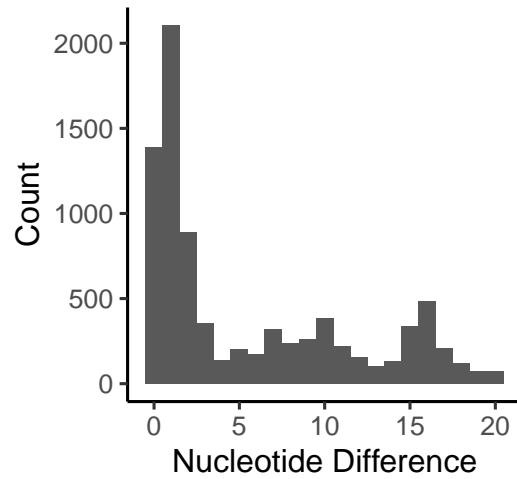


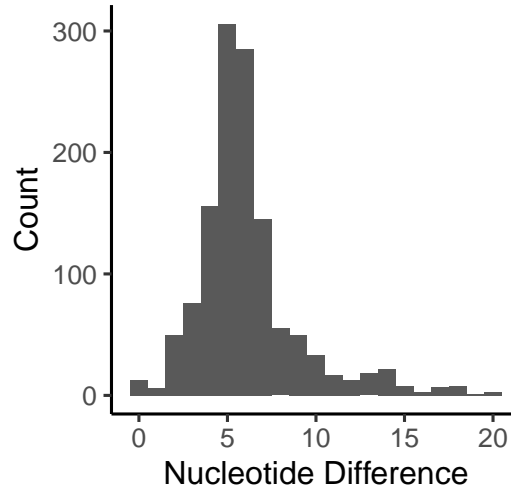
IGHV1-2*02

8793 sequences assigned
1388 (15.8%) exact matches, in which:
1029 unique CDR3
6 unique J



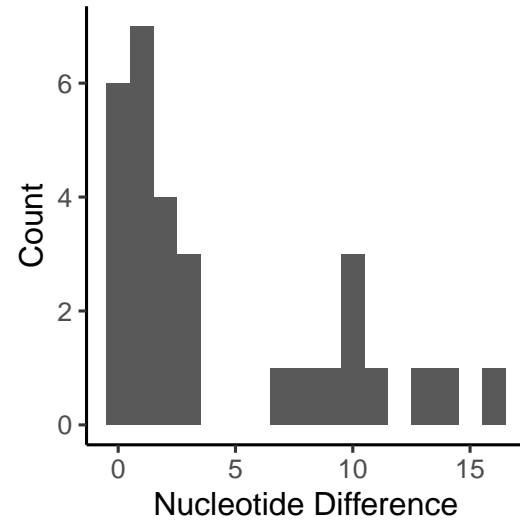
IGHV1-8*02

1299 sequences assigned
13 (1%) exact matches, in which:
13 unique CDR3
4 unique J



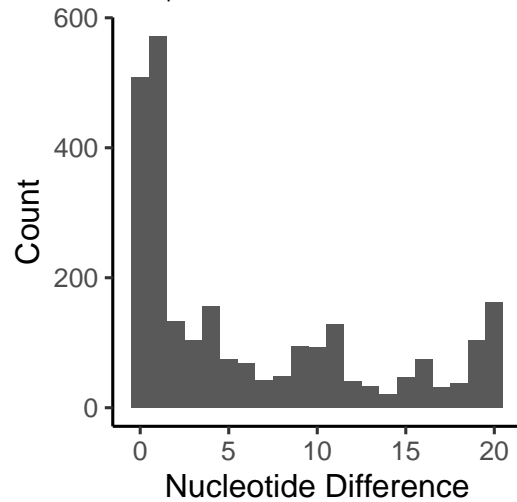
IGHV1-45*02

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



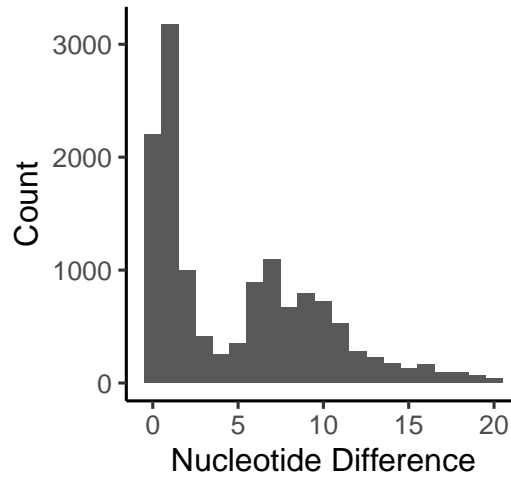
IGHV1-3*01_05

2821 sequences assigned
509 (18%) exact matches, in which:
390 unique CDR3
6 unique J



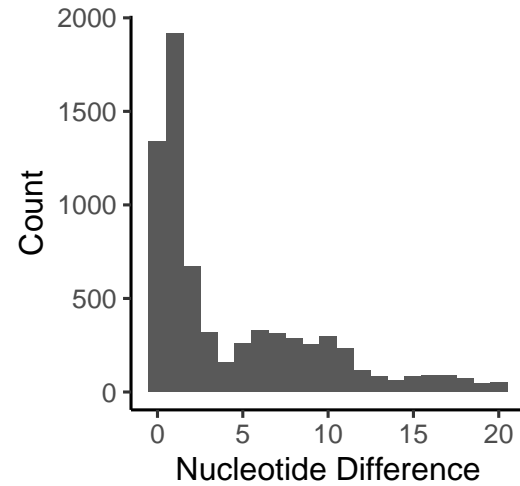
IGHV1-18*01

15481 sequences assigned
2202 (14.2%) exact matches, in which:
1693 unique CDR3
6 unique J



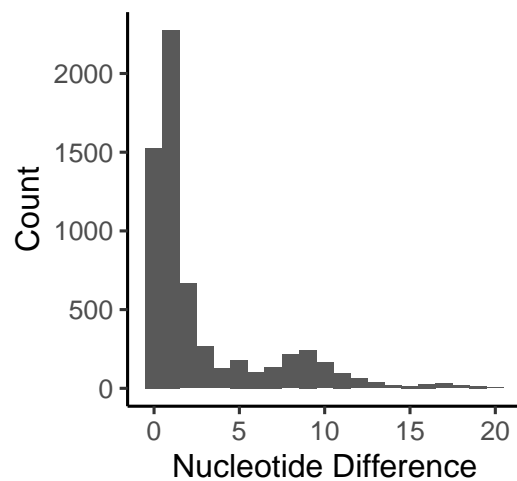
IGHV1-46*01

8058 sequences assigned
1339 (16.6%) exact matches, in which:
1063 unique CDR3
6 unique J



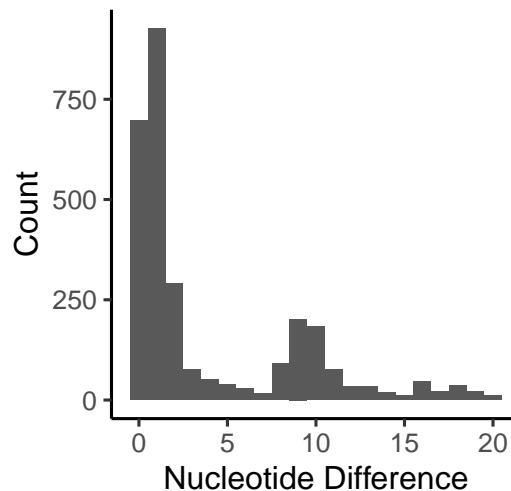
IGHV1-8*01

6313 sequences assigned
1528 (24.2%) exact matches, in which:
1197 unique CDR3
6 unique J



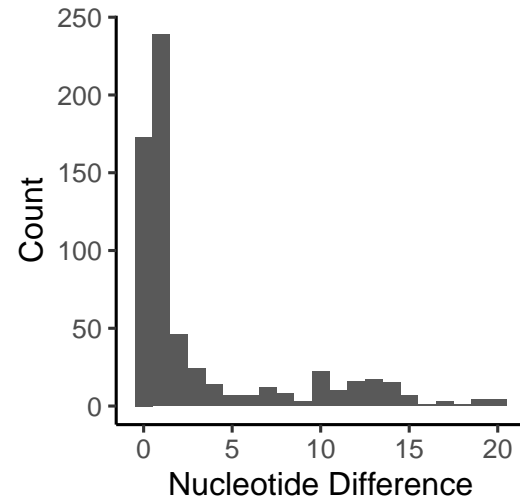
IGHV1-24*01

2976 sequences assigned
698 (23.5%) exact matches, in which:
533 unique CDR3
6 unique J



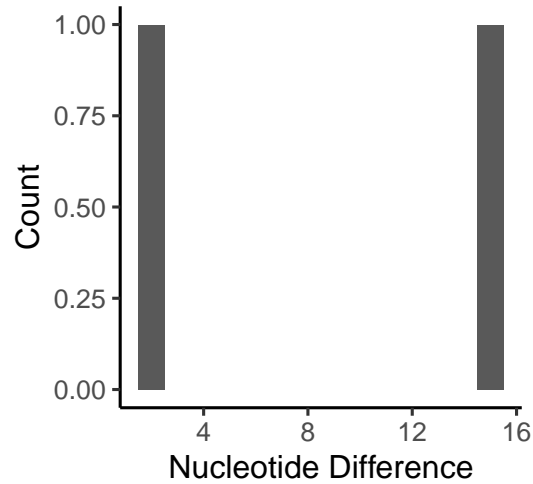
IGHV1-58*01_03

1434 sequences assigned
173 (12.1%) exact matches, in which:
154 unique CDR3
6 unique J



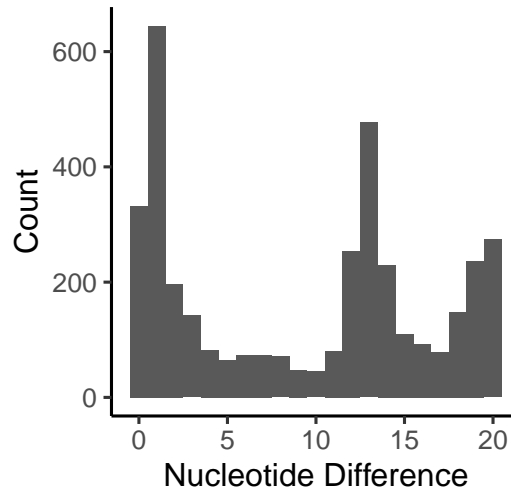
IGHV1-68*01

2 sequences assigned
No exact matches.



