHV2-70*01

509 sequences assigned
198 (38.9%) exact matches, in which:
178 unique CDR3
6 unique J



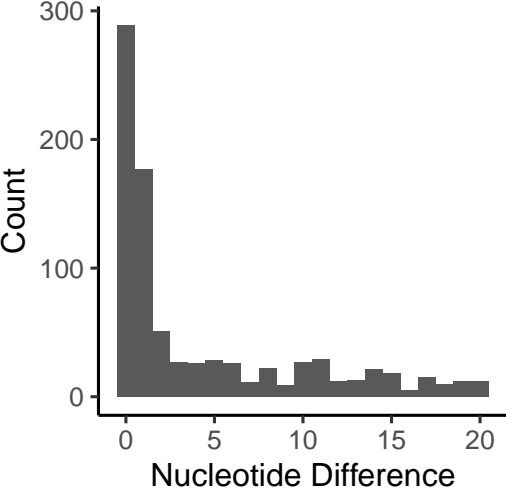
IGHV1-69*01_12_13

14966 sequences assigned
5892 (39.4%) exact matches, in which:
5572 unique CDR3
7 unique J



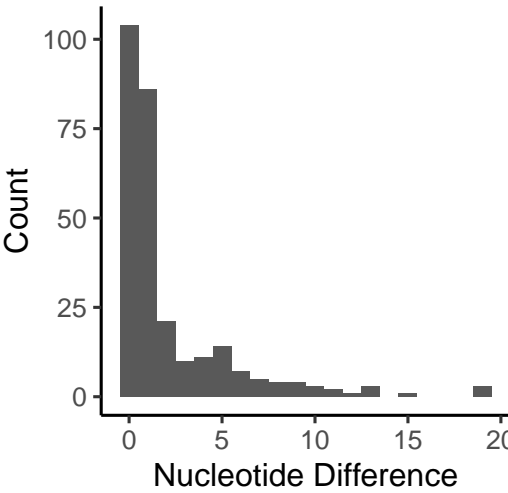
IGHV2-5*02

924 sequences assigned
289 (31.3%) exact matches, in which:
263 unique CDR3
7 unique J



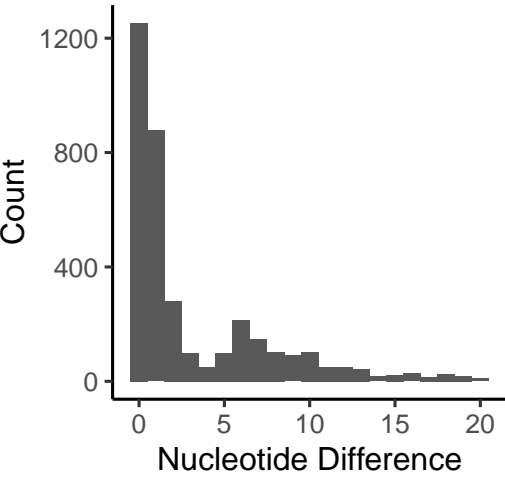
IGHV2-70*11_15

281 sequences assigned
104 (37%) exact matches, in which:
100 unique CDR3
7 unique J



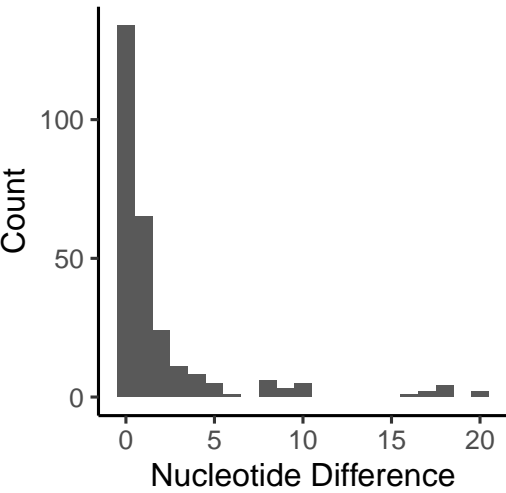
IGHV1-69*04_09

3732 sequences assigned
1253 (33.6%) exact matches, in which:
1192 unique CDR3
7 unique J



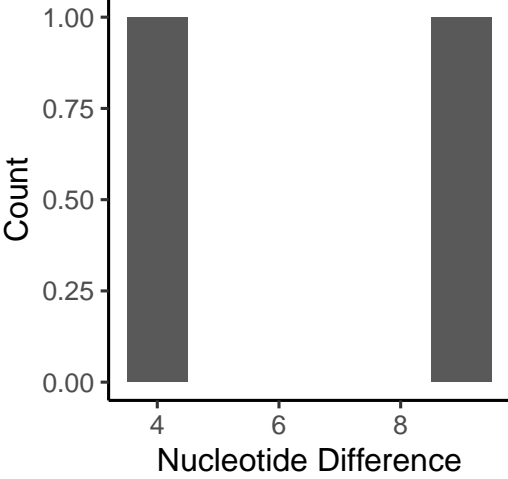
IGHV2-26*01

281 sequences assigned
134 (47.7%) exact matches, in which:
124 unique CDR3
6 unique J



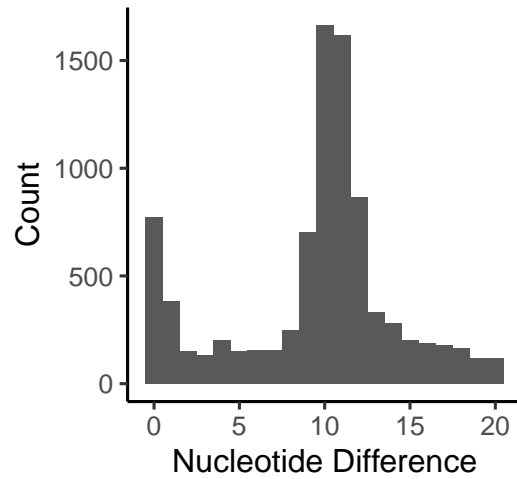
IGHV2-70D*04

2 sequences assigned
No exact matches.



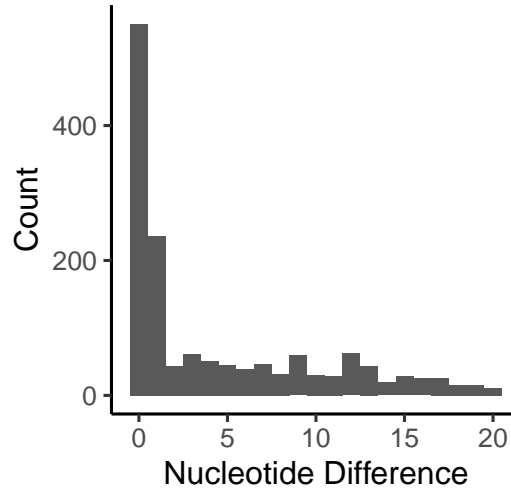
IGHV3-7*01

9331 sequences assigned
773 (8.3%) exact matches, in which:
633 unique CDR3
7 unique J



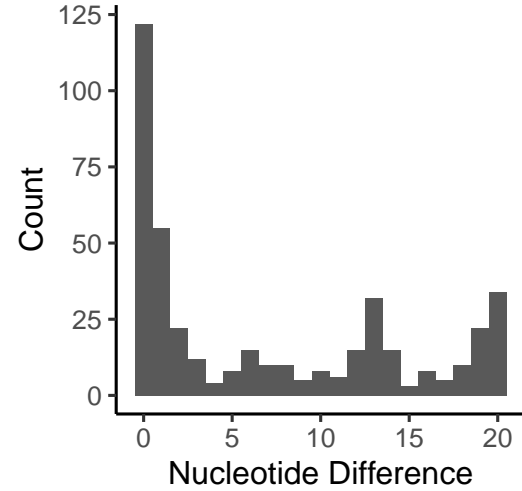
IGHV3-11*01

1573 sequences assigned
551 (35%) exact matches, in which:
425 unique CDR3
7 unique J



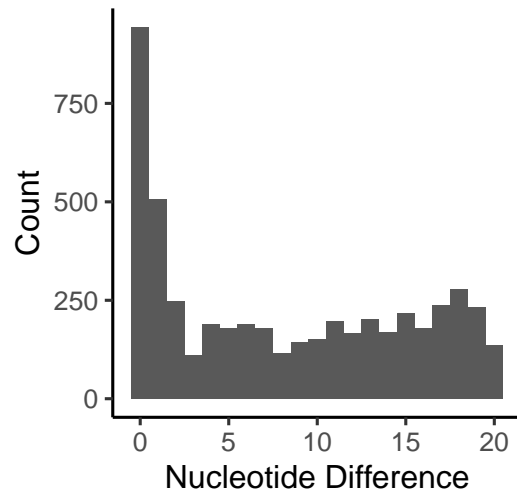
IGHV3-13*01

515 sequences assigned
122 (23.7%) exact matches, in which:
91 unique CDR3
6 unique J



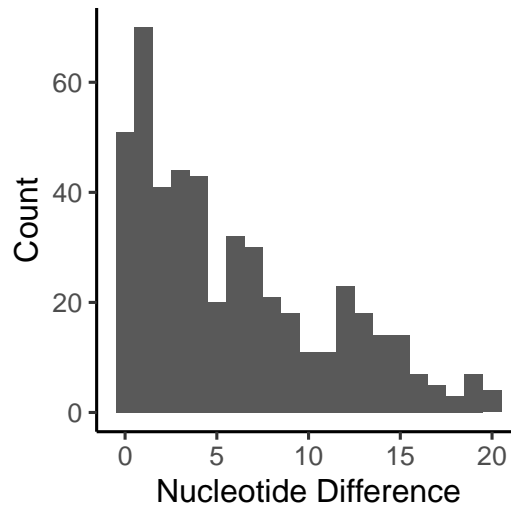
IGHV3-7*03

5770 sequences assigned
944 (16.4%) exact matches, in which:
754 unique CDR3
7 unique J



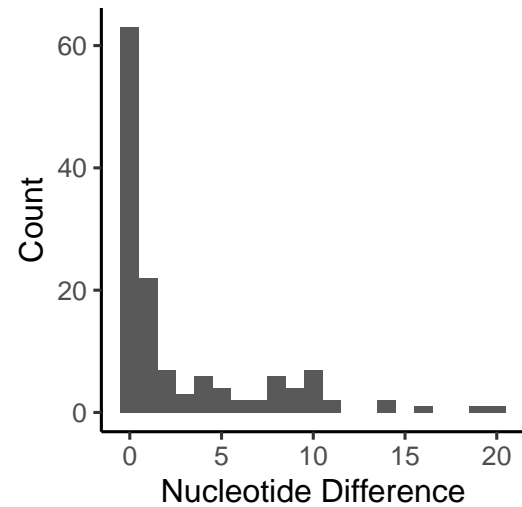
IGHV3-11*04

525 sequences assigned
51 (9.7%) exact matches, in which:
51 unique CDR3
7 unique J



