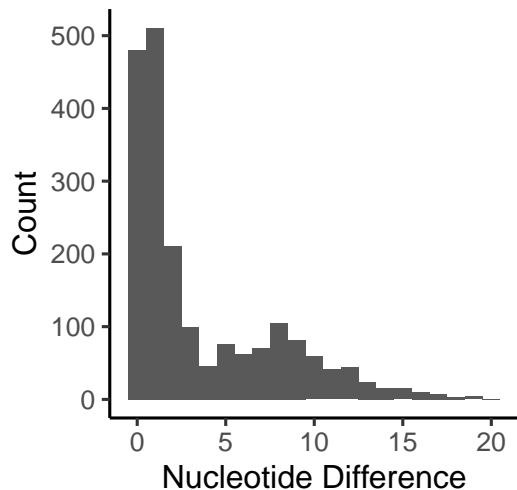


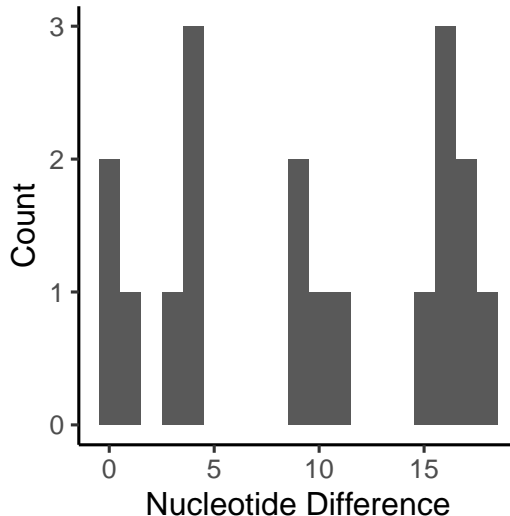
IGHV1-2*04

2009 sequences assigned
480 (23.9%) exact matches, in which:
413 unique CDR3
6 unique J



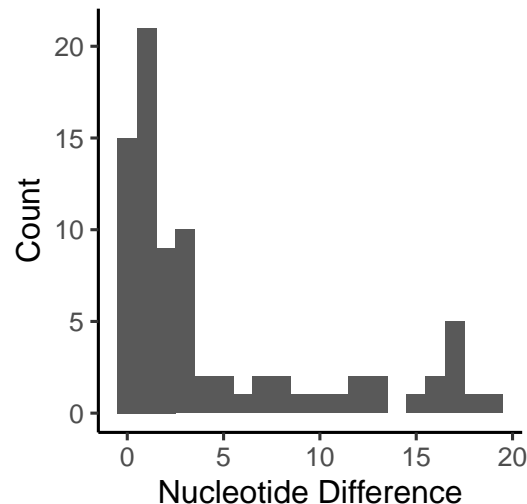
IGHV1-8*01

37 sequences assigned
2 (5.4%) exact matches, in which:
2 unique CDR3
1 unique J



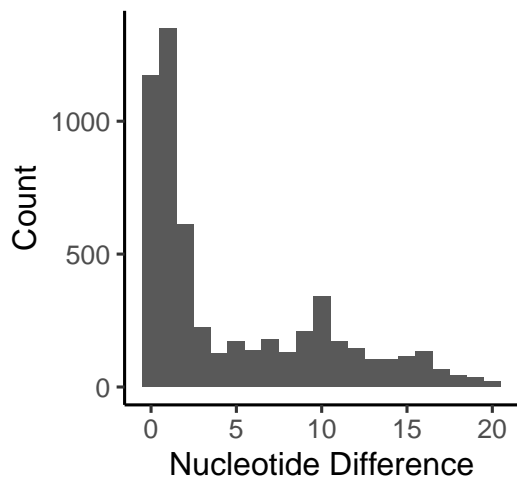
IGHV1-45*02

83 sequences assigned
15 (18.1%) exact matches, in which:
14 unique CDR3
3 unique J



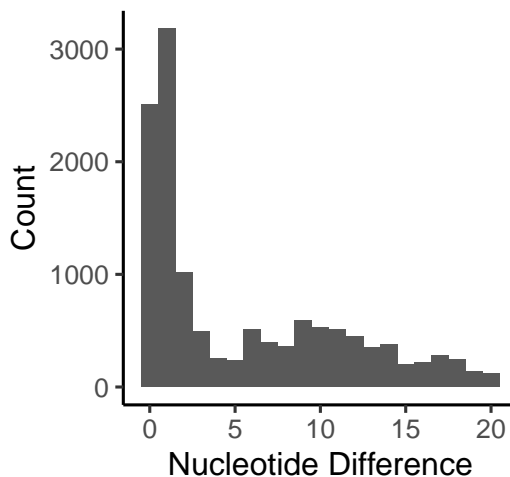
IGHV1-2*06

5964 sequences assigned
1174 (19.7%) exact matches, in which:
964 unique CDR3
6 unique J



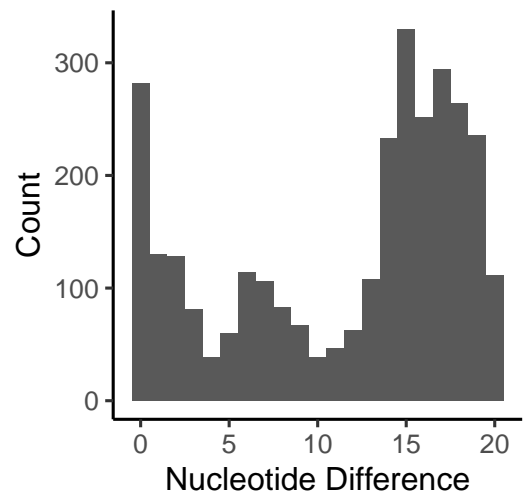
IGHV1-18*01

14606 sequences assigned
2507 (17.2%) exact matches, in which:
1965 unique CDR3
6 unique J