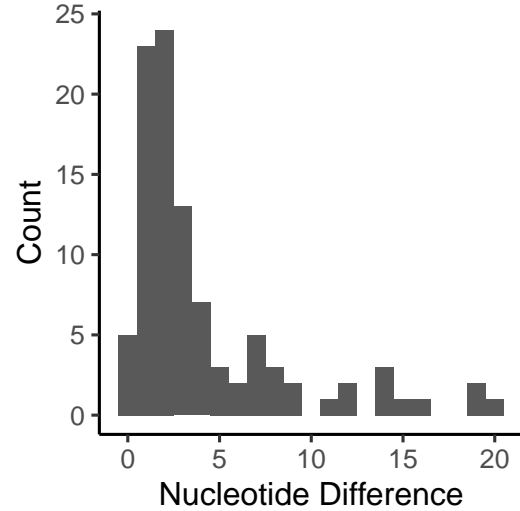
IGHV2-5*02

6507 sequences assigned
332 (5.1%) exact matches, in which:
233 unique CDR3
6 unique J



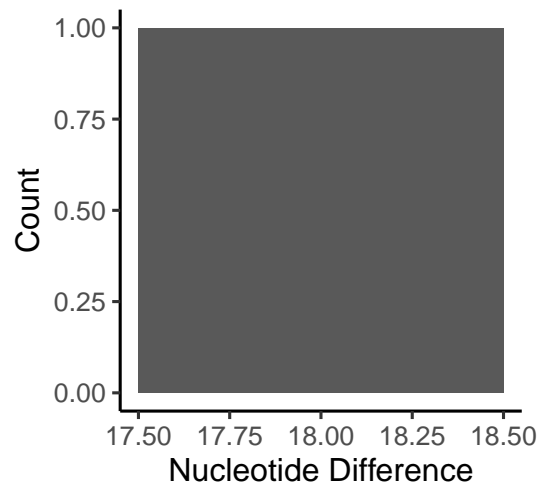
IGHV2-70*12

115 sequences assigned
5 (4.3%) exact matches, in which:
5 unique CDR3
3 unique J



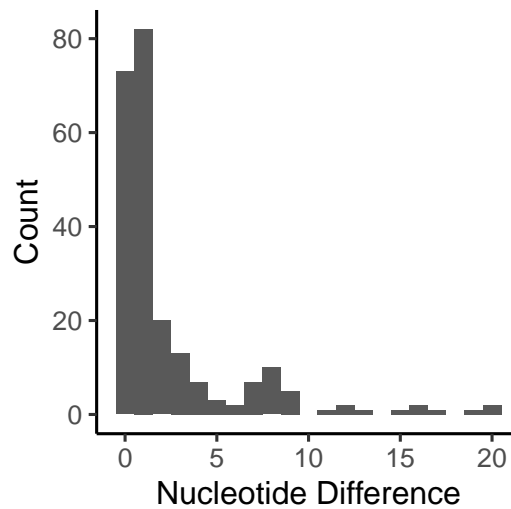
IGHV1-69-2*01

1 sequences assigned
No exact matches.



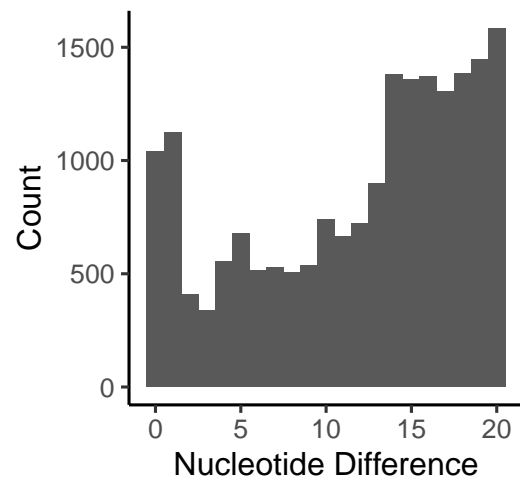
IGHV2-26*01

241 sequences assigned
73 (30.3%) exact matches, in which:
55 unique CDR3
6 unique J



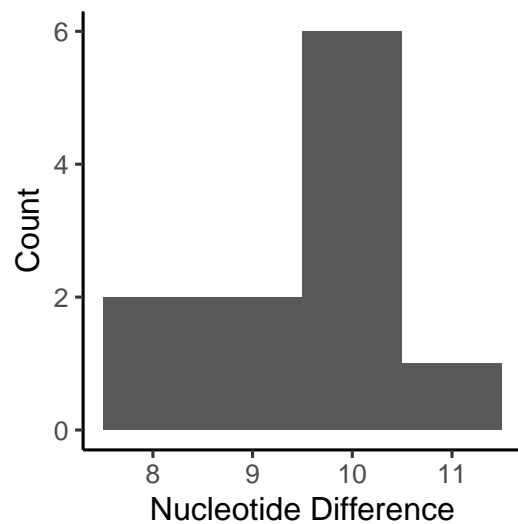
IGHV3-7*01

31282 sequences assigned
1041 (3.3%) exact matches, in which:
688 unique CDR3
6 unique J



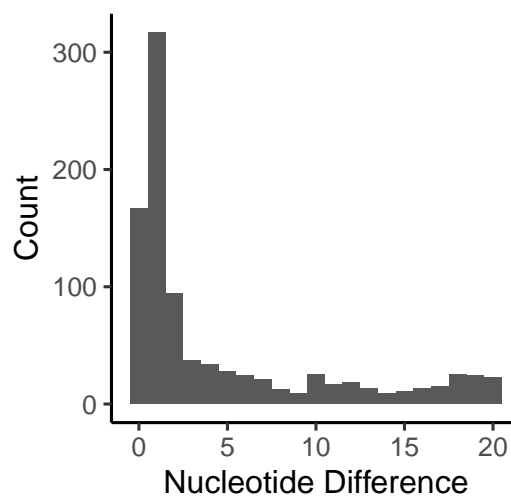
IGHV1-NL1*01

11 sequences assigned
No exact matches.



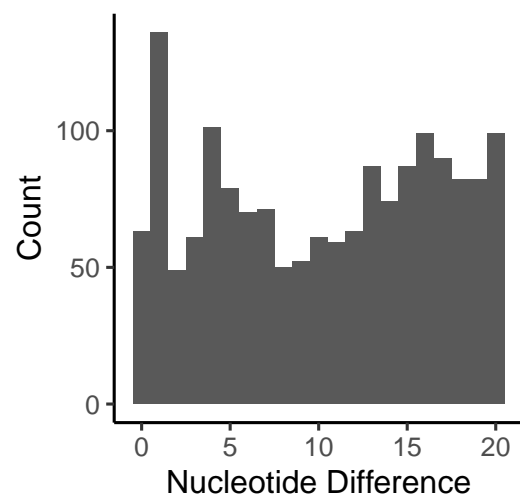
IGHV2-70*01

1441 sequences assigned
167 (11.6%) exact matches, in which:
111 unique CDR3
5 unique J



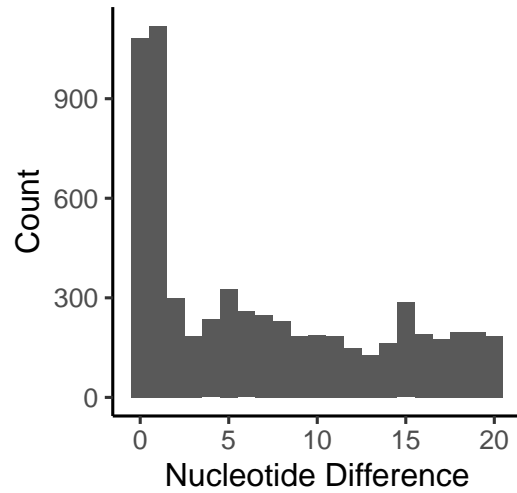
IGHV3-7*03

2959 sequences assigned
63 (2.1%) exact matches, in which:
48 unique CDR3
6 unique J



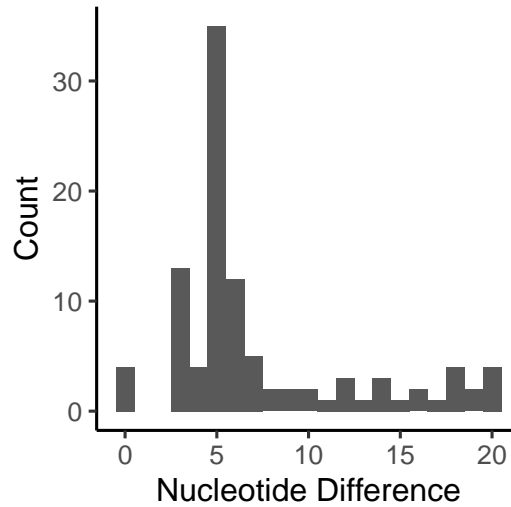
IGHV3-9*01

9468 sequences assigned
1084 (11.4%) exact matches, in which:
609 unique CDR3
6 unique J