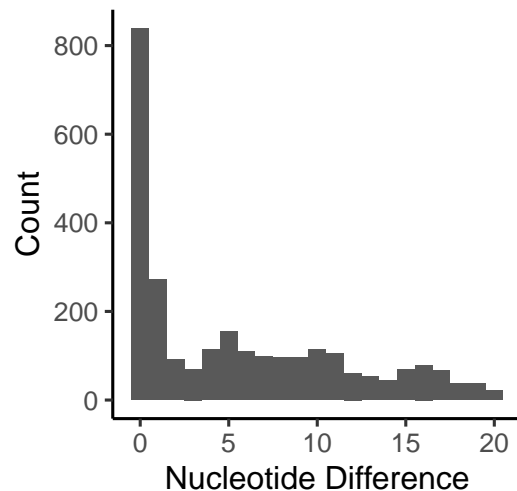
IGHV3-13*05

142 sequences assigned
63 (44.4%) exact matches, in which:
50 unique CDR3
6 unique J



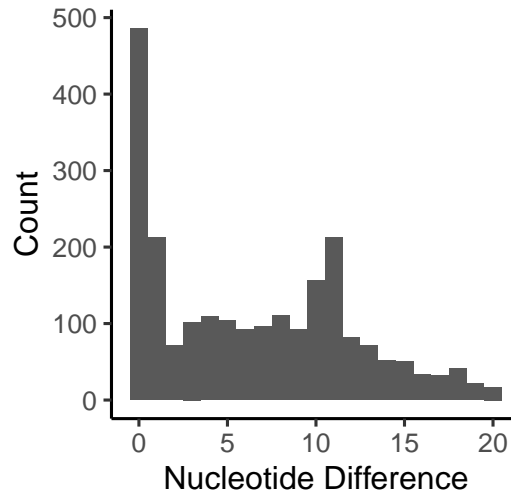
IGHV3-9*01

3197 sequences assigned
839 (26.2%) exact matches, in which:
658 unique CDR3
7 unique J



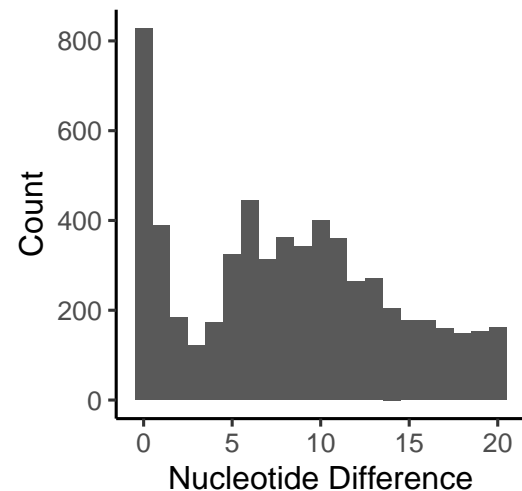
IGHV3-11*06

2753 sequences assigned
486 (17.7%) exact matches, in which:
394 unique CDR3
6 unique J



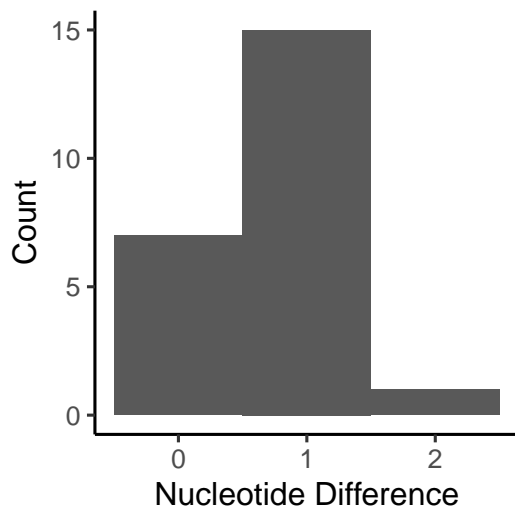
IGHV3-15*01_02

6827 sequences assigned
828 (12.1%) exact matches, in which:
629 unique CDR3
7 unique J



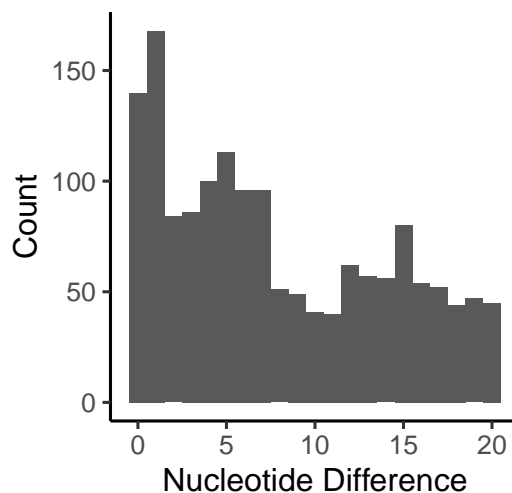
IGHV3-19*01

23 sequences assigned
7 (30.4%) exact matches, in which:
3 unique CDR3
2 unique J



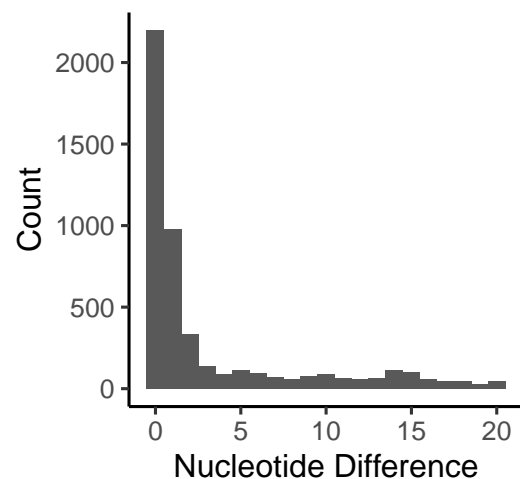
IGHV3-21*04

1805 sequences assigned
140 (7.8%) exact matches, in which:
136 unique CDR3
6 unique J



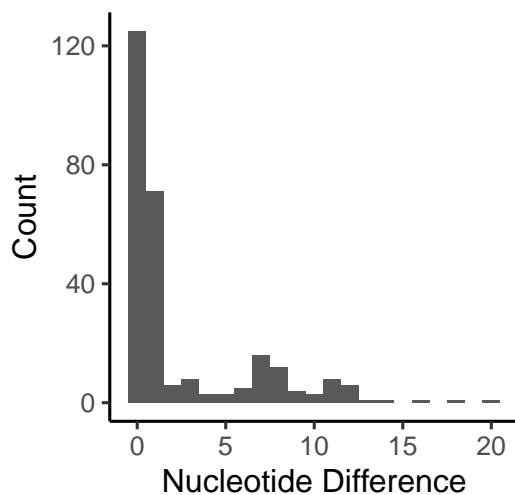
IGHV3-30-3*01

5250 sequences assigned
2197 (41.8%) exact matches, in which:
1775 unique CDR3
7 unique J



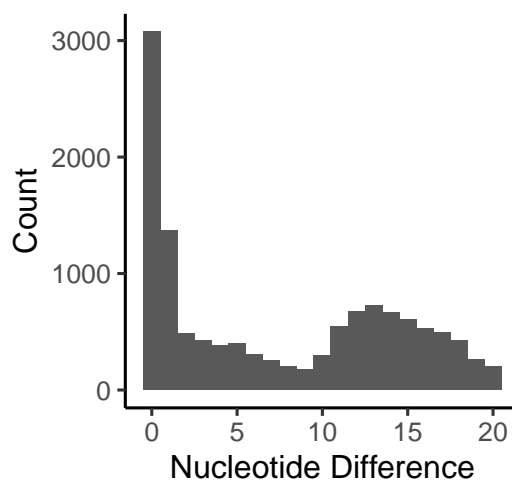
IGHV3-20*01_02

295 sequences assigned
125 (42.4%) exact matches, in which:
91 unique CDR3
6 unique J



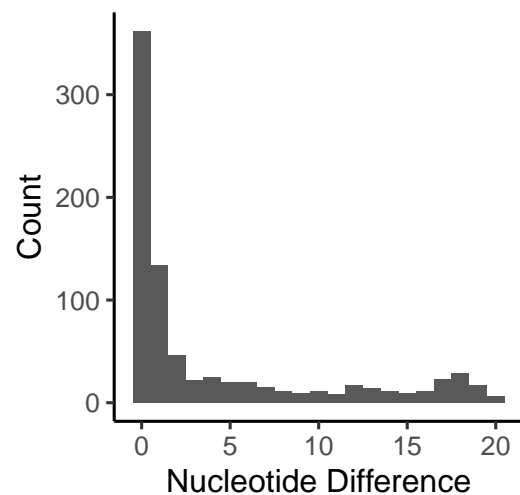
IGHV3-21*01_02

13534 sequences assigned
3076 (22.7%) exact matches, in which:
2416 unique CDR3
7 unique J



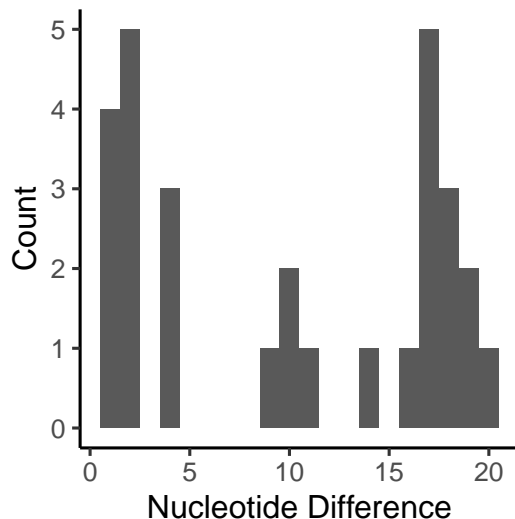
IGHV3-30*03

1085 sequences assigned
362 (33.4%) exact matches, in which:
343 unique CDR3
7 unique J



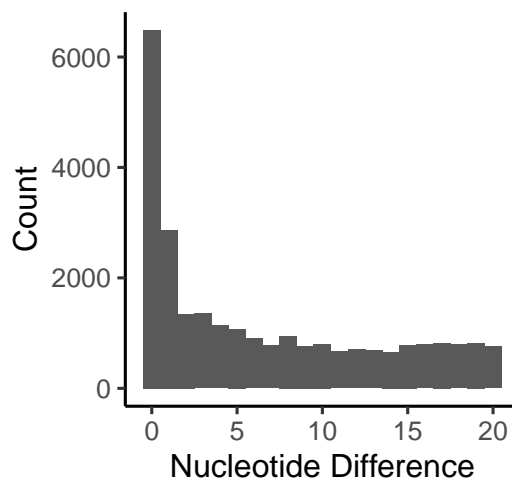
IGHV3-20*03_04

33 sequences assigned
No exact matches.