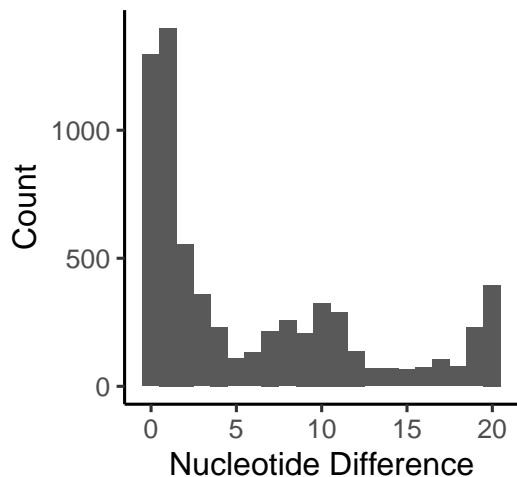
IGHV1-46*01

3412 sequences assigned
282 (8.3%) exact matches, in which:
279 unique CDR3
6 unique J



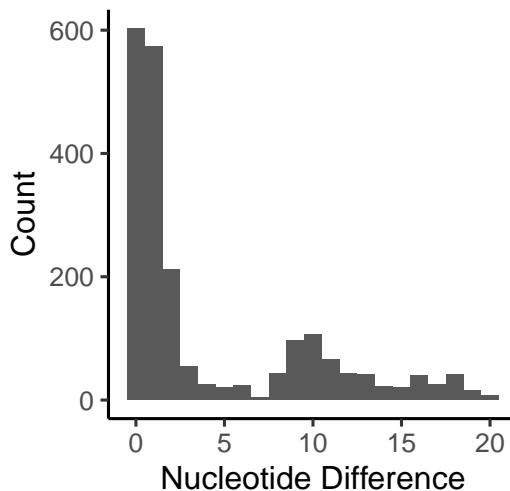
IGHV1-3*01_05

7059 sequences assigned
1296 (18.4%) exact matches, in which:
1068 unique CDR3
6 unique J



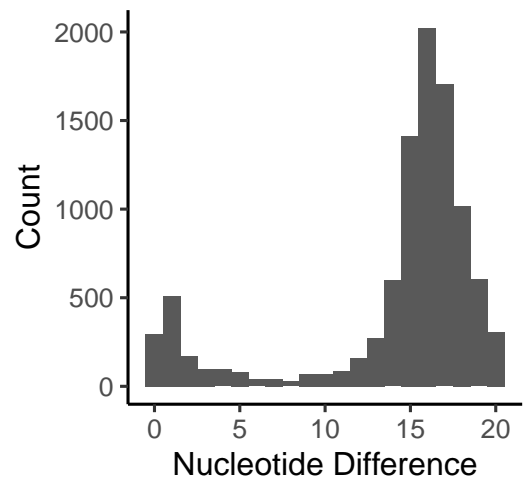
IGHV1-24*01

2103 sequences assigned
603 (28.7%) exact matches, in which:
496 unique CDR3
6 unique J



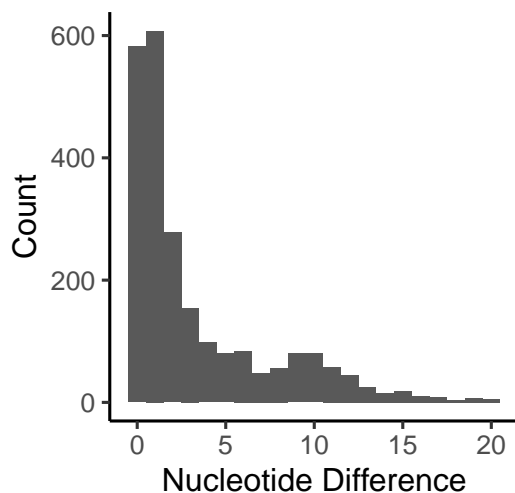
IGHV1-46*03

11066 sequences assigned
295 (2.7%) exact matches, in which:
201 unique CDR3
6 unique J



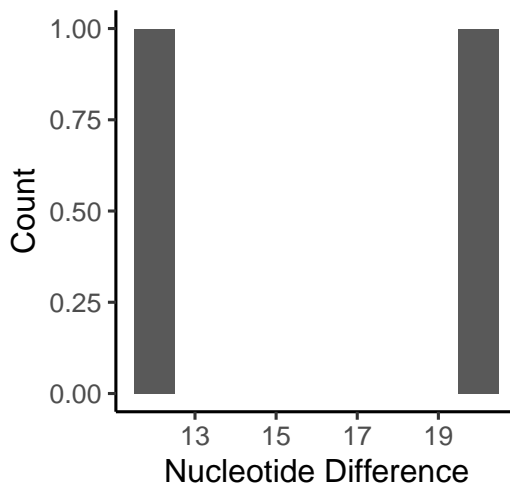
IGHV1-46*04

2547 sequences assigned
582 (22.9%) exact matches, in which:
494 unique CDR3
6 unique J