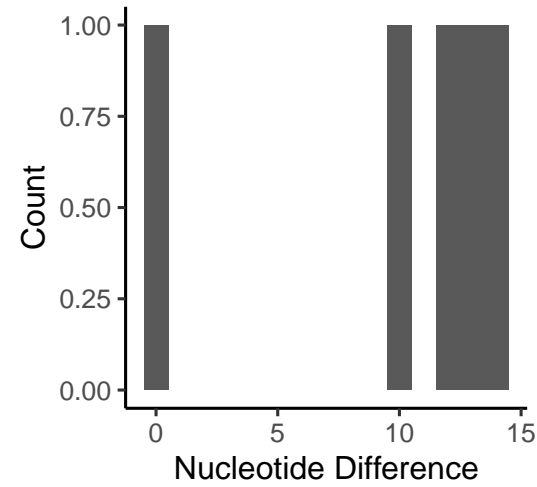
IGHV3-11*06

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



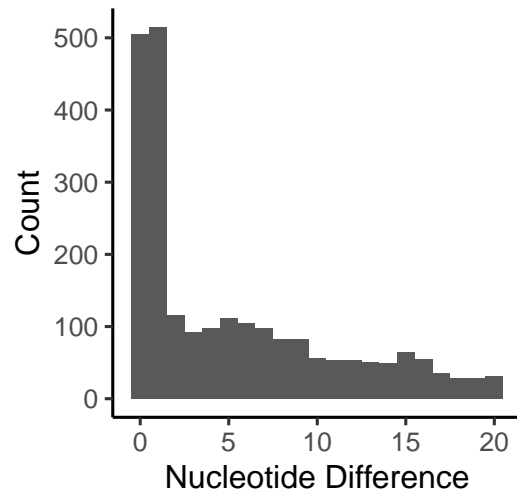
IGHV3-19*01

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



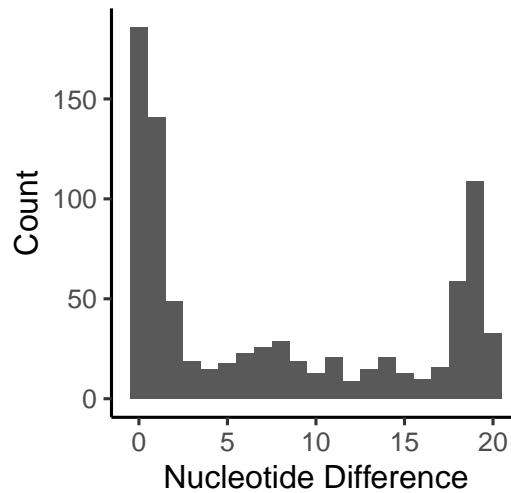
IGHV3-11*01

2624 sequences assigned
505 (19.2%) exact matches, in which:
347 unique CDR3
6 unique J



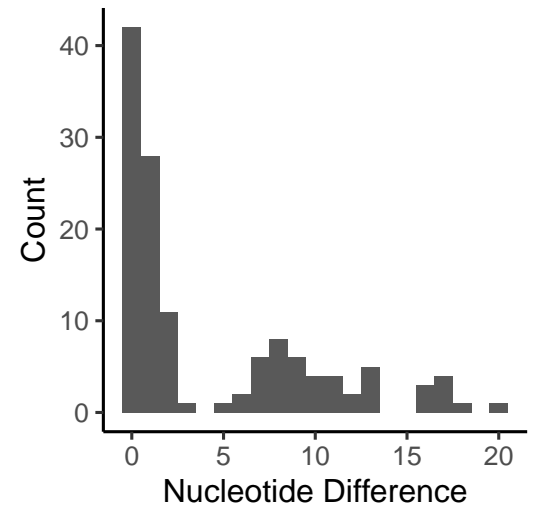
IGHV3-13*01

1754 sequences assigned
186 (10.6%) exact matches, in which:
140 unique CDR3
6 unique J



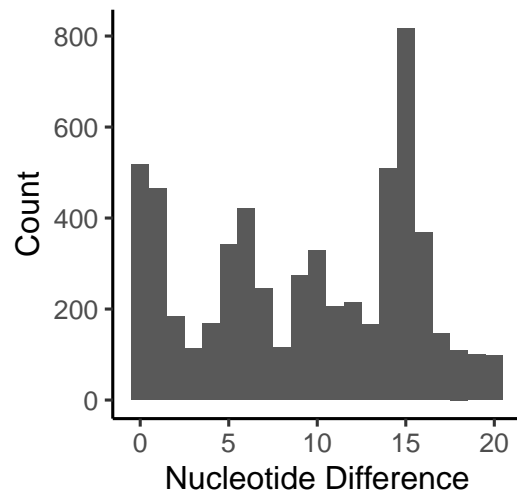
IGHV3-20*01_02

133 sequences assigned
42 (31.6%) exact matches, in which:
26 unique CDR3
5 unique J



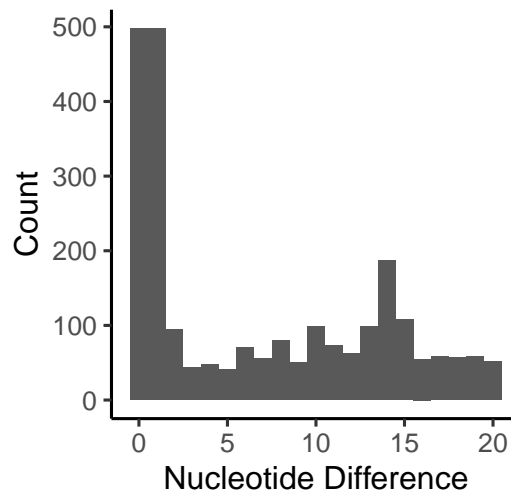
IGHV3-11*04

6516 sequences assigned
518 (7.9%) exact matches, in which:
351 unique CDR3
6 unique J



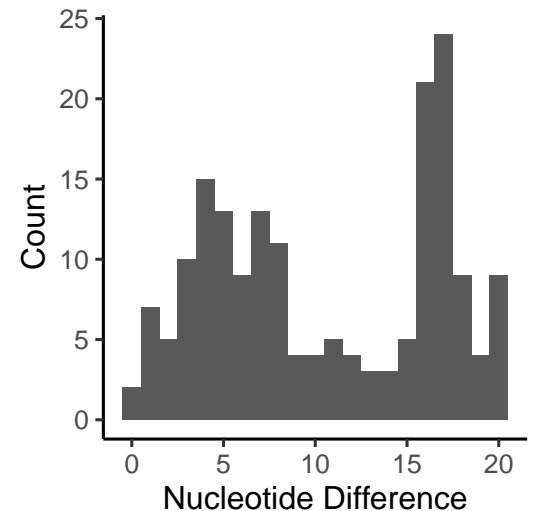
IGHV3-15*01_02

4005 sequences assigned
498 (12.4%) exact matches, in which:
284 unique CDR3
6 unique J



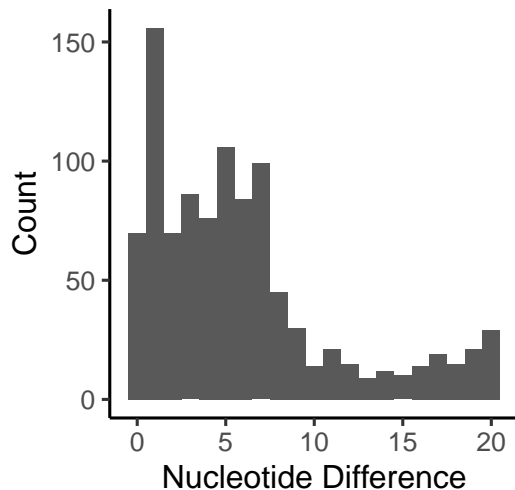
IGHV3-20*03_04

317 sequences assigned
2 (0.6%) exact matches, in which:
2 unique CDR3
2 unique J



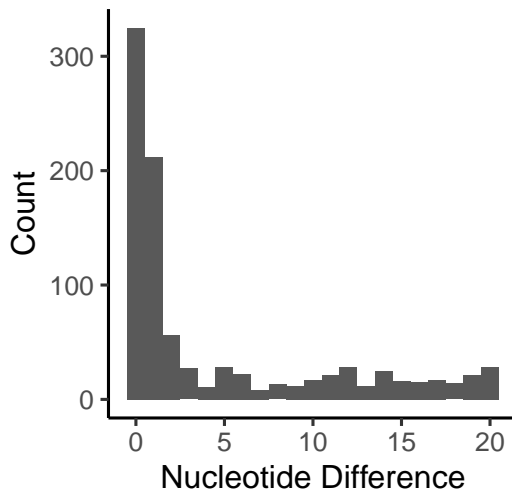
IGHV3-21*04

1296 sequences assigned
70 (5.4%) exact matches, in which:
63 unique CDR3
6 unique J