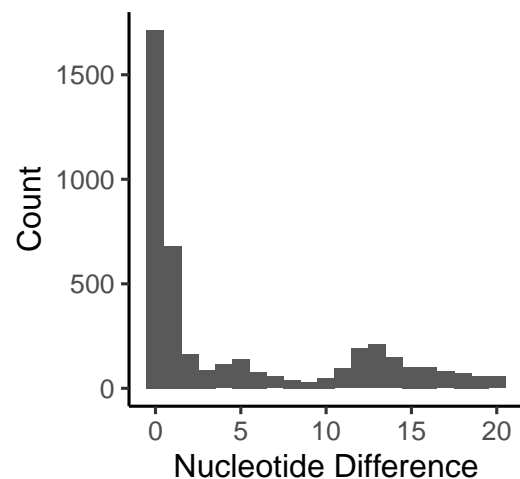
IGHV3-23*01_04

32387 sequences assigned
6488 (20%) exact matches, in which:
4852 unique CDR3
7 unique J



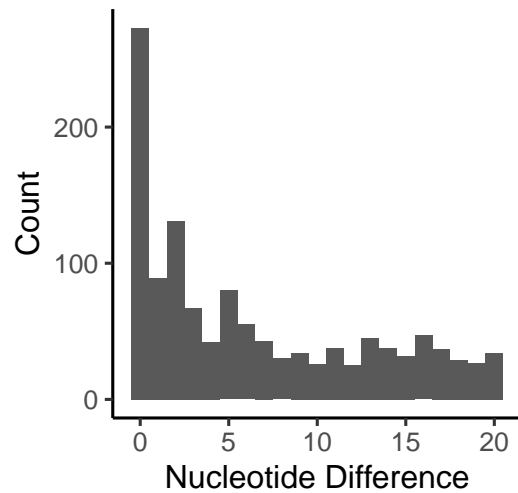
IGHV3-33*01

4801 sequences assigned
1714 (35.7%) exact matches, in which:
1429 unique CDR3
7 unique J



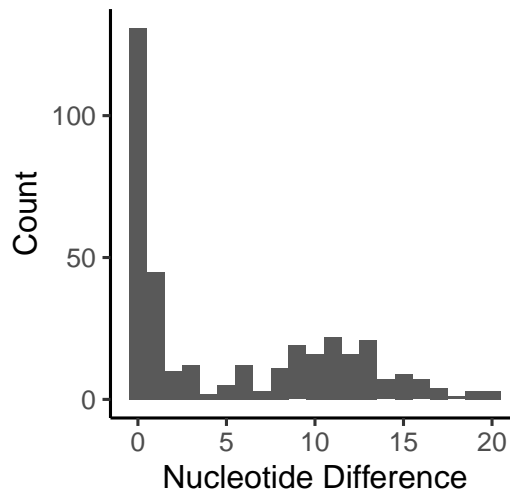
IGHV3–33*08

1433 sequences assigned
273 (19.1%) exact matches, in which:
259 unique CDR3
7 unique J



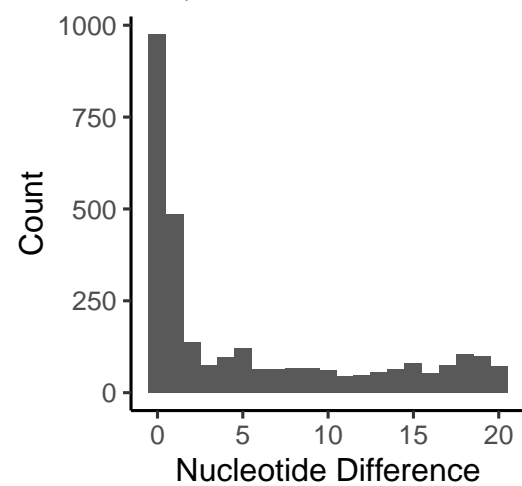
IGHV3–43*01

387 sequences assigned
131 (33.9%) exact matches, in which:
105 unique CDR3
7 unique J



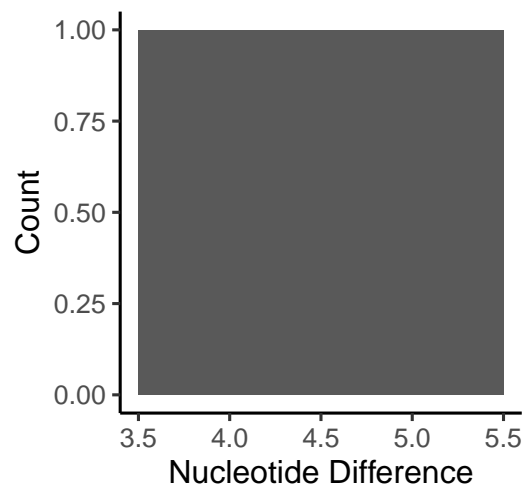
IGHV3–48*02

3979 sequences assigned
975 (24.5%) exact matches, in which:
756 unique CDR3
7 unique J



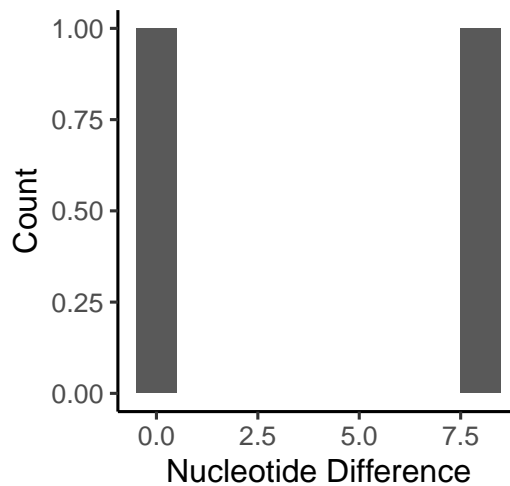
IGHV3–35*01

2 sequences assigned
No exact matches.



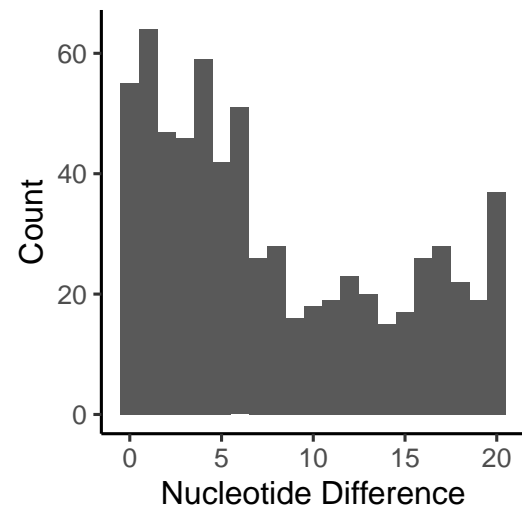
IGHV3–47*02

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



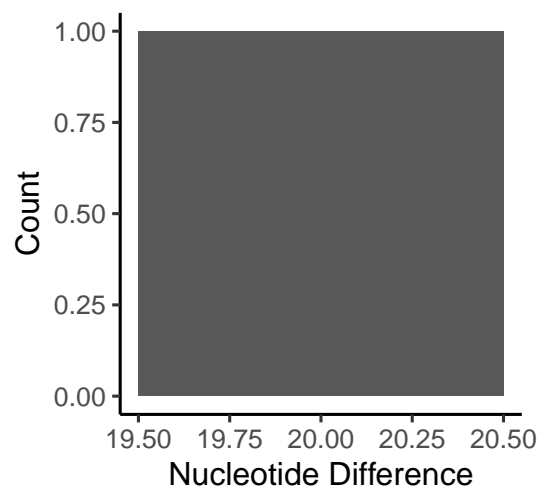
IGHV3–48*04

928 sequences assigned
55 (5.9%) exact matches, in which:
54 unique CDR3
6 unique J



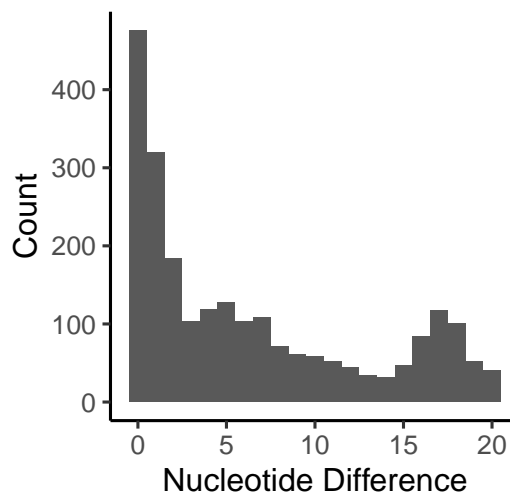
IGHV3–38–3*01

1 sequences assigned
No exact matches.



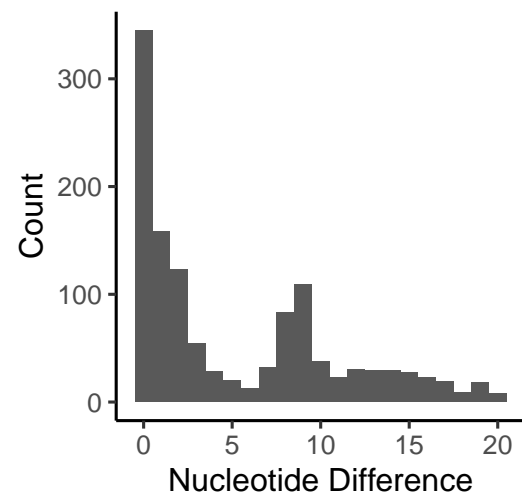
IGHV3–48*01

2706 sequences assigned
476 (17.6%) exact matches, in which:
384 unique CDR3
7 unique J



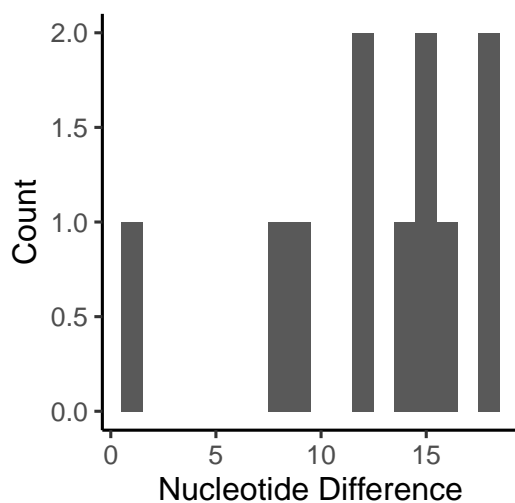
IGHV3–49*03_05

1279 sequences assigned
345 (27%) exact matches, in which:
279 unique CDR3
7 unique J



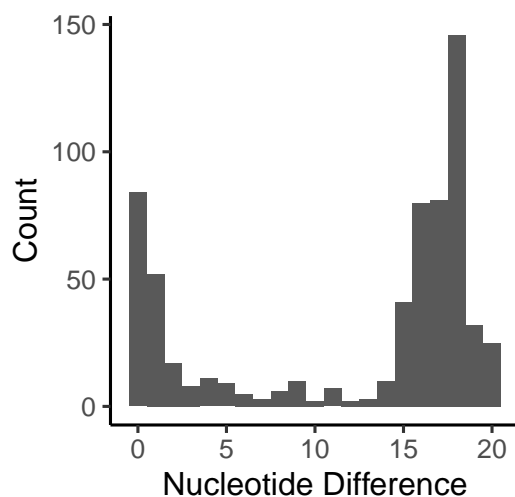
IGHV3-52*01_03

11 sequences assigned
No exact matches.