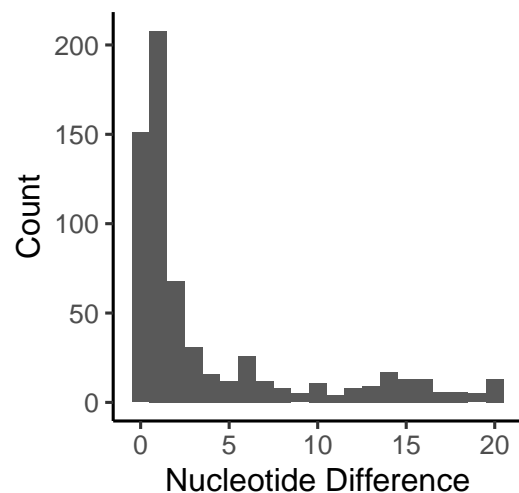
IGHV1-69-2*01

3 sequences assigned
No exact matches.



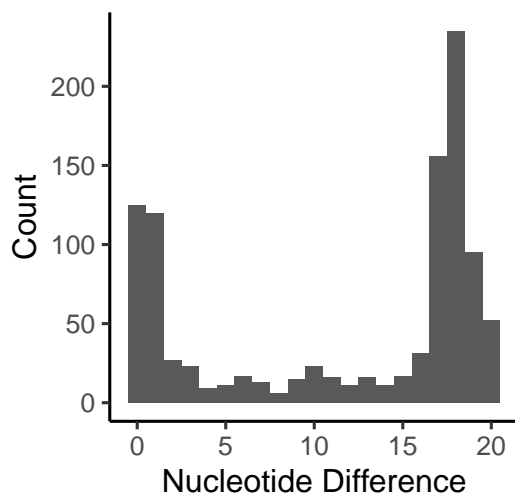
IGHV2-5*02

704 sequences assigned
151 (21.4%) exact matches, in which:
118 unique CDR3
5 unique J



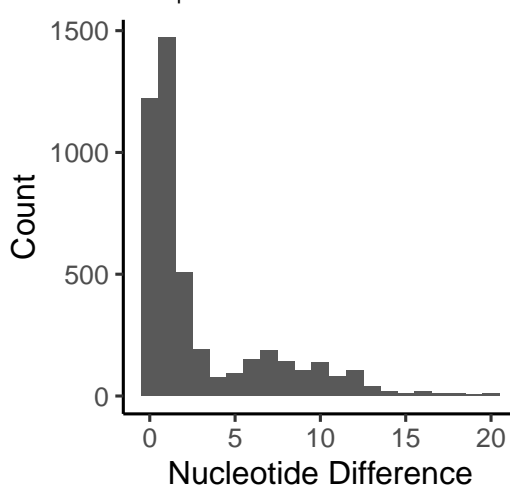
IGHV1-58*02

1259 sequences assigned
125 (9.9%) exact matches, in which:
103 unique CDR3
5 unique J



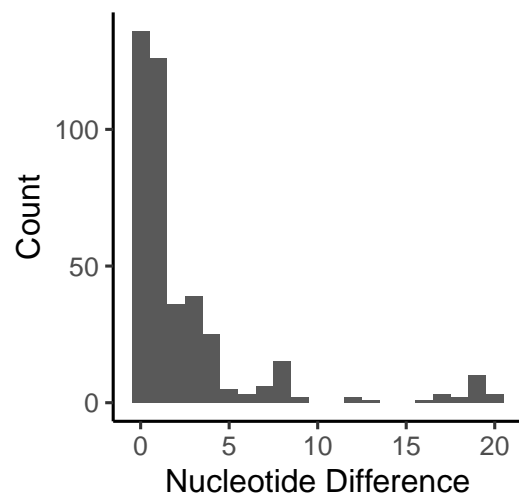
IGHV1-69*04_09

4614 sequences assigned
1222 (26.5%) exact matches, in which:
1050 unique CDR3
6 unique J



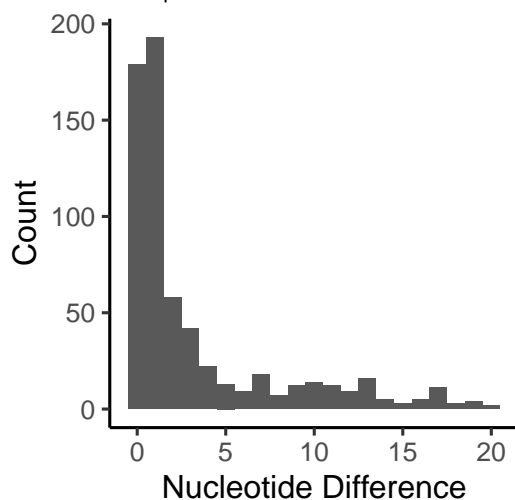
IGHV2-26*01

429 sequences assigned
136 (31.7%) exact matches, in which:
107 unique CDR3
5 unique J