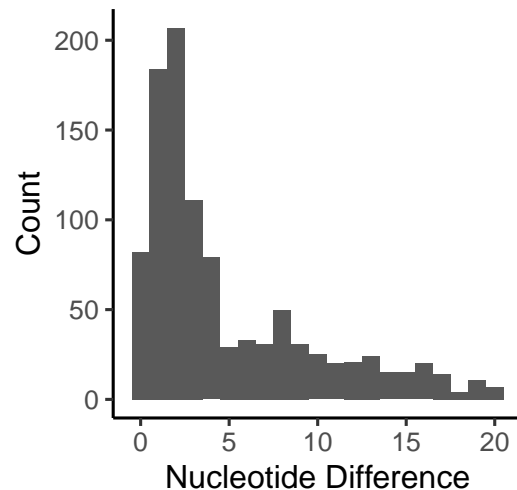
IGHV3-30*03

2467 sequences assigned
325 (13.2%) exact matches, in which:
265 unique CDR3
6 unique J



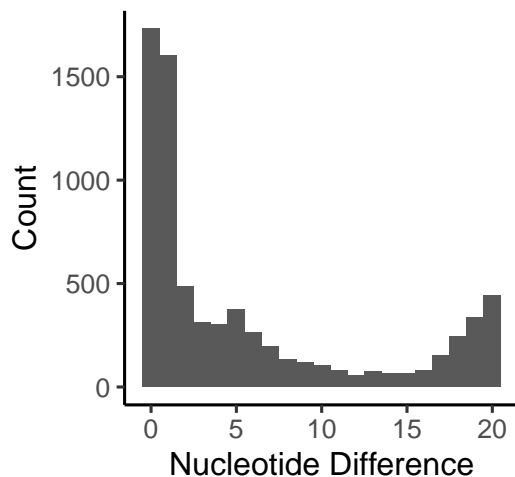
IGHV3-33*06

1144 sequences assigned
82 (7.2%) exact matches, in which:
73 unique CDR3
5 unique J



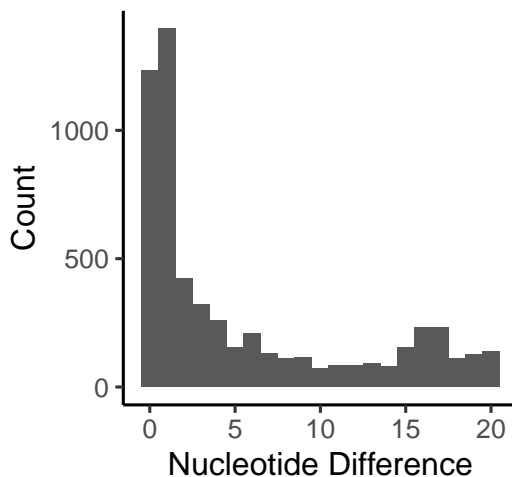
IGHV3-21*01_02

10573 sequences assigned
1732 (16.4%) exact matches, in which:
1083 unique CDR3
6 unique J



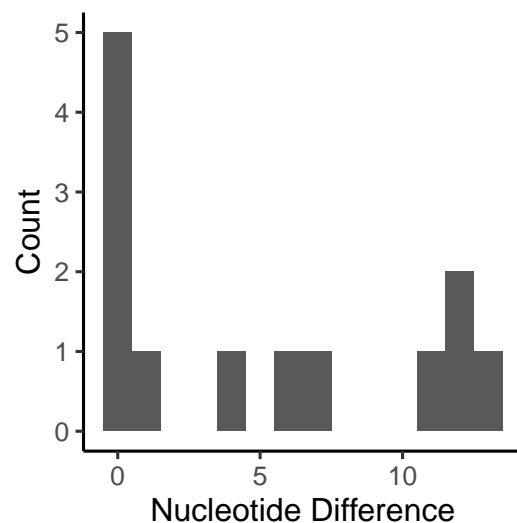
IGHV3-33*01

11274 sequences assigned
1235 (11%) exact matches, in which:
760 unique CDR3
6 unique J



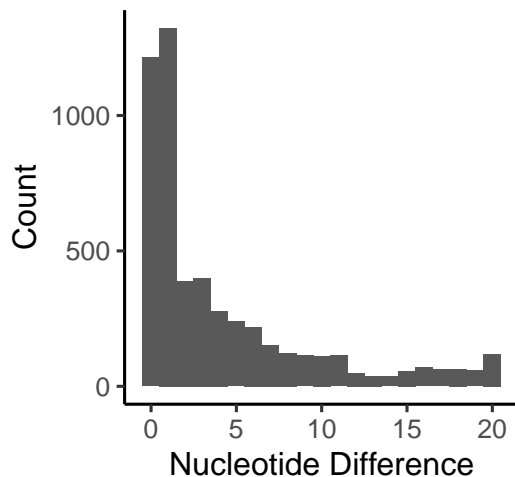
IGHV3-35*01

13 sequences assigned
5 (38.5%) exact matches, in which:
5 unique CDR3
2 unique J



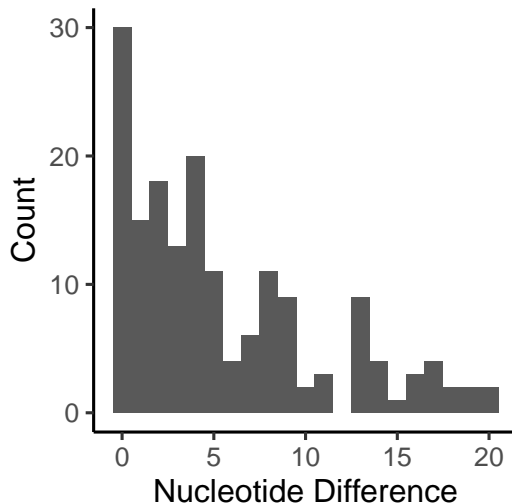
IGHV3-30-3*01

6966 sequences assigned
1214 (17.4%) exact matches, in which:
792 unique CDR3
6 unique J



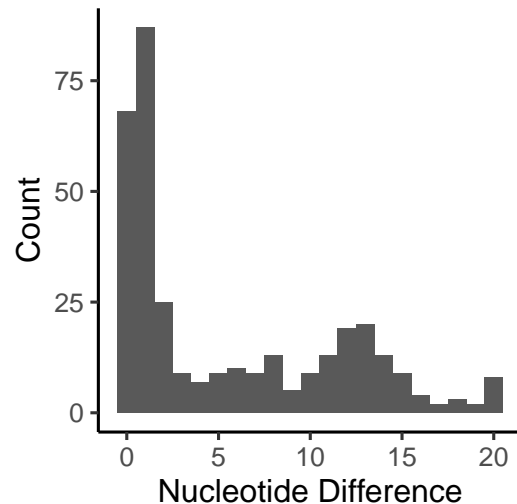
IGHV3-33*05

655 sequences assigned
30 (4.6%) exact matches, in which:
28 unique CDR3
3 unique J



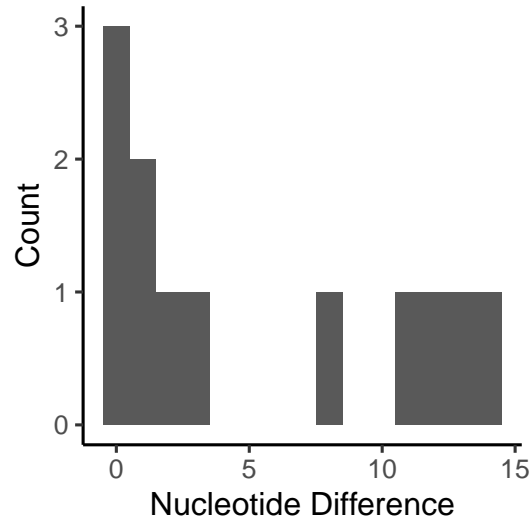
IGHV3-43*01

387 sequences assigned
68 (17.6%) exact matches, in which:
39 unique CDR3
5 unique J



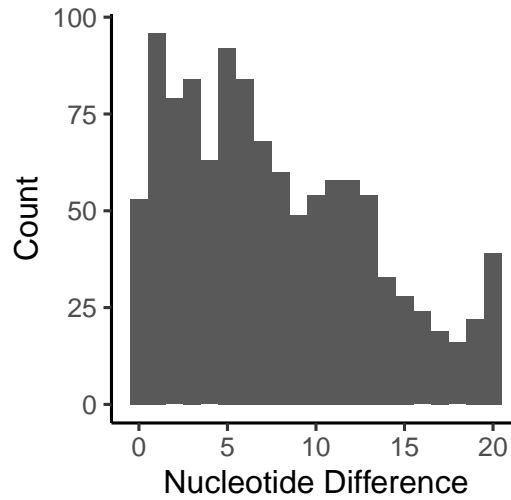
IGHV3-47*02

12 sequences assigned
3 (25%) exact matches, in which:
2 unique CDR3
1 unique J



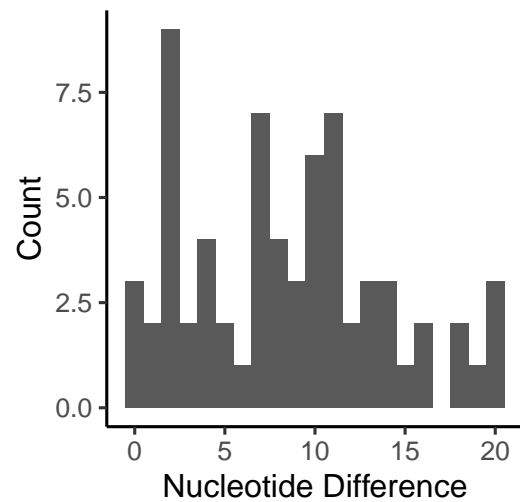
IGHV3-48*04

1861 sequences assigned
53 (2.8%) exact matches, in which:
46 unique CDR3
4 unique J