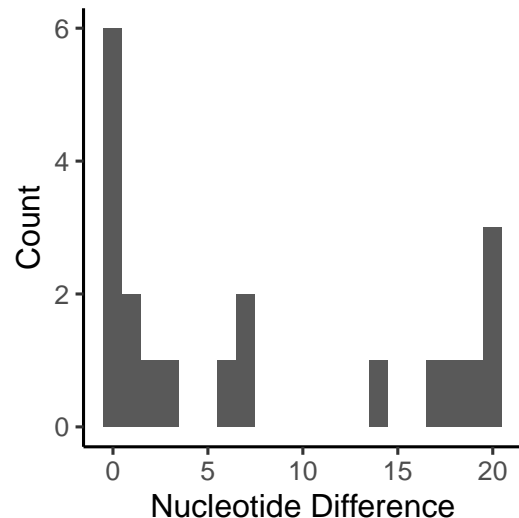
IGHV3-64*01

693 sequences assigned
84 (12.1%) exact matches, in which:
64 unique CDR3
7 unique J



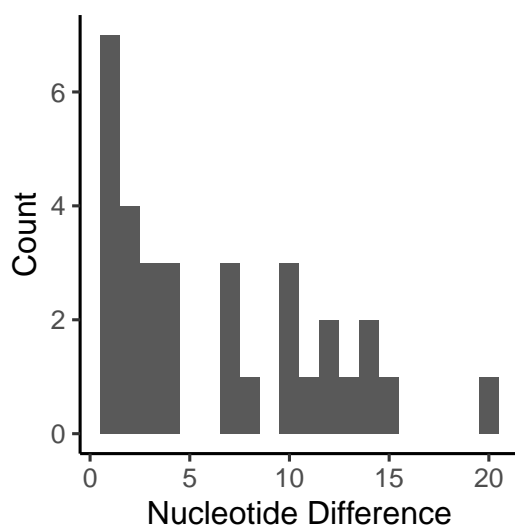
IGHV3-66*03

24 sequences assigned
6 (25%) exact matches, in which:
5 unique CDR3
2 unique J



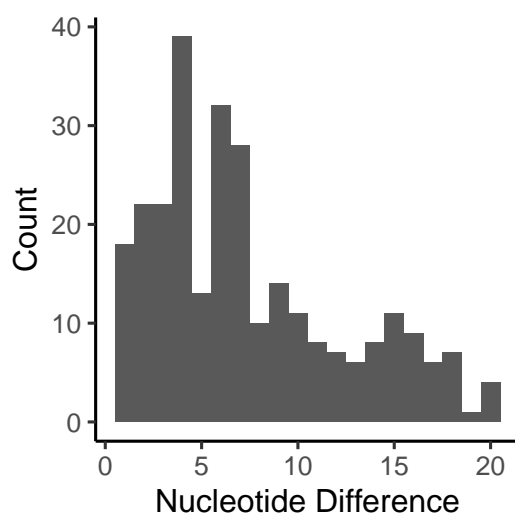
IGHV3-53*05

41 sequences assigned
No exact matches.



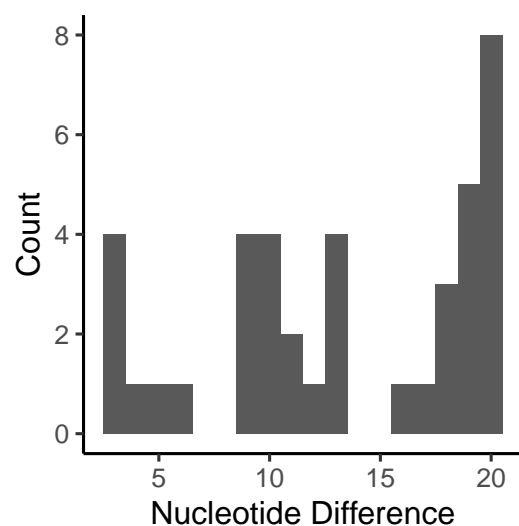
IGHV3-64*04

306 sequences assigned
No exact matches.



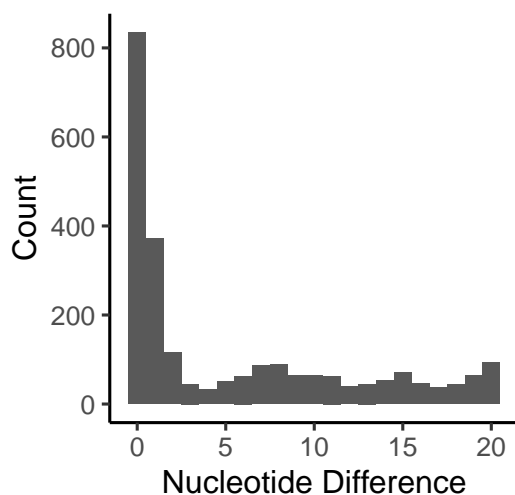
IGHV3-69-1*01

111 sequences assigned
No exact matches.



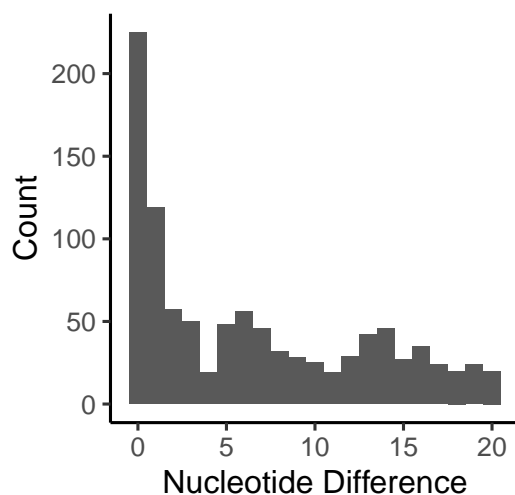
IGHV3-53*01_02

3138 sequences assigned
835 (26.6%) exact matches, in which:
677 unique CDR3
7 unique J



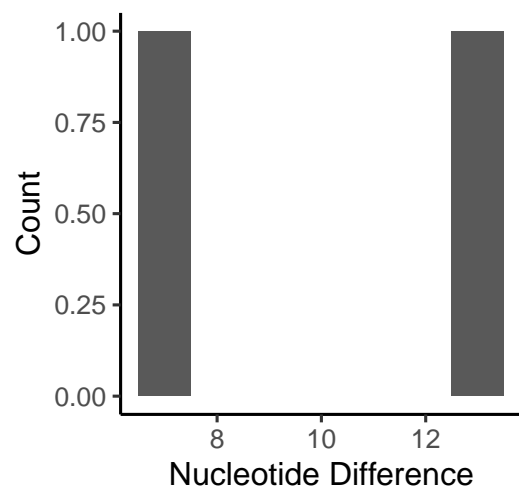
IGHV3-66*01

1157 sequences assigned
225 (19.4%) exact matches, in which:
184 unique CDR3
7 unique J



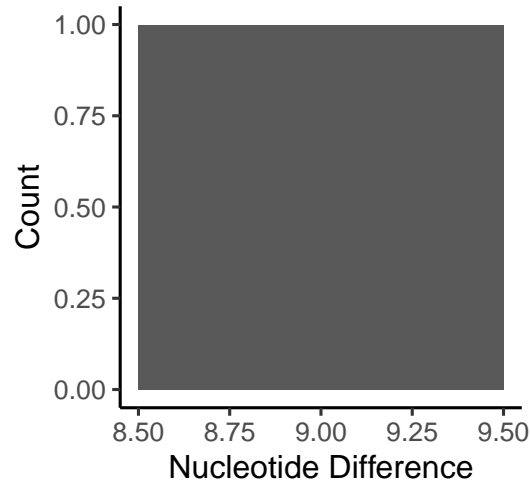
IGHV3-69-1*02

36 sequences assigned
No exact matches.



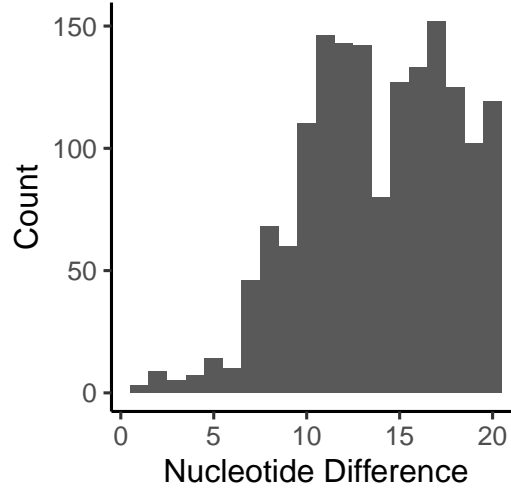
IGHV3-71*01_04

3 sequences assigned
No exact matches.



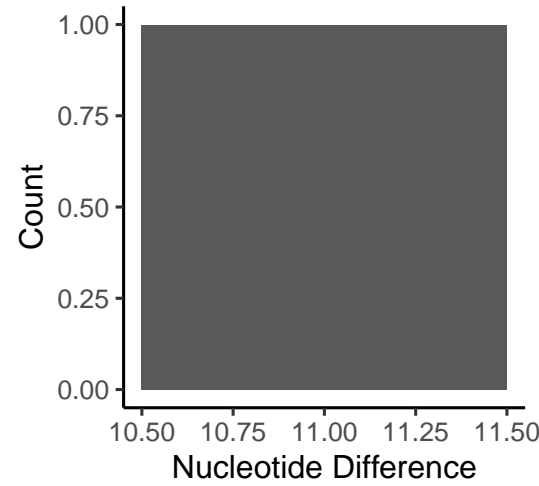
IGHV3-74*03

2441 sequences assigned
No exact matches.



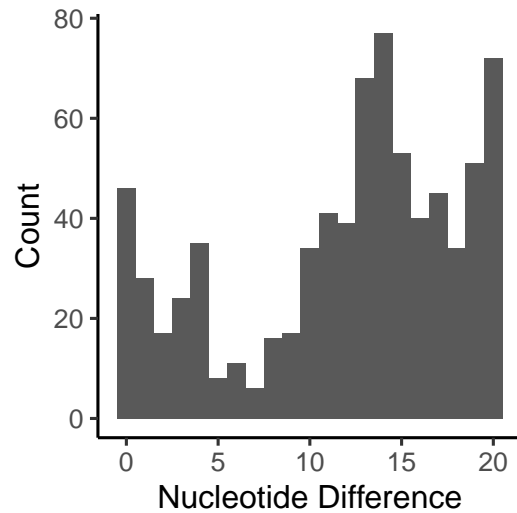
IGHV3-43D*04

3 sequences assigned
No exact matches.