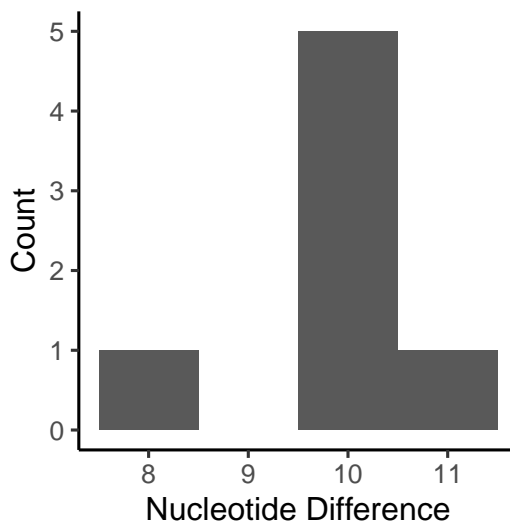
IGHV1-58*01_03

1048 sequences assigned
179 (17.1%) exact matches, in which:
152 unique CDR3
6 unique J



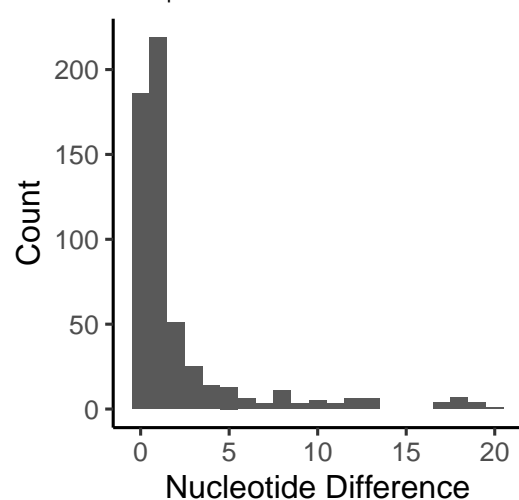
IGHV1-NL1*01

7 sequences assigned
No exact matches.



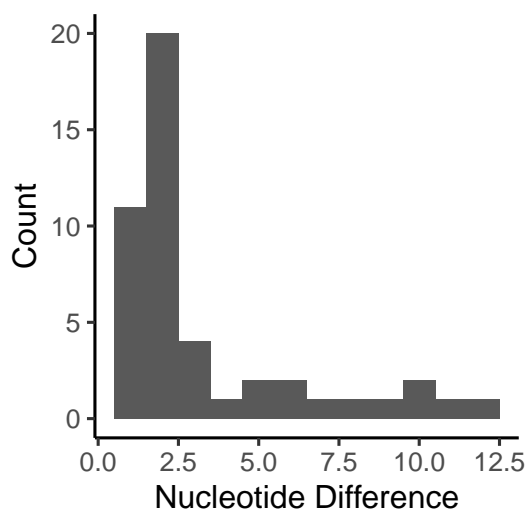
IGHV2-70*01

576 sequences assigned
186 (32.3%) exact matches, in which:
139 unique CDR3
5 unique J



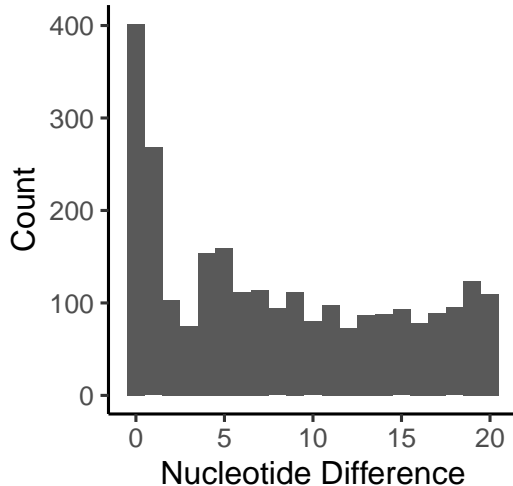
IGHV2-70*12

48 sequences assigned
No exact matches.



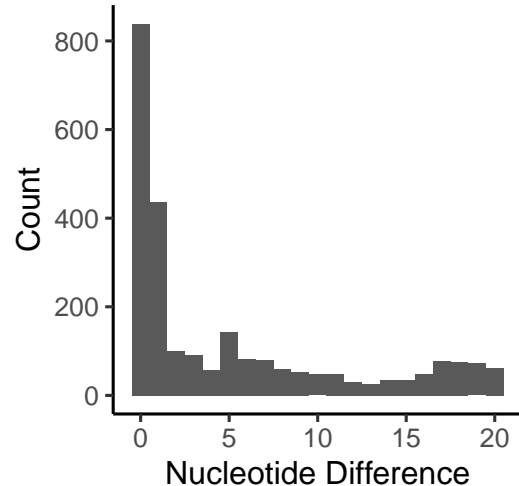
IGHV3-7*01

3177 sequences assigned
402 (12.7%) exact matches, in which:
363 unique CDR3
6 unique J



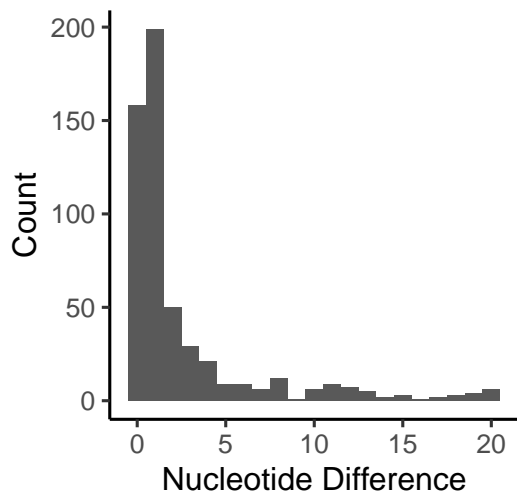
IGHV3-11*06

4932 sequences assigned
839 (17%) exact matches, in which:
576 unique CDR3
6 unique J