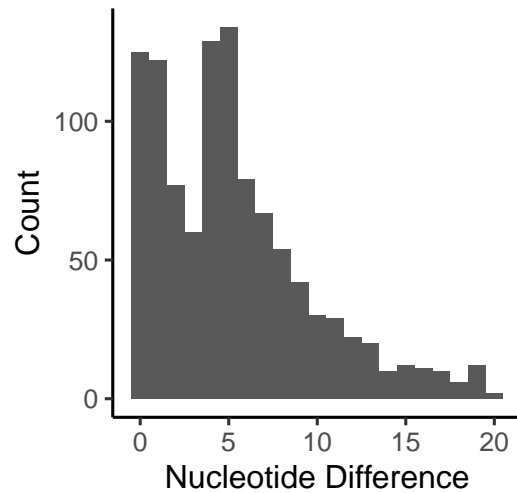
IGHV3-53*05

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



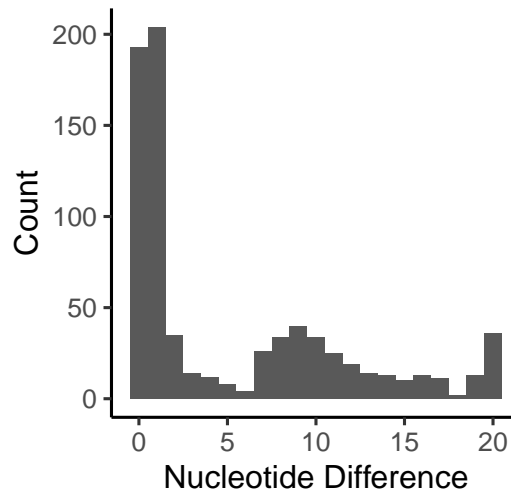
IGHV3-48*01

1211 sequences assigned
125 (10.3%) exact matches, in which:
111 unique CDR3
4 unique J



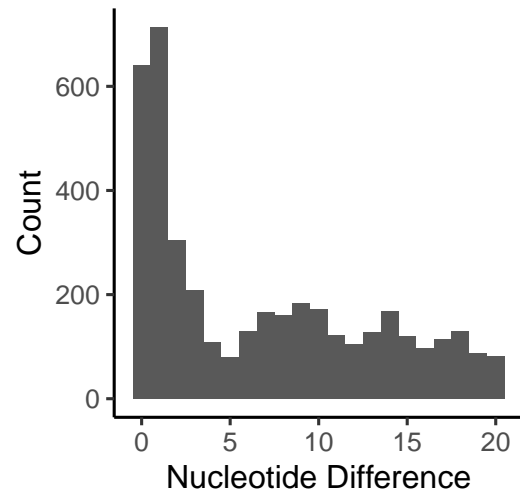
IGHV3-49*03_05

1293 sequences assigned
193 (14.9%) exact matches, in which:
118 unique CDR3
6 unique J



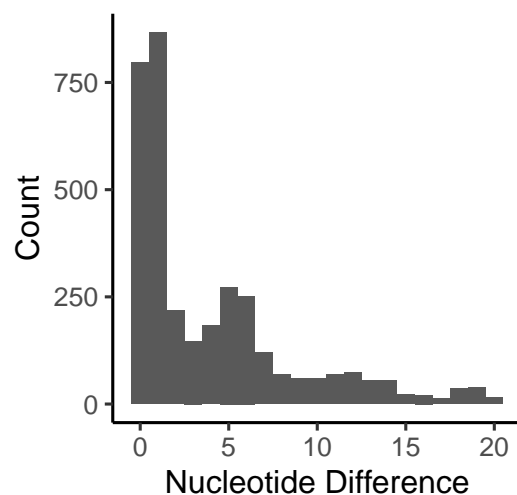
IGHV3-53*01_02

5112 sequences assigned
641 (12.5%) exact matches, in which:
427 unique CDR3
6 unique J



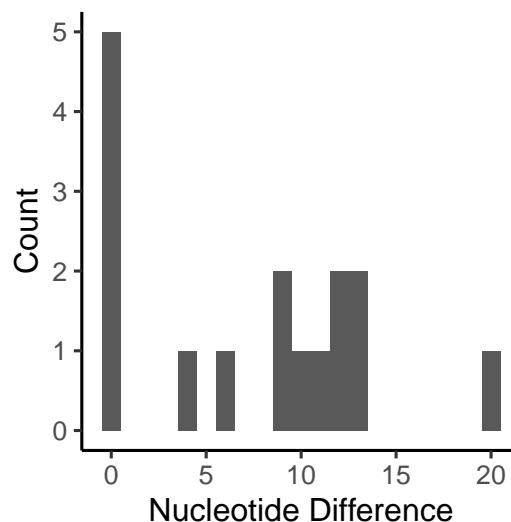
IGHV3-48*02

5831 sequences assigned
796 (13.7%) exact matches, in which:
496 unique CDR3
6 unique J



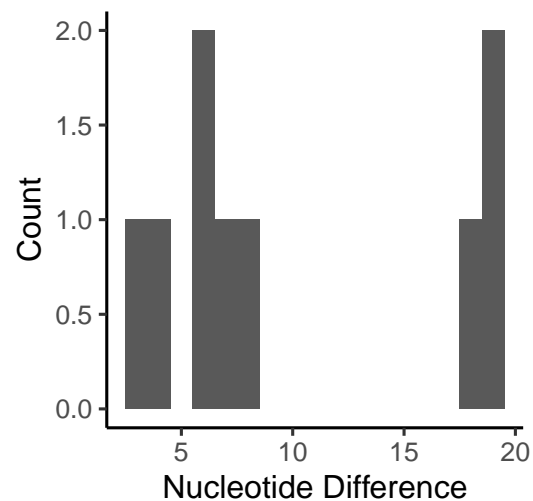
IGHV3-52*01_03

16 sequences assigned
5 (31.2%) exact matches, in which:
3 unique CDR3
2 unique J



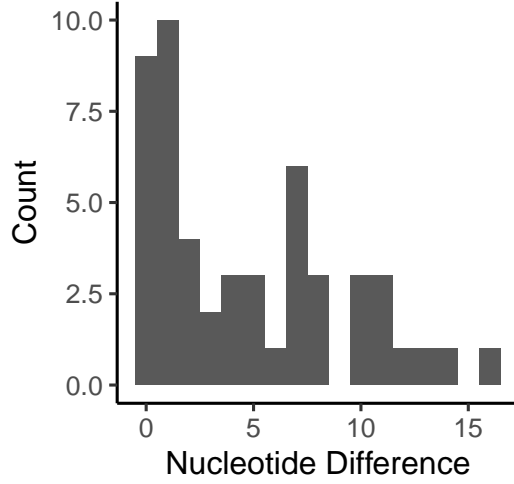
IGHV3-64*04

14 sequences assigned
No exact matches.



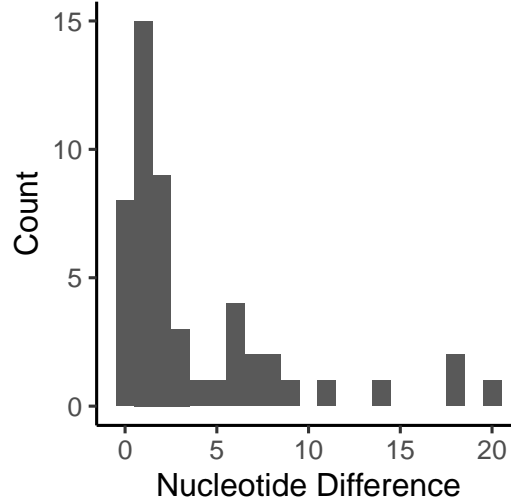
IGHV3-64*02_07

53 sequences assigned
9 (17%) exact matches, in which:
5 unique CDR3
3 unique J



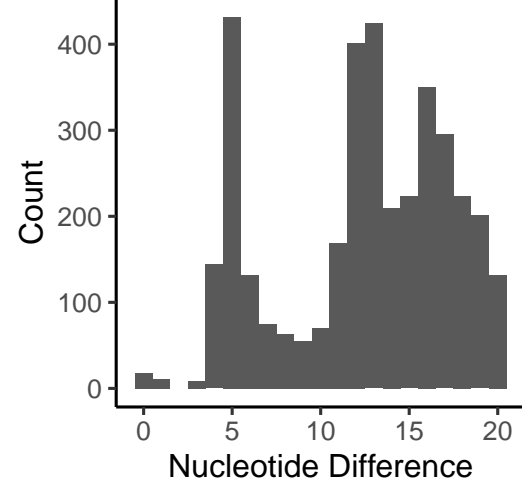
IGHV3-66*03

69 sequences assigned
8 (11.6%) exact matches, in which:
8 unique CDR3
3 unique J



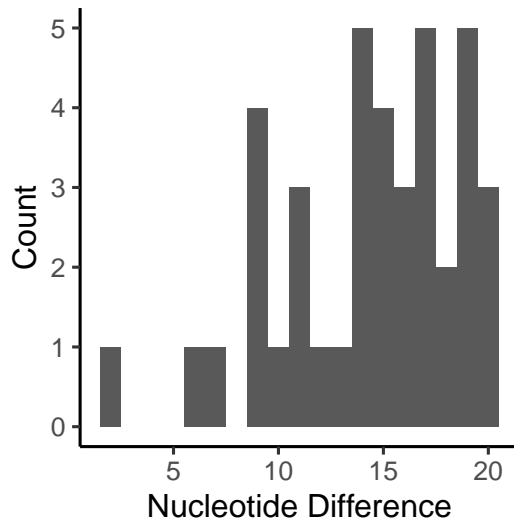
IGHV3-72*01

4998 sequences assigned
18 (0.4%) exact matches, in which:
15 unique CDR3
4 unique J



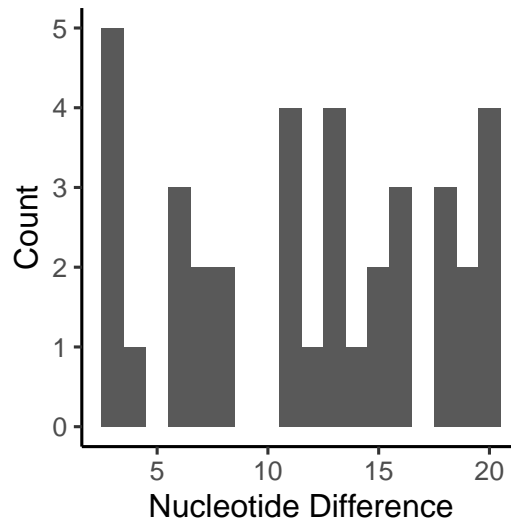
IGHV3-66*01

66 sequences assigned
No exact matches.