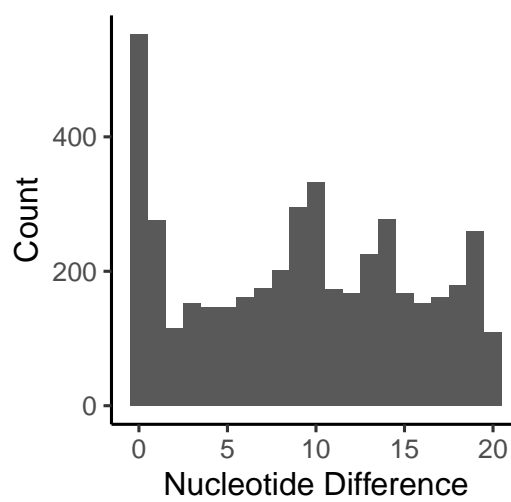
IGHV3-72*01

1072 sequences assigned
46 (4.3%) exact matches, in which:
32 unique CDR3
6 unique J



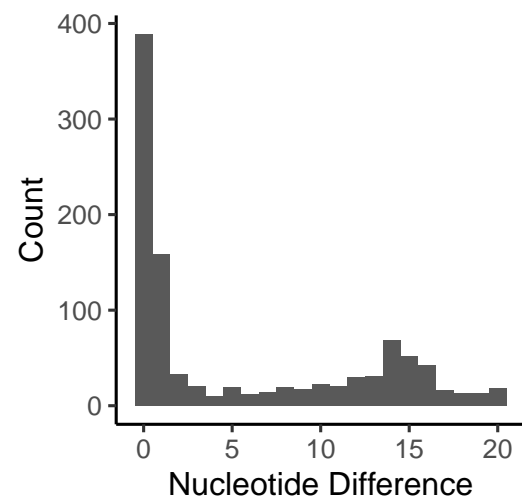
IGHV3-74*01_02

4900 sequences assigned
553 (11.3%) exact matches, in which:
424 unique CDR3
7 unique J



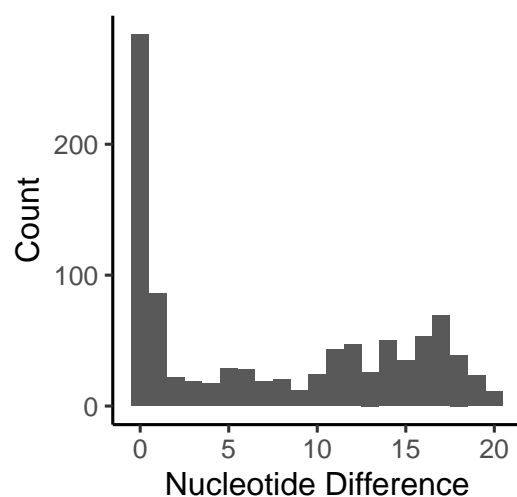
IGHV3-64D*06

1123 sequences assigned
389 (34.6%) exact matches, in which:
286 unique CDR3
7 unique J



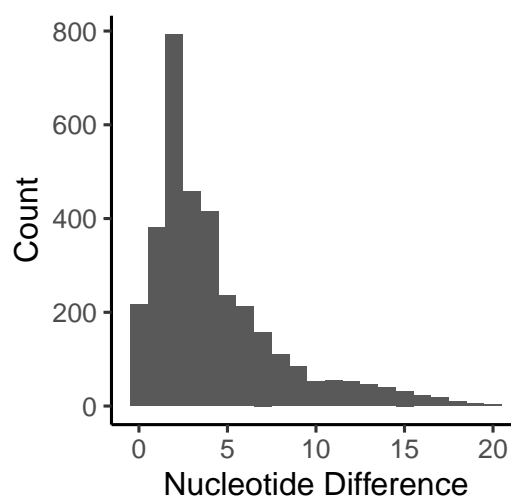
IGHV3-73*01_02

1024 sequences assigned
284 (27.7%) exact matches, in which:
235 unique CDR3
7 unique J



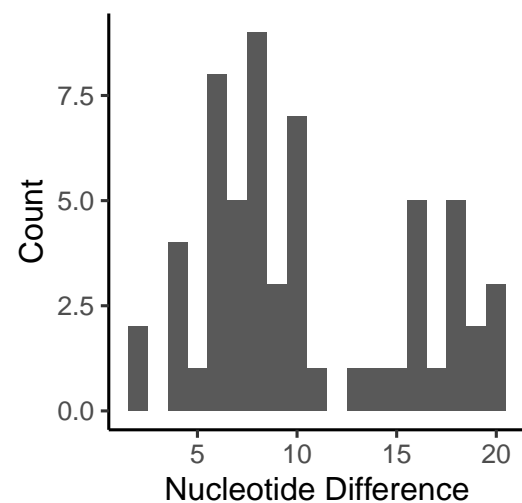
IGHV3-74*03_T82C_G1C

3403 sequences assigned
216 (6.3%) exact matches, in which:
214 unique CDR3
7 unique J



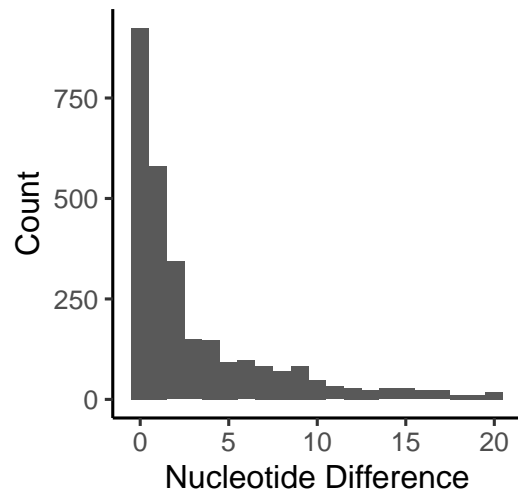
IGHV3-NL1*01

82 sequences assigned
No exact matches.



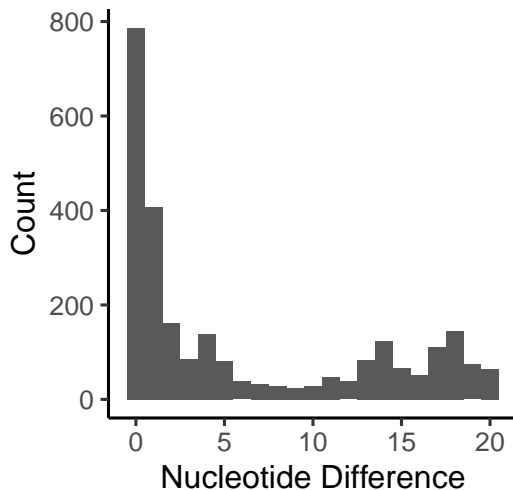
IGHV4-4*07

3385 sequences assigned
925 (27.3%) exact matches, in which:
838 unique CDR3
6 unique J



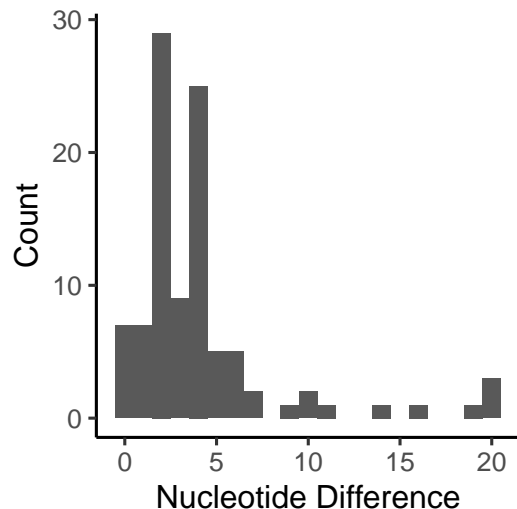
IGHV4-30-4*01

2842 sequences assigned
787 (27.7%) exact matches, in which:
744 unique CDR3
7 unique J



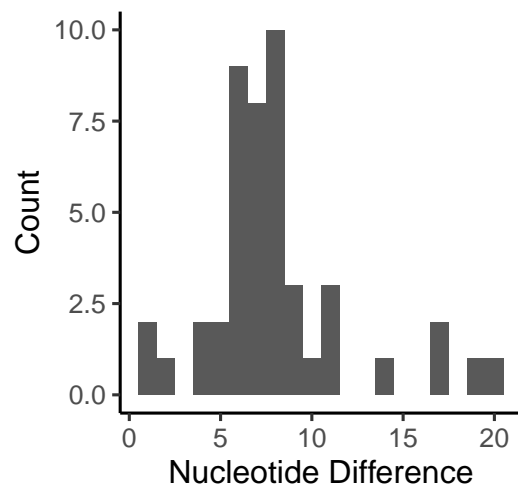
IGHV4-30-2*05

110 sequences assigned
7 (6.4%) exact matches, in which:
7 unique CDR3
5 unique J



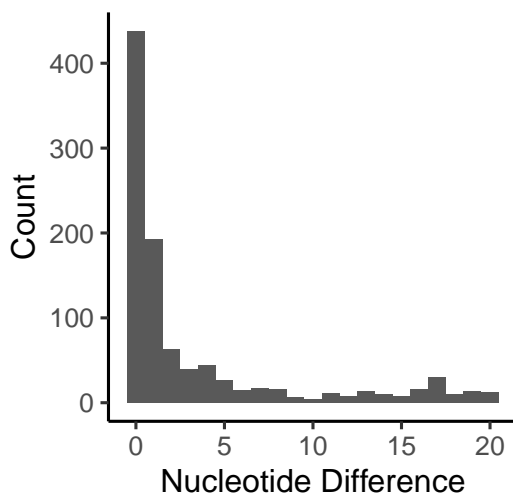
IGHV4-28*03

49 sequences assigned
No exact matches.