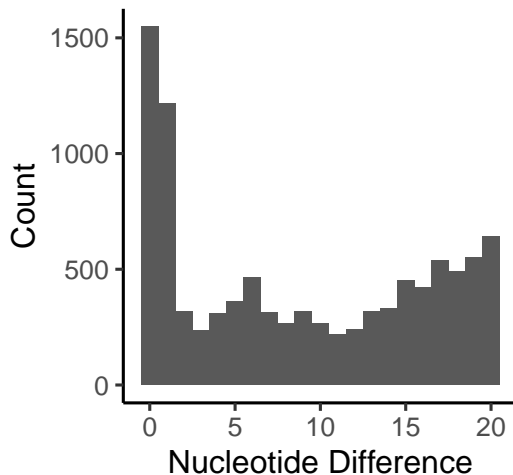
IGHV2-70*11_15

849 sequences assigned
158 (18.6%) exact matches, in which:
118 unique CDR3
5 unique J



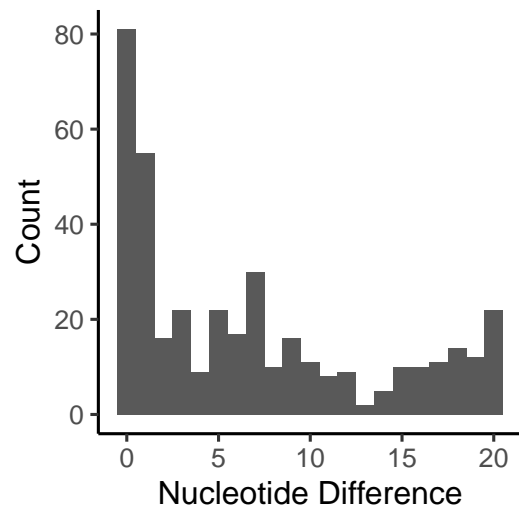
IGHV3-7*03

13637 sequences assigned
1548 (11.4%) exact matches, in which:
979 unique CDR3
6 unique J



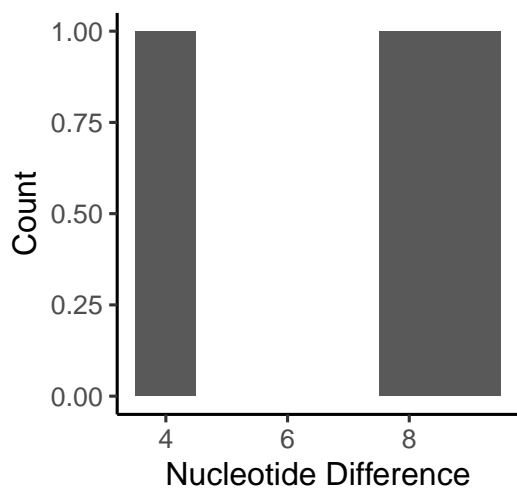
IGHV3-11*03_05

595 sequences assigned
81 (13.6%) exact matches, in which:
73 unique CDR3
6 unique J



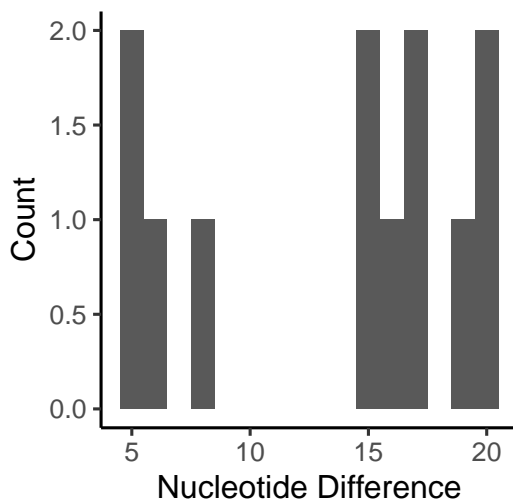
IGHV2-70D*04

5 sequences assigned
No exact matches.



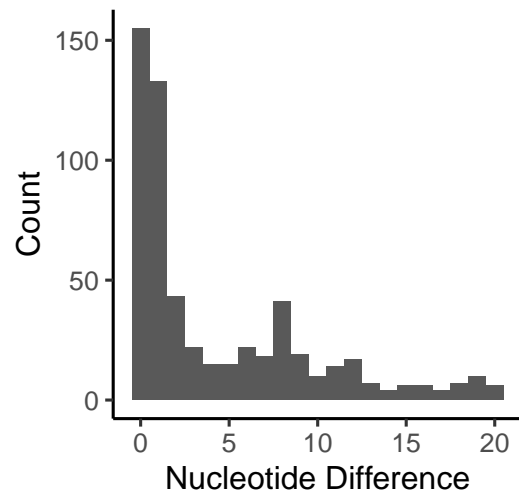
IGHV3-9*01

27 sequences assigned
No exact matches.