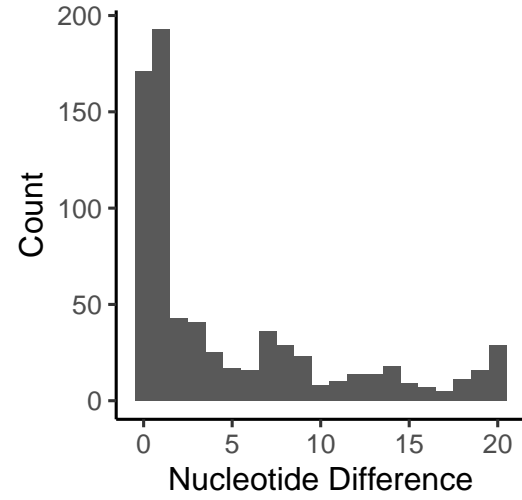
IGHV3-69-1*01

109 sequences assigned
No exact matches.



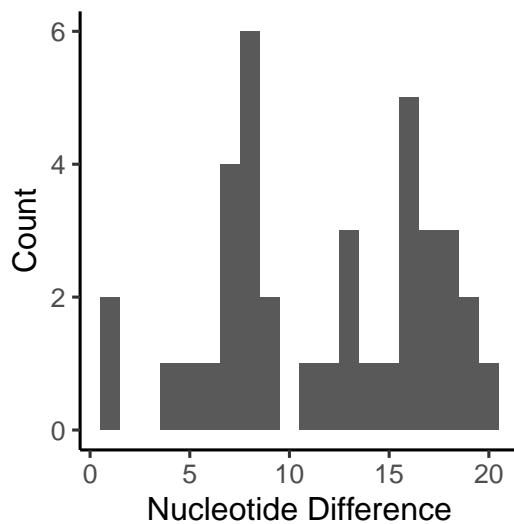
IGHV3-73*01_02

3475 sequences assigned
171 (4.9%) exact matches, in which:
114 unique CDR3
5 unique J



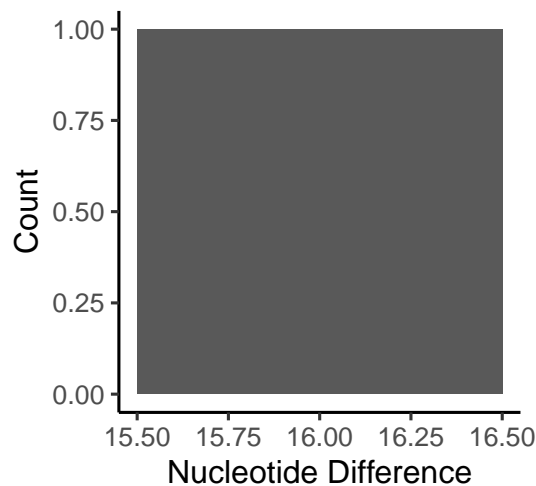
IGHV3-66*02

54 sequences assigned
No exact matches.



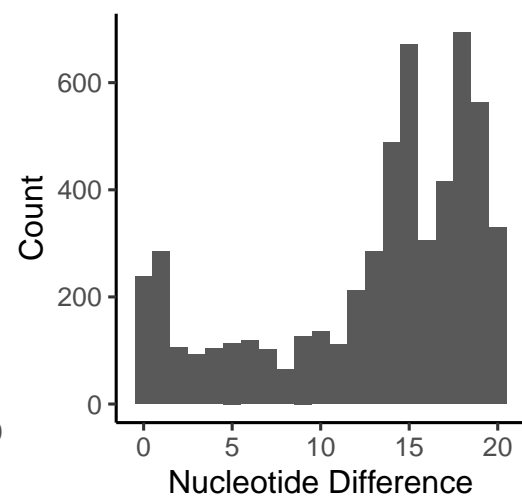
IGHV3-71*01_04

24 sequences assigned
No exact matches.



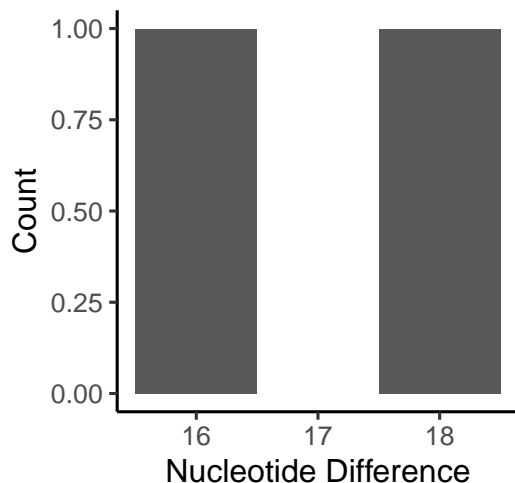
IGHV3-74*01_02

8005 sequences assigned
238 (3%) exact matches, in which:
157 unique CDR3
5 unique J



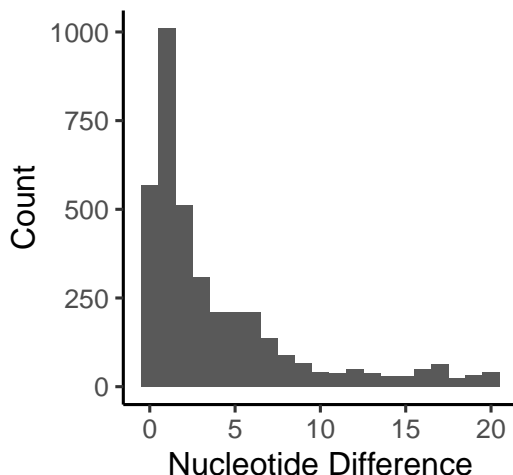
IGHV3-43D*04

3 sequences assigned
No exact matches.



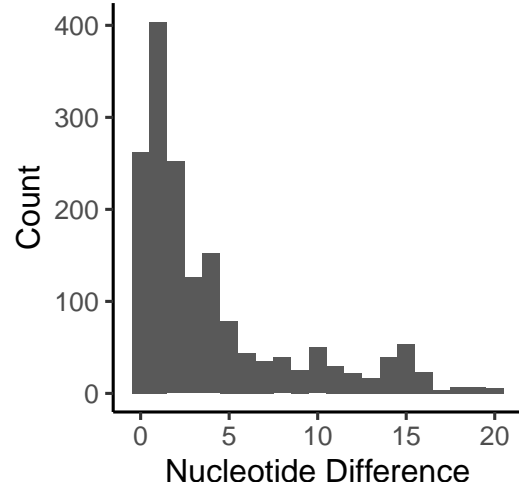
IGHV4-4*07

4720 sequences assigned
568 (12%) exact matches, in which:
420 unique CDR3
6 unique J



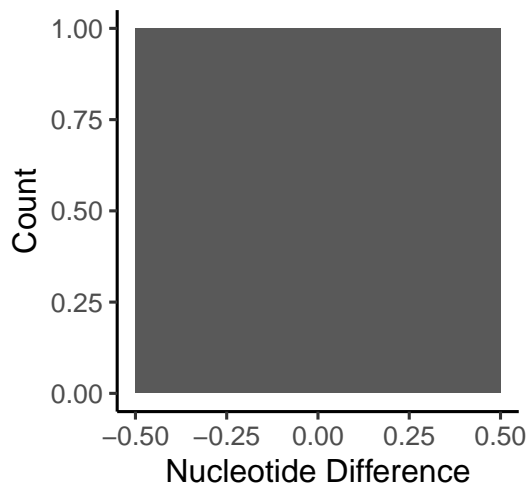
IGHV4-30-2*01

2371 sequences assigned
262 (11.1%) exact matches, in which:
181 unique CDR3
6 unique J