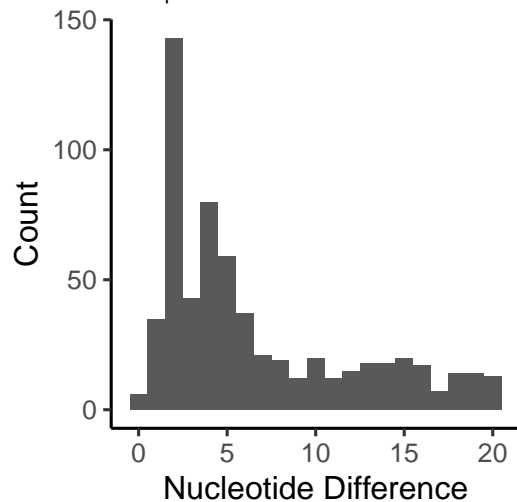
IGHV4-30-2*01

1462 sequences assigned
438 (30%) exact matches, in which:
353 unique CDR3
7 unique J



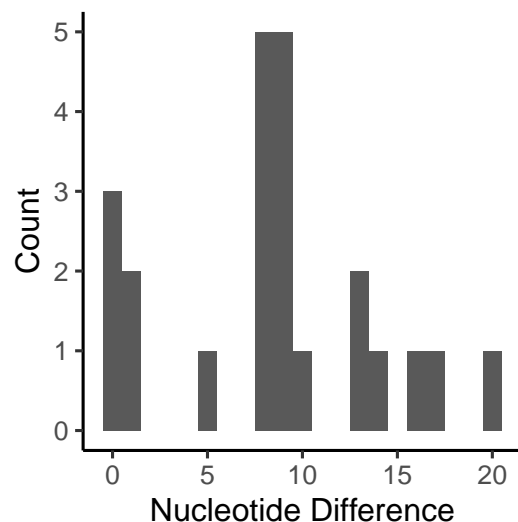
IGHV4-30-4*08

857 sequences assigned
6 (0.7%) exact matches, in which:
6 unique CDR3
4 unique J



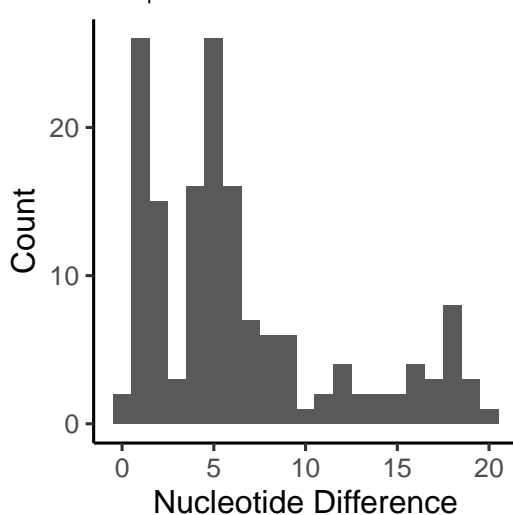
IGHV4-28*01_07

24 sequences assigned
3 (12.5%) exact matches, in which:
3 unique CDR3
2 unique J



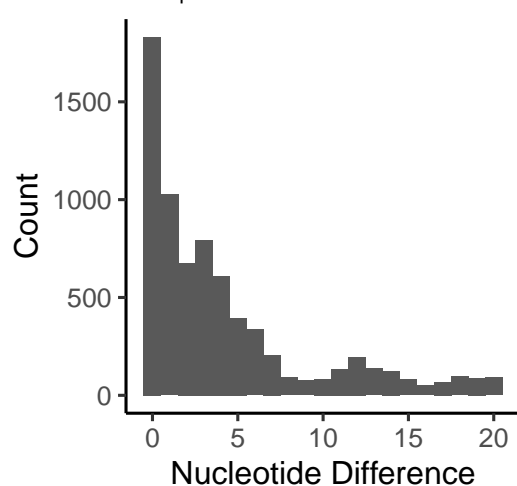
IGHV4-30-2*03

222 sequences assigned
2 (0.9%) exact matches, in which:
2 unique CDR3
2 unique J



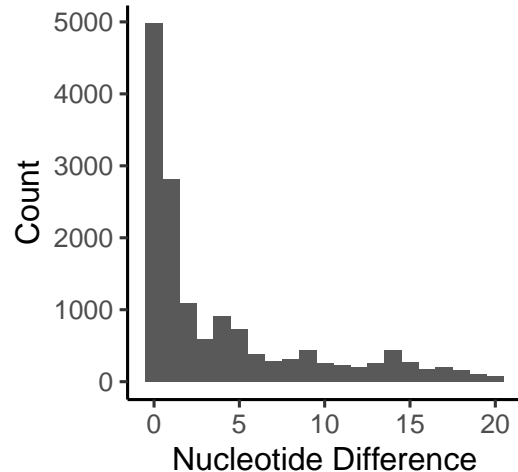
IGHV4-31*02

8262 sequences assigned
1831 (22.2%) exact matches, in which:
1704 unique CDR3
7 unique J



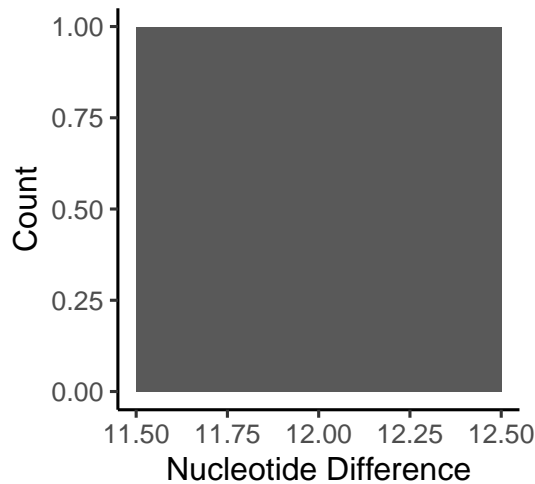
IGHV4-34*01_02

15524 sequences assigned
4979 (32.1%) exact matches, in which:
4498 unique CDR3
7 unique J



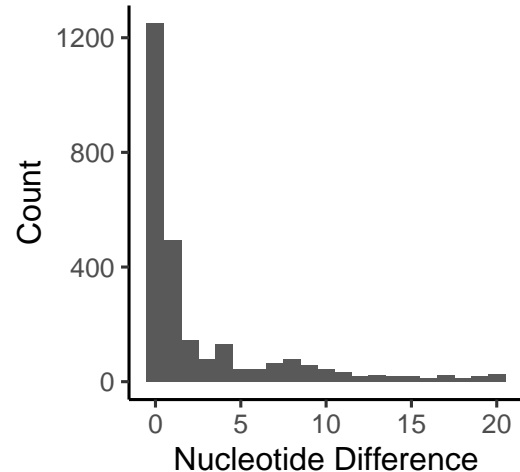
IGHV4-55*09

1 sequences assigned
No exact matches.



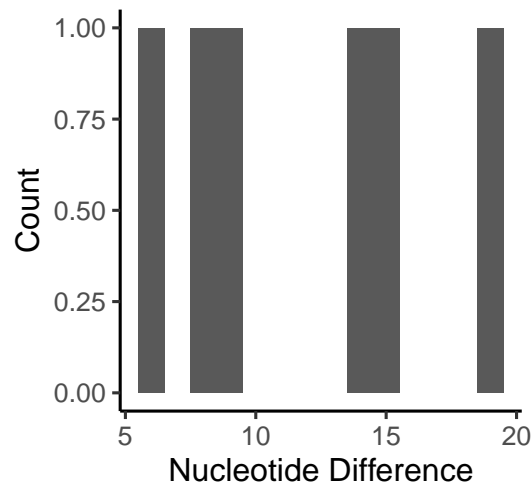
IGHV4-59*13

3478 sequences assigned
1250 (35.9%) exact matches, in which:
1210 unique CDR3
7 unique J



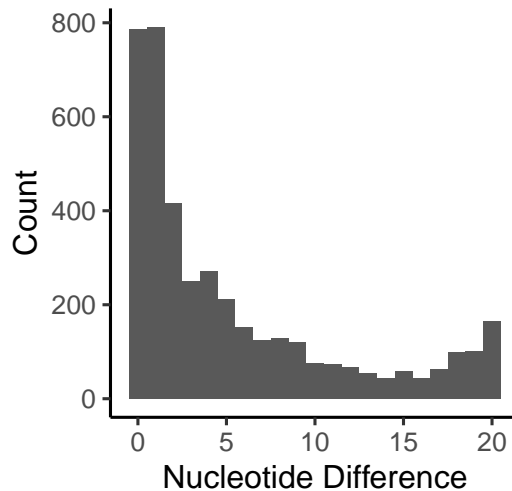
IGHV4-38-2*02

25 sequences assigned
No exact matches.



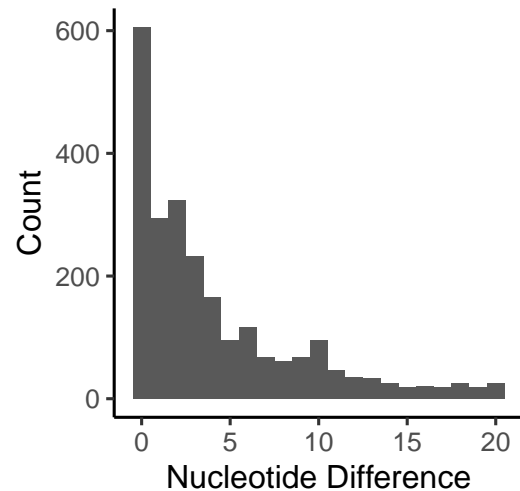
IGHV4-59*08

4655 sequences assigned
787 (16.9%) exact matches, in which:
724 unique CDR3
7 unique J



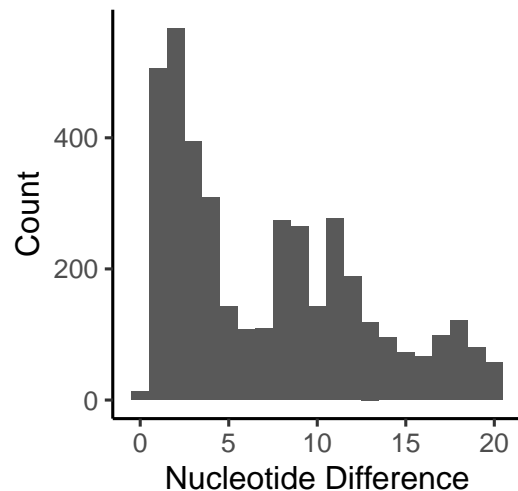
IGHV4-61*01

2734 sequences assigned
606 (22.2%) exact matches, in which:
587 unique CDR3
7 unique J



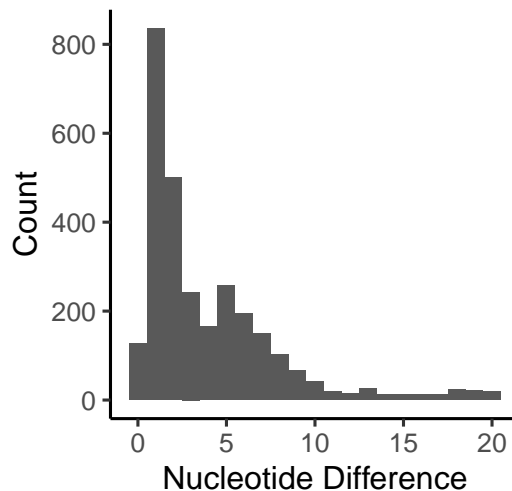
IGHV4-39*07

4396 sequences assigned
13 (0.3%) exact matches, in which:
13 unique CDR3
5 unique J



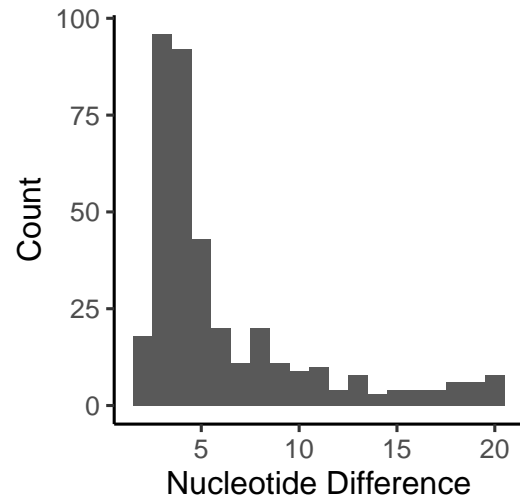
IGHV4-59*12

3006 sequences assigned
127 (4.2%) exact matches, in which:
127 unique CDR3
6 unique J



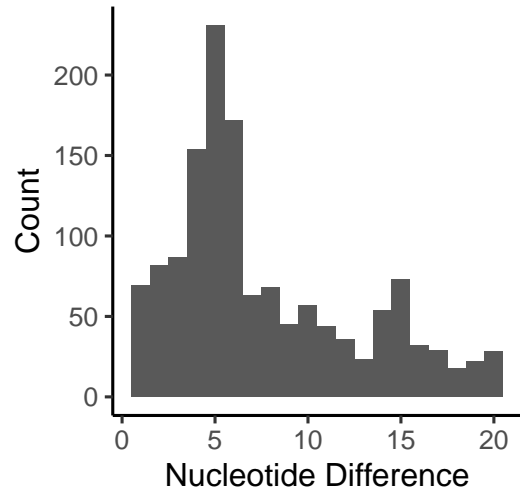
IGHV4-61*05

434 sequences assigned
No exact matches.