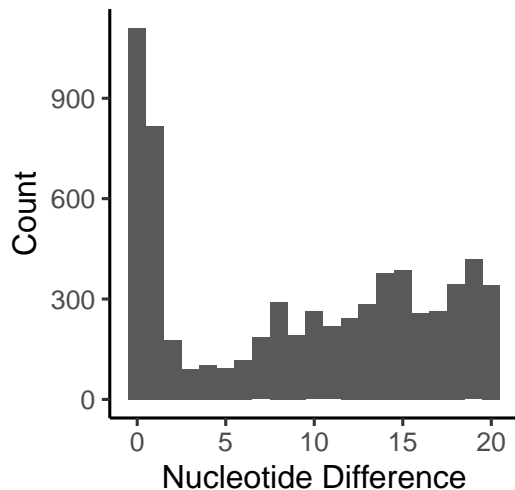
IGHV3-13*05

666 sequences assigned
155 (23.3%) exact matches, in which:
108 unique CDR3
6 unique J



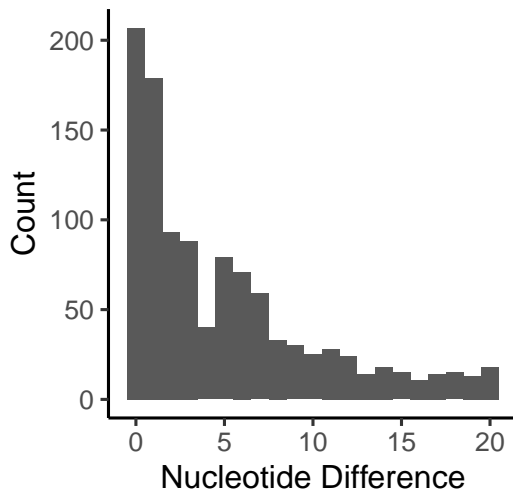
IGHV3-15*01_02

8541 sequences assigned
1111 (13%) exact matches, in which:
657 unique CDR3
6 unique J



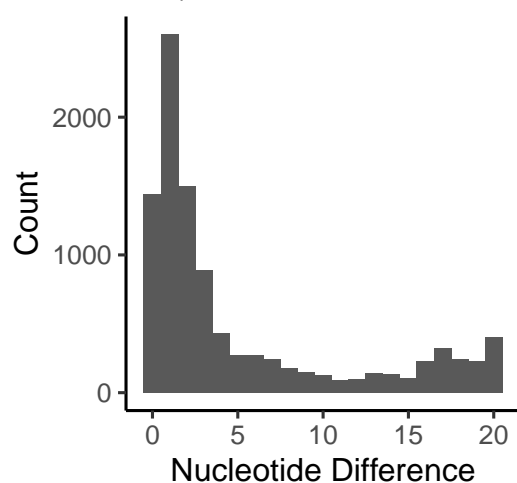
IGHV3-21*04

1884 sequences assigned
207 (11%) exact matches, in which:
179 unique CDR3
6 unique J



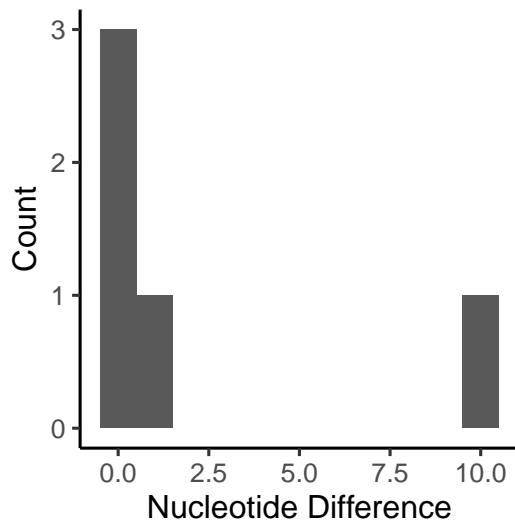
IGHV3-33*01

18324 sequences assigned
1440 (7.9%) exact matches, in which:
1016 unique CDR3
6 unique J



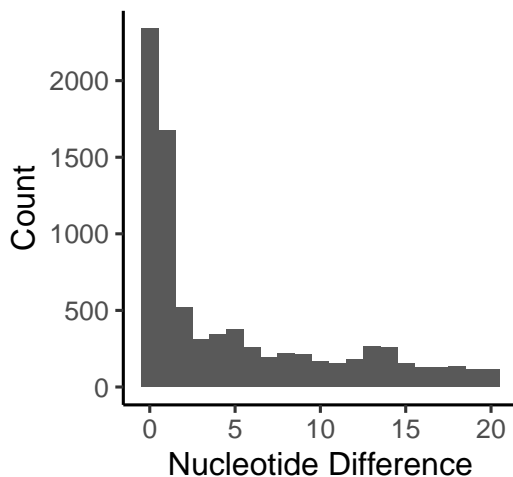
IGHV3-19*01

5 sequences assigned
3 (60%) exact matches, in which:
3 unique CDR3
3 unique J



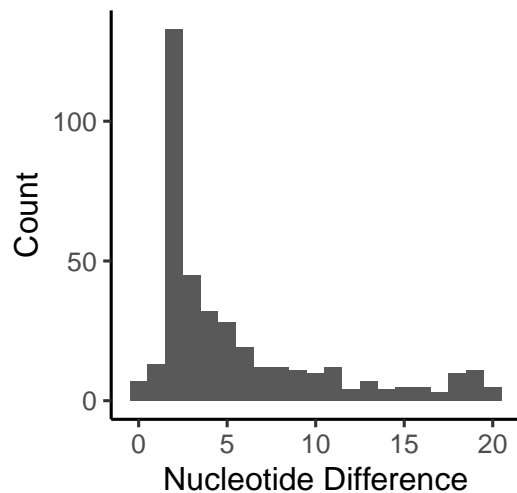
IGHV3-21*01_02

9271 sequences assigned
2339 (25.2%) exact matches, in which:
1480 unique CDR3
6 unique J