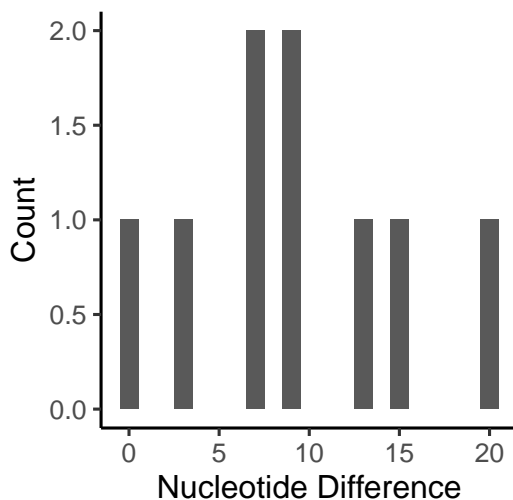
IGHV3-64D*09

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



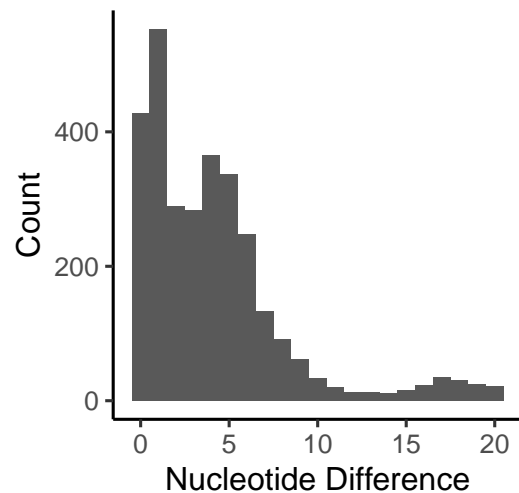
IGHV4-28*03

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



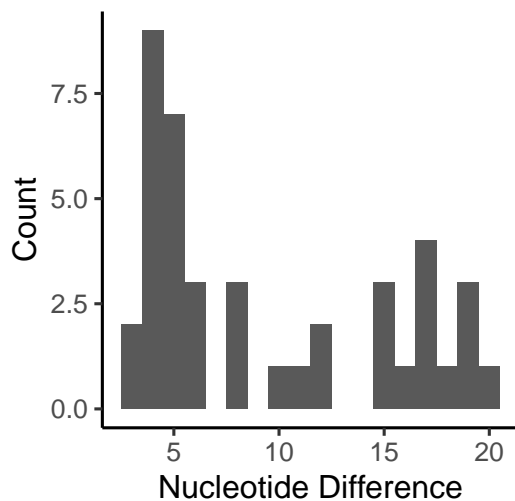
IGHV4-31*03_04

3467 sequences assigned
428 (12.3%) exact matches, in which:
314 unique CDR3
6 unique J



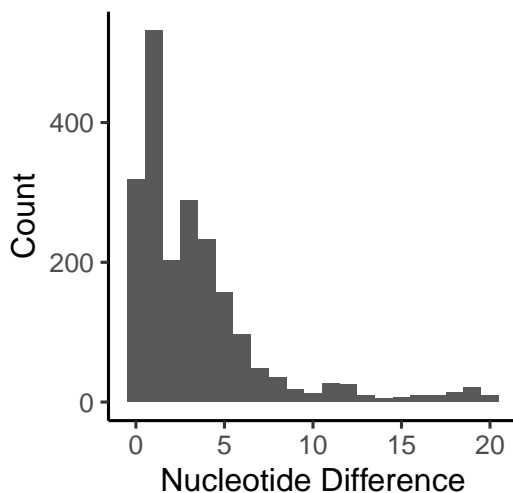
IGHV3-NL1*01

75 sequences assigned
No exact matches.



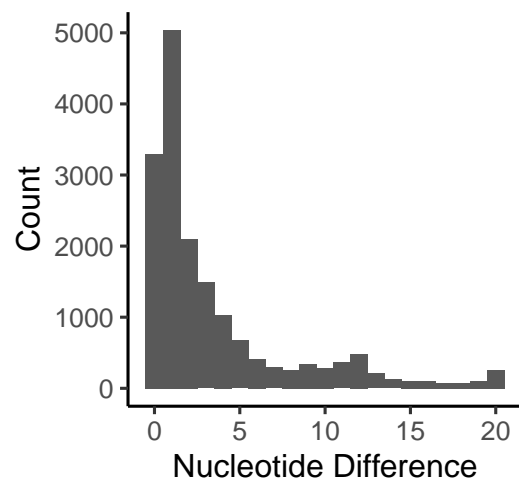
IGHV4-30-4*01

3328 sequences assigned
319 (9.6%) exact matches, in which:
240 unique CDR3
6 unique J



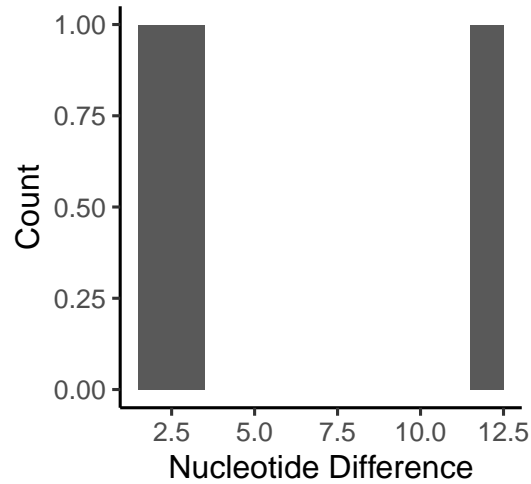
IGHV4-34*01_02

20617 sequences assigned
3300 (16%) exact matches, in which:
2016 unique CDR3
6 unique J



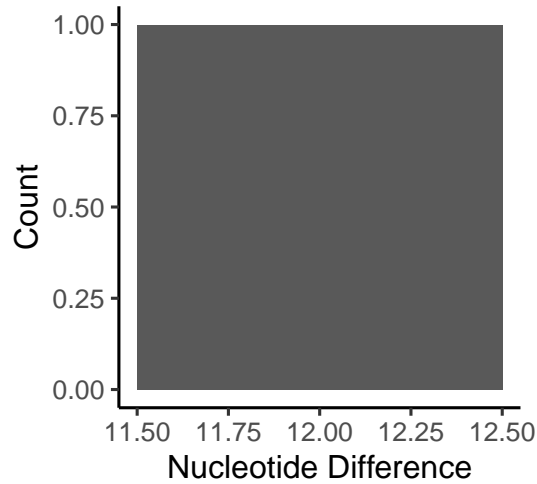
IGHV4-38-2*02

6 sequences assigned
No exact matches.



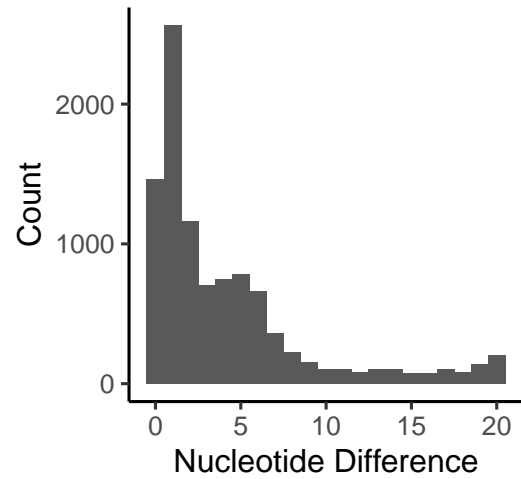
IGHV4-55*03

1 sequences assigned
No exact matches.



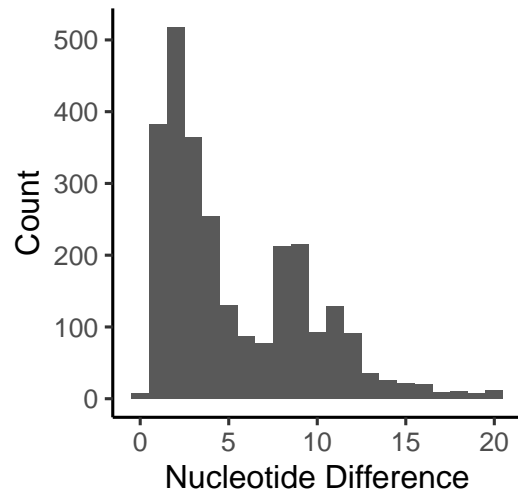
IGHV4-59*01_07

16430 sequences assigned
1460 (8.9%) exact matches, in which:
1078 unique CDR3
6 unique J



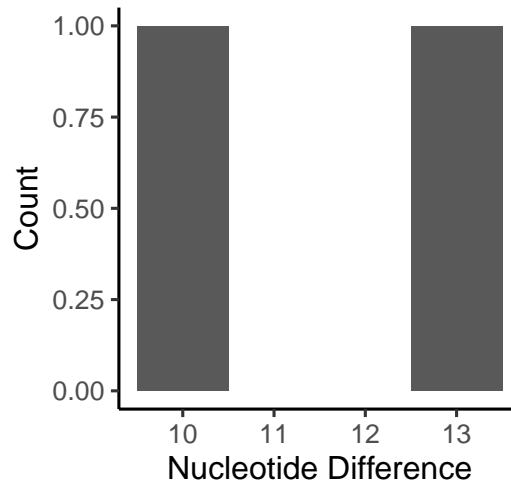
IGHV4-39*07

2835 sequences assigned
8 (0.3%) exact matches, in which:
8 unique CDR3
3 unique J



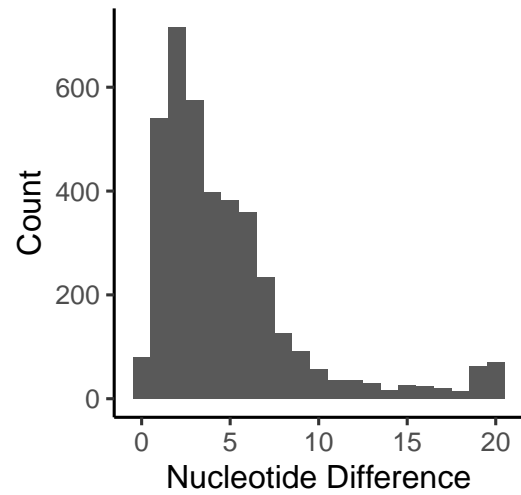
IGHV4-55*09

5 sequences assigned
No exact matches.