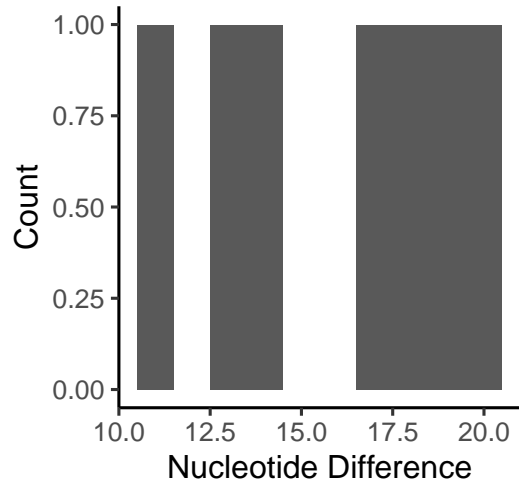
IGHV4–61*08

1758 sequences assigned
No exact matches.



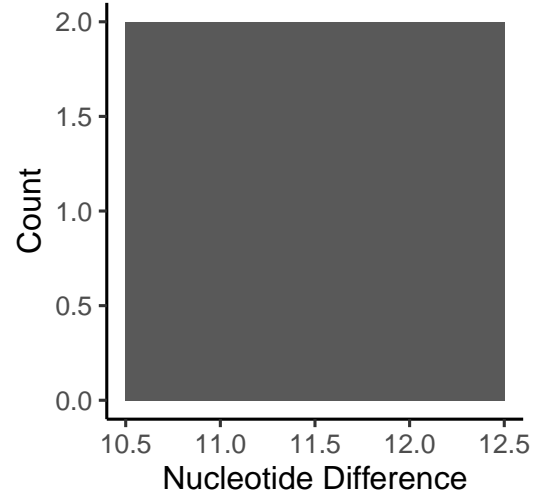
IGHV1/OR15–2*02_03

12 sequences assigned
No exact matches.



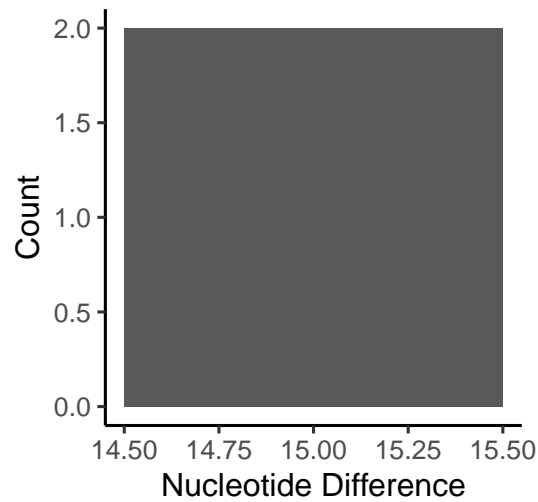
IGHV1/OR15–9*01

4 sequences assigned
No exact matches.



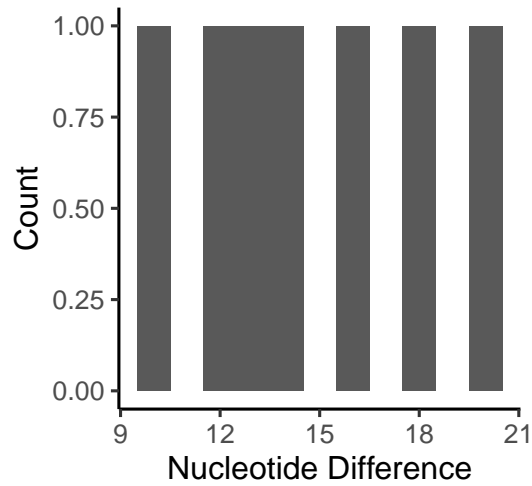
IGHV1/OR15–1*04

2 sequences assigned
No exact matches.



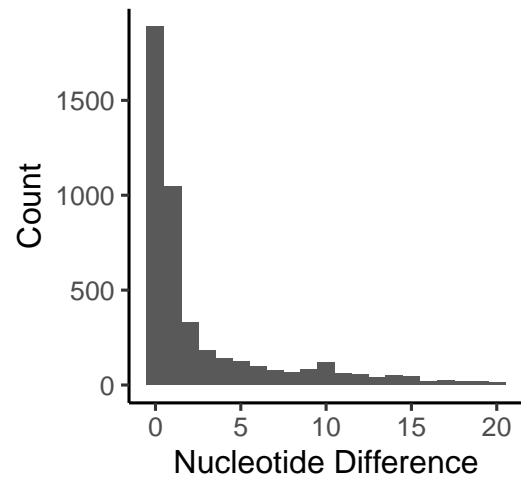
IGHV1/OR15–3*02

10 sequences assigned
No exact matches.



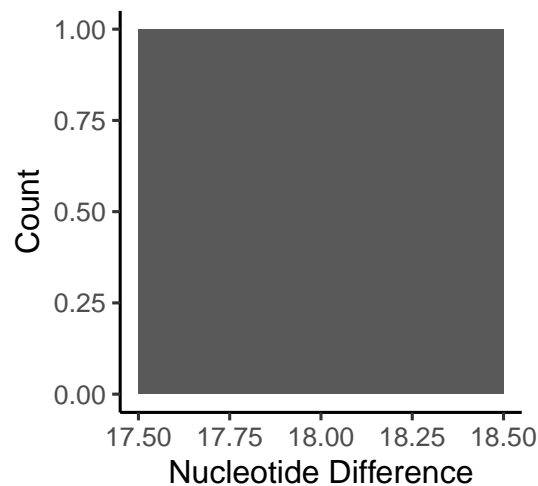
IGHV5–10–1*01_03

4599 sequences assigned
1888 (41.1%) exact matches, in which:
1478 unique CDR3
7 unique J



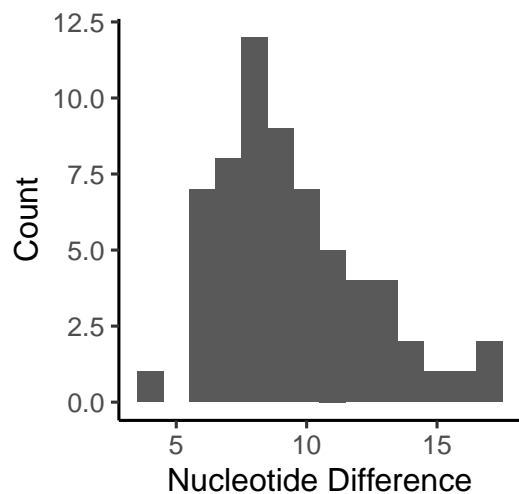
IGHV1/OR15–2*01

1 sequences assigned
No exact matches.



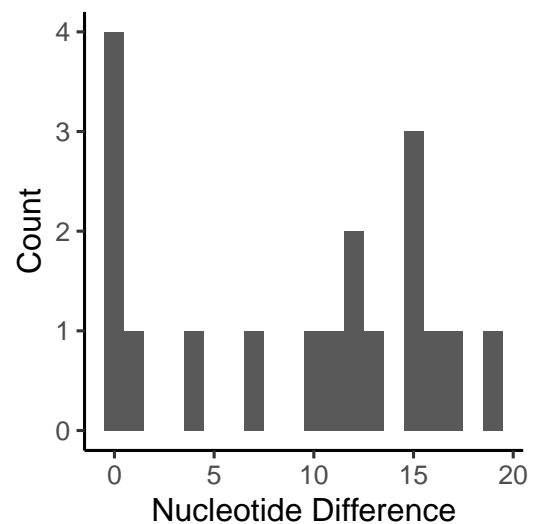
IGHV4/OR15–8*02

71 sequences assigned
No exact matches.



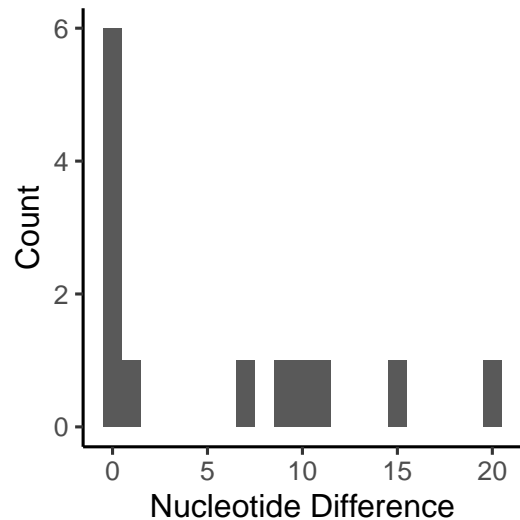
IGHV5–51*04

47 sequences assigned
4 (8.5%) exact matches, in which:
4 unique CDR3
3 unique J



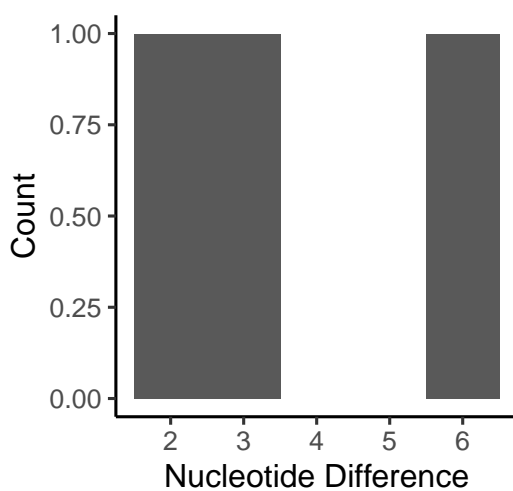
IGHV5–51*06

13 sequences assigned
6 (46.2%) exact matches, in which:
6 unique CDR3
4 unique J



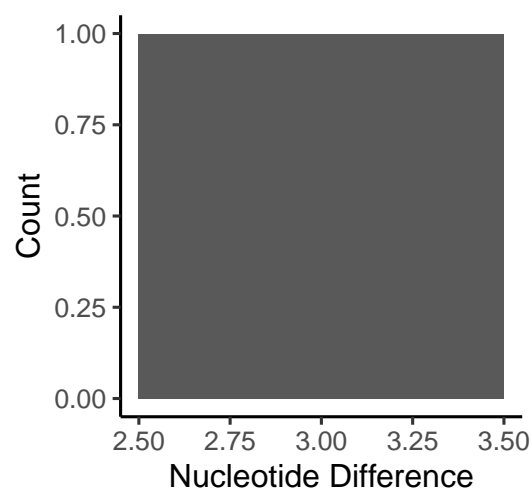
IGHV3/OR16–9*01

3 sequences assigned
No exact matches.