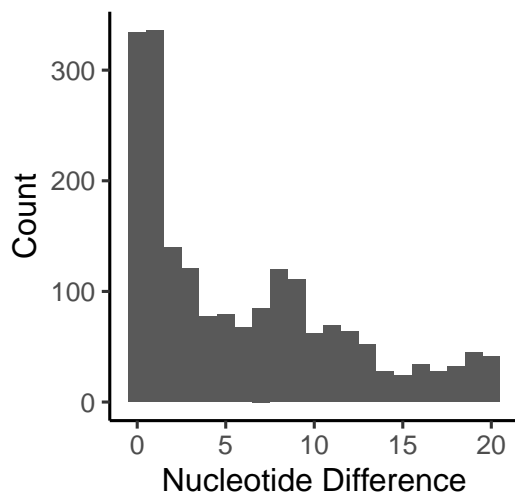
IGHV3-33*05

597 sequences assigned
7 (1.2%) exact matches, in which:
7 unique CDR3
3 unique J



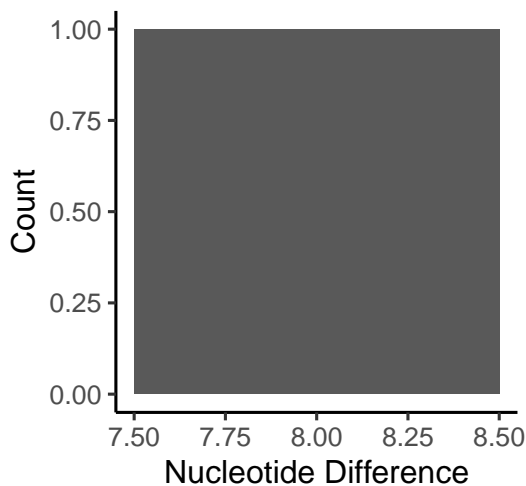
IGHV3-20*03_04

2420 sequences assigned
334 (13.8%) exact matches, in which:
206 unique CDR3
6 unique J



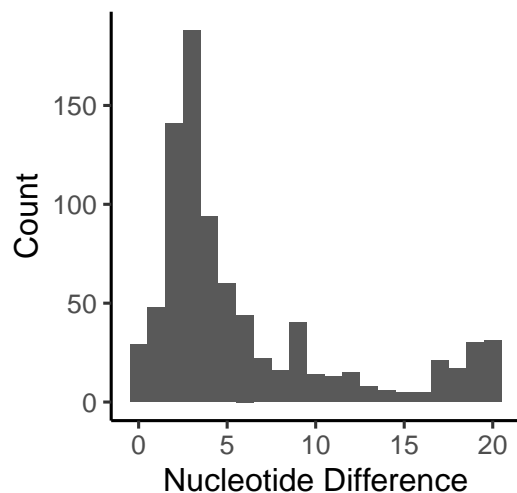
IGHV3-22*01_02

1 sequences assigned
No exact matches.



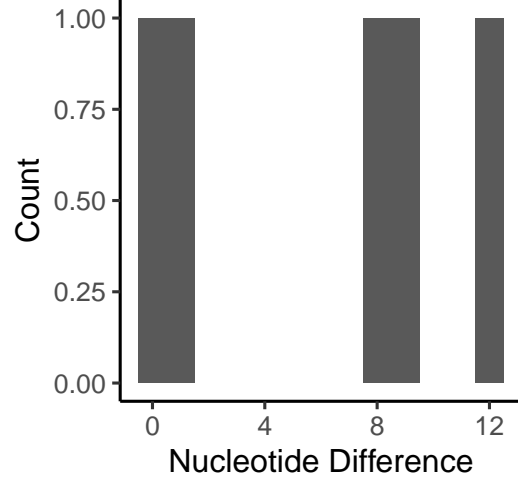
IGHV3-33*06

1161 sequences assigned
29 (2.5%) exact matches, in which:
28 unique CDR3
5 unique J



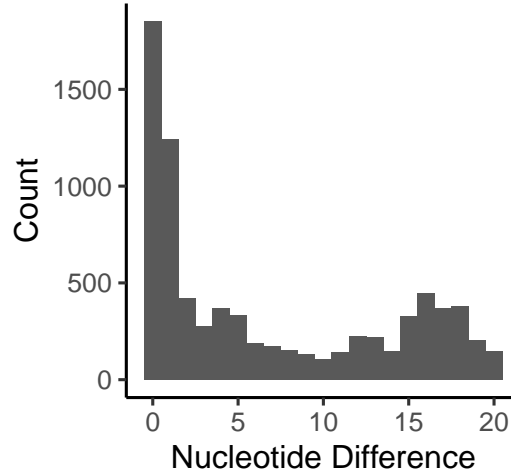
IGHV3-35*01

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



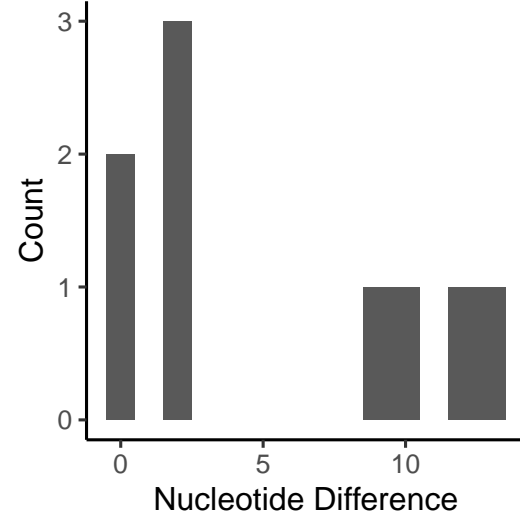
IGHV3-48*01

9384 sequences assigned
1851 (19.7%) exact matches, in which:
1199 unique CDR3
6 unique J