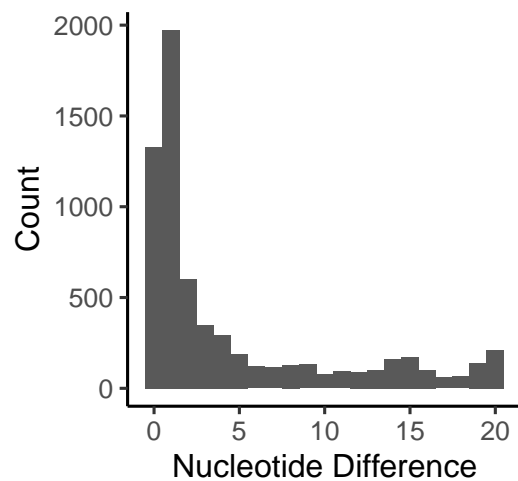
IGHV4-59*12

4101 sequences assigned
80 (2%) exact matches, in which:
77 unique CDR3
6 unique J



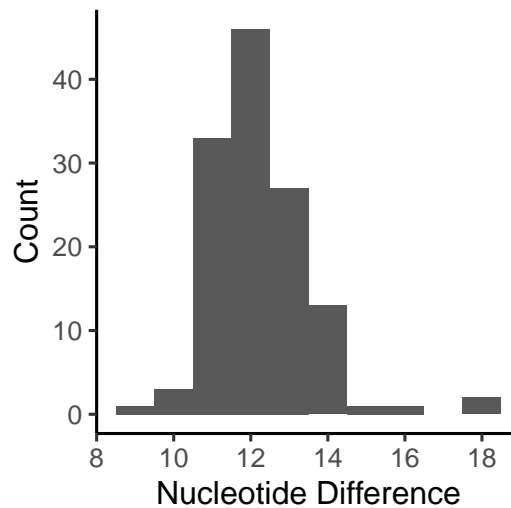
IGHV4-39*01_05

8845 sequences assigned
1329 (15%) exact matches, in which:
940 unique CDR3
6 unique J



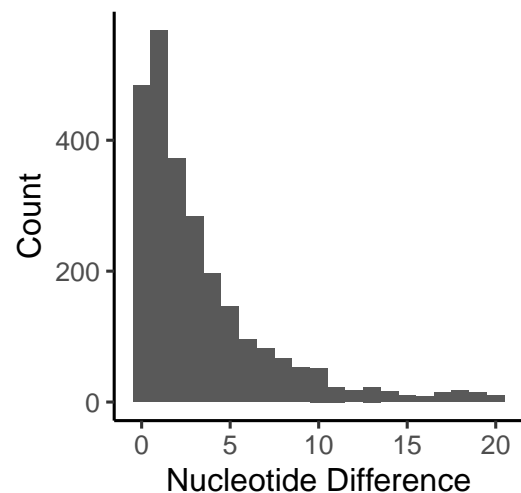
IGHV4-55*02_04_08

129 sequences assigned
No exact matches.



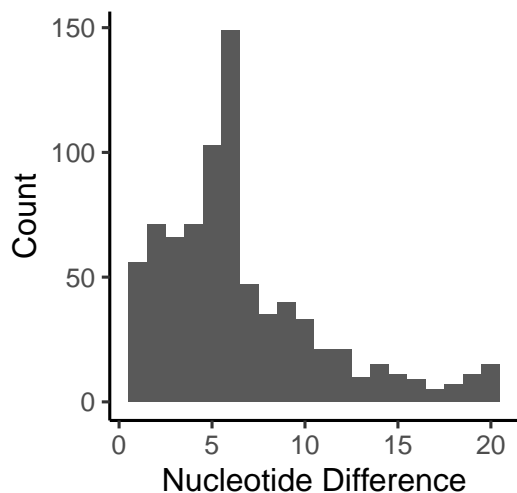
IGHV4-61*01

3572 sequences assigned
484 (13.5%) exact matches, in which:
379 unique CDR3
6 unique J



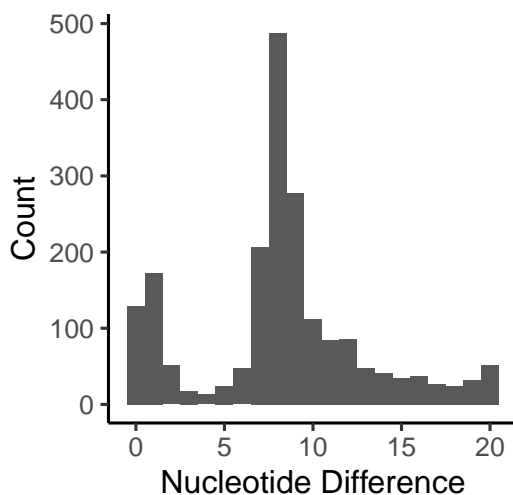
IGHV4-61*08

1065 sequences assigned
No exact matches.



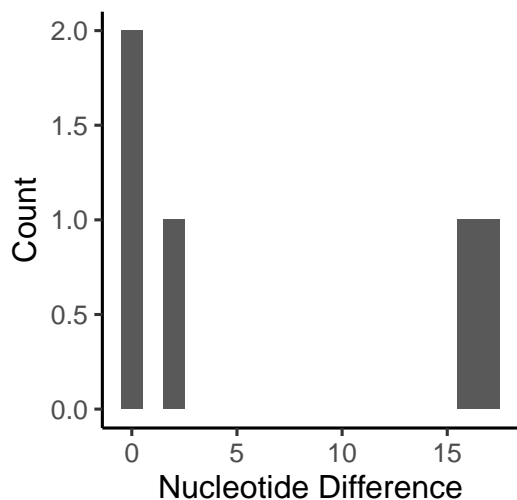
IGHV6-1*01_02

2644 sequences assigned
129 (4.9%) exact matches, in which:
100 unique CDR3
6 unique J



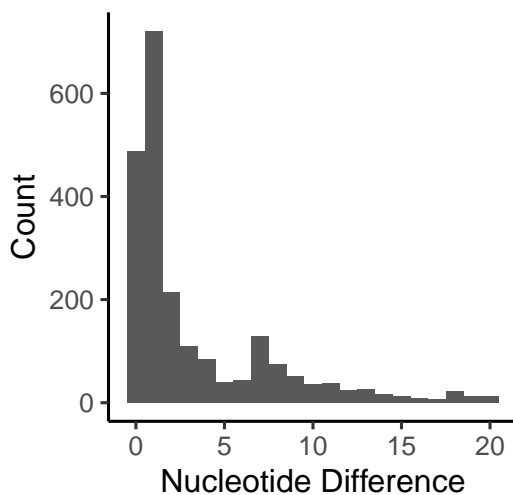
IGHV5-10-1*01_03

5 sequences assigned
2 (40%) exact matches, in which:
2 unique CDR3
1 unique J



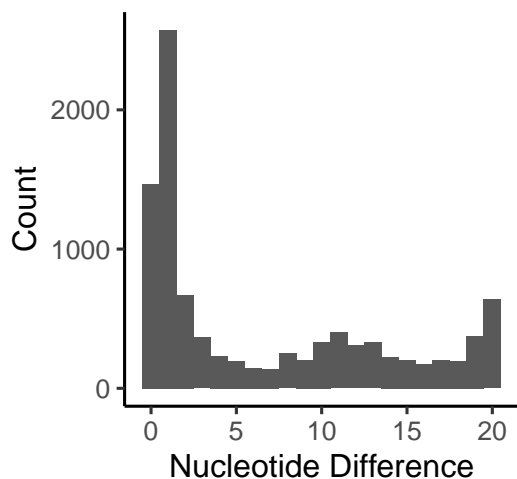
IGHV7-4-1*02

3663 sequences assigned
487 (13.3%) exact matches, in which:
355 unique CDR3
6 unique J



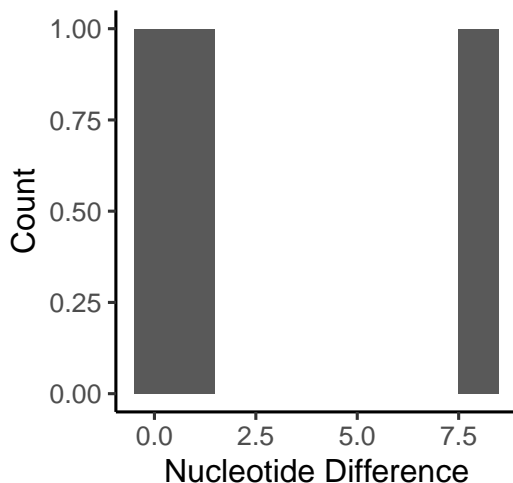
IGHV5-51*01_03

12363 sequences assigned
1468 (11.9%) exact matches, in which:
734 unique CDR3
6 unique J



IGHV7-81*01

3 sequences assigned
1 (33.3%) exact matches, in which:
1 unique CDR3
1 unique J





Novel sequence(s) IGHV3-33*01_G75C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning - no inferred sequences found.

Warning - no inferred sequences found.

Novel sequence(s) IGHV3-33*01_G75C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3-33*01_G75C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3-30*03_T288C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning - no inferred sequences found.

Warning - no inferred sequences found.

Warning - no inferred sequences found.

Novel sequence(s) IGHV1-69*04_09_G112A IGHV4-59*02_G88A IGHV5-10-1*01_03_T258C IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning - no inferred sequences found.

Novel sequence(s) IGHV1-69*08_C191T IGHV3-48*03_T303G IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning - no inferred sequences found.

Warning - no inferred sequences found.

Novel sequence(s) IGHV3-30*03_T288C IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning: IGHV4-31*02, IGHV4-31*03_04 have identical germline sequences.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1-69*04_09_G112A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.