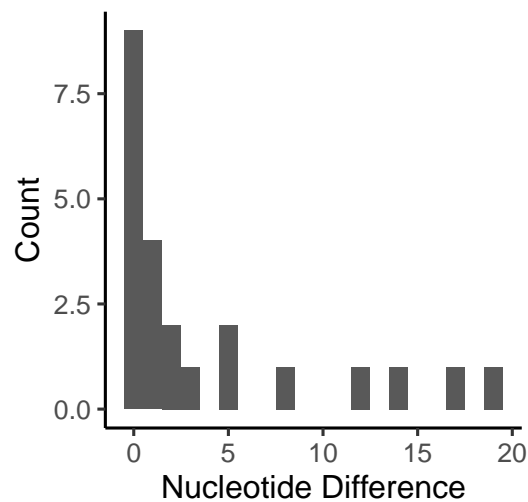
IGHV7–81*01

1 sequences assigned
No exact matches.



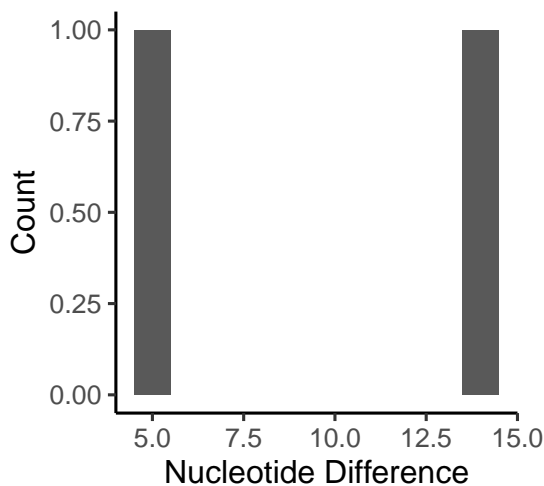
IGHV5–51*07

23 sequences assigned
9 (39.1%) exact matches, in which:
9 unique CDR3
3 unique J



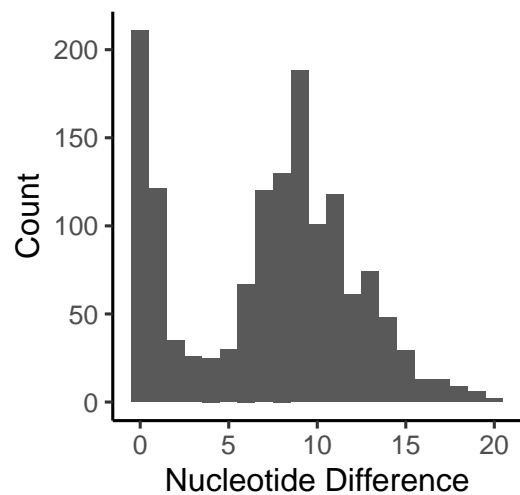
IGHV3/OR16–10*01_03

3 sequences assigned
No exact matches.



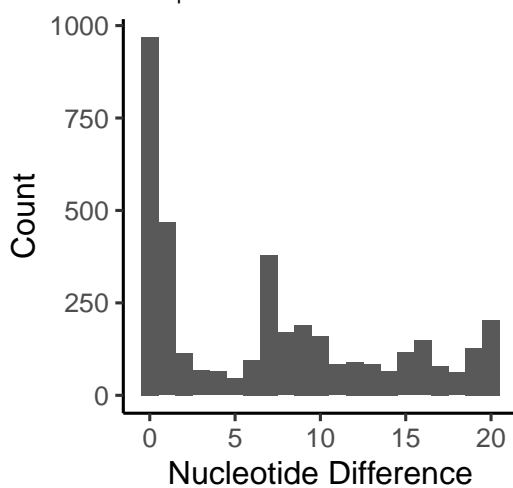
IGHV6–1*01_02

1466 sequences assigned
211 (14.4%) exact matches, in which:
196 unique CDR3
7 unique J

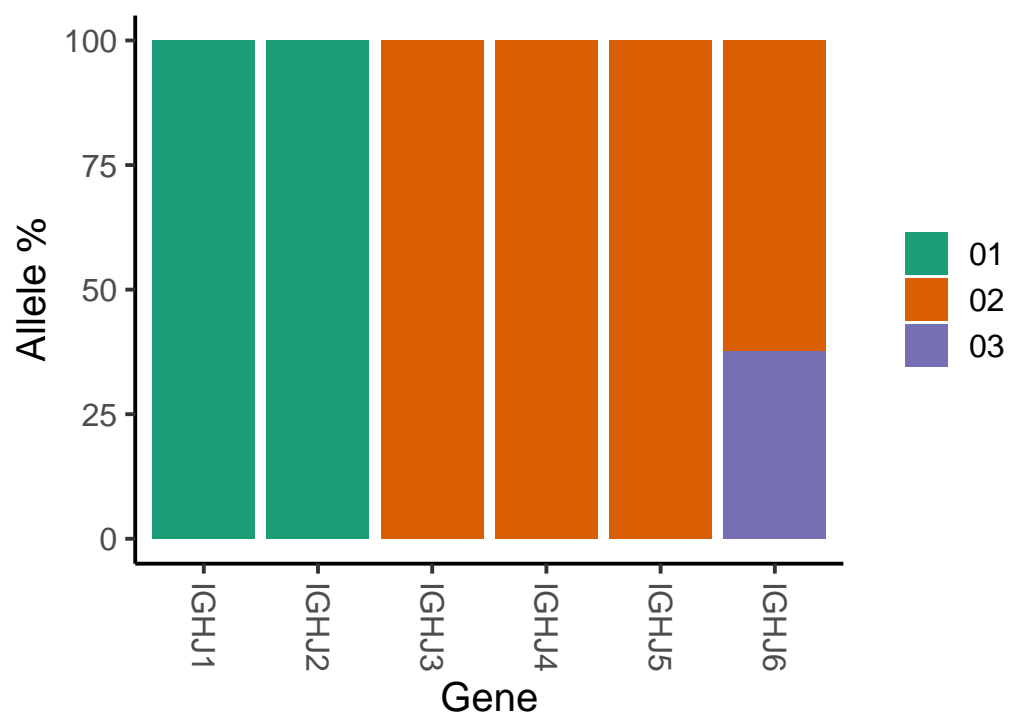


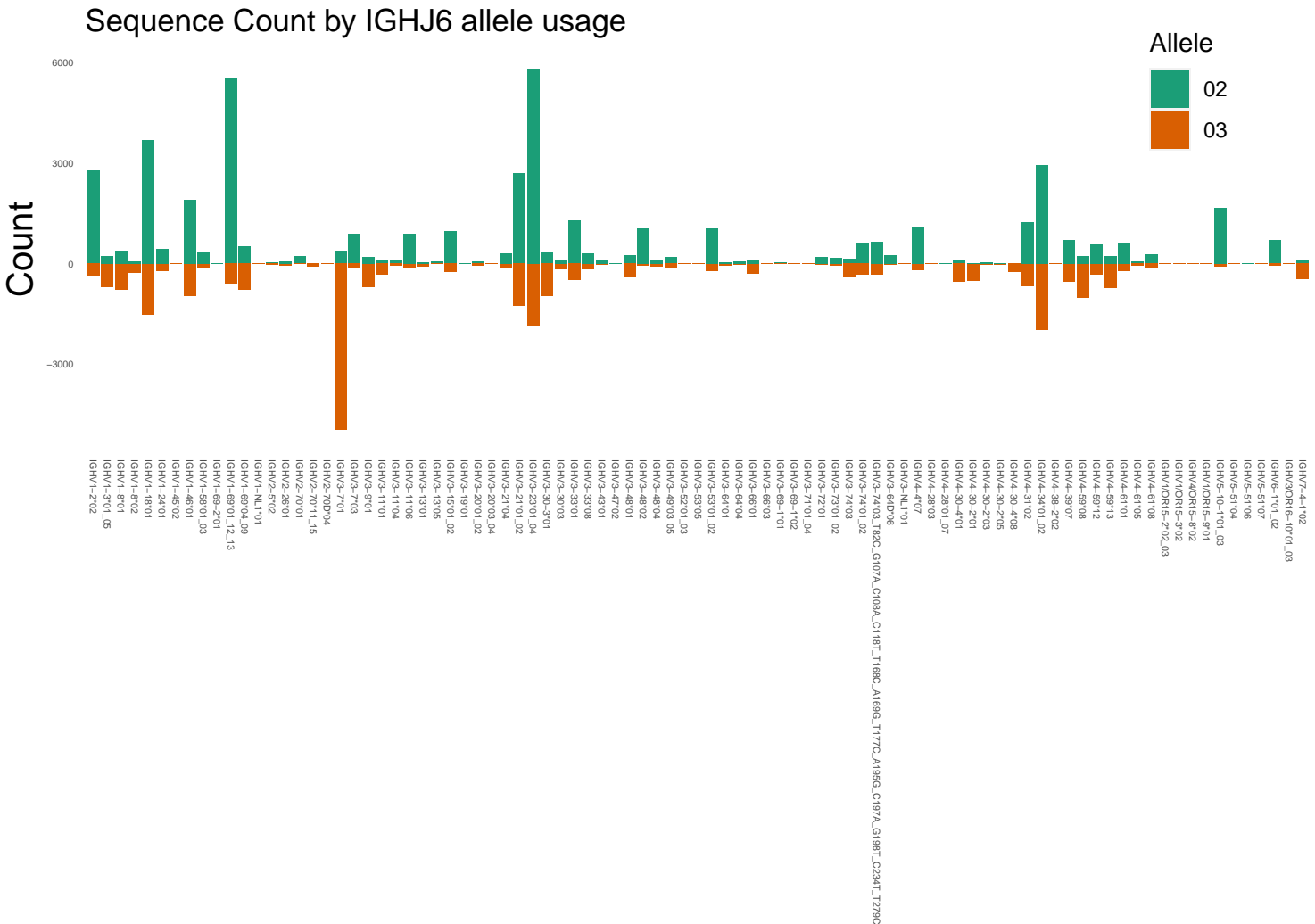
IGHV7–4–1*02

4159 sequences assigned
969 (23.3%) exact matches, in which:
911 unique CDR3
7 unique J



Allele Usage





Warning – no inferred sequences found.