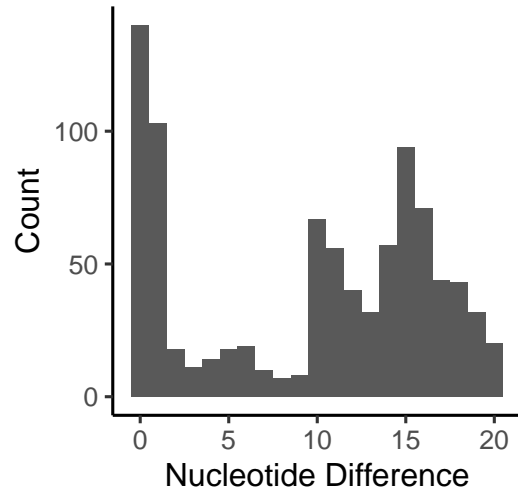
IGHV3-52*01_03

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



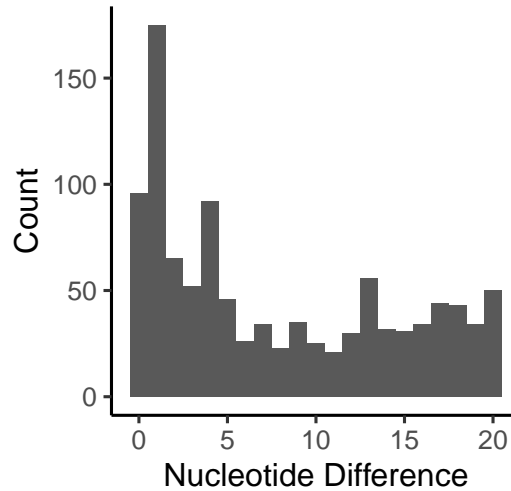
IGHV3-43*01

1222 sequences assigned
140 (11.5%) exact matches, in which:
80 unique CDR3
5 unique J



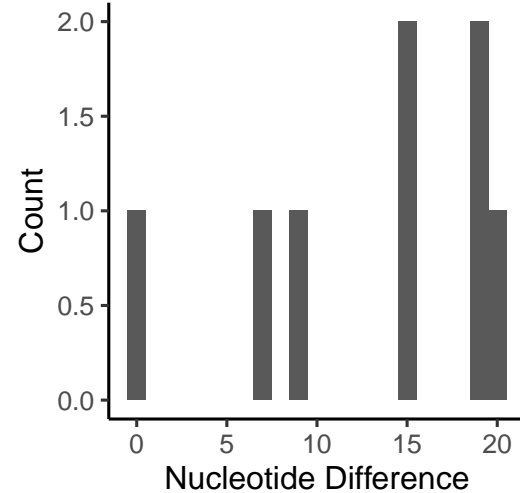
IGHV3-48*04

1507 sequences assigned
96 (6.4%) exact matches, in which:
89 unique CDR3
6 unique J



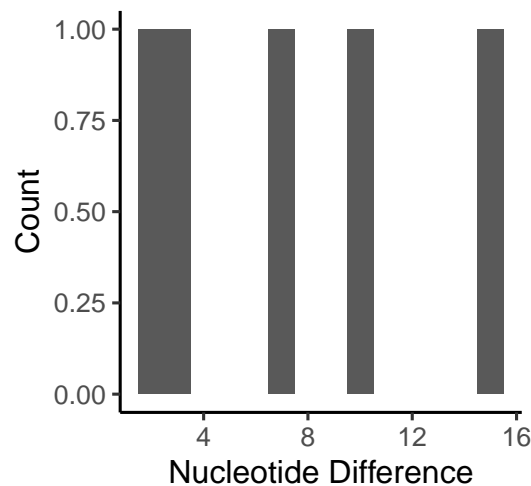
IGHV3-53*05

19 sequences assigned
1 (5.3%) exact matches, in which:
1 unique CDR3
1 unique J



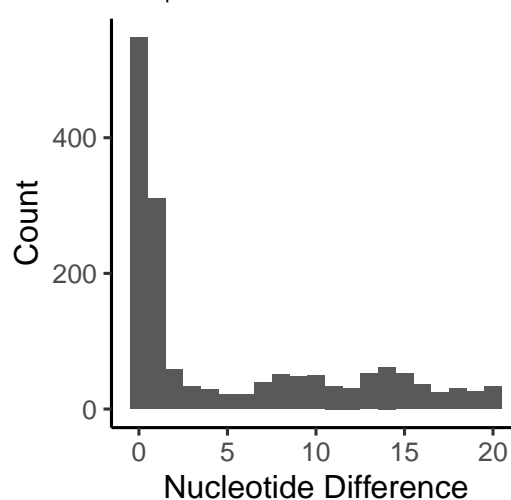
IGHV3-47*02

5 sequences assigned
No exact matches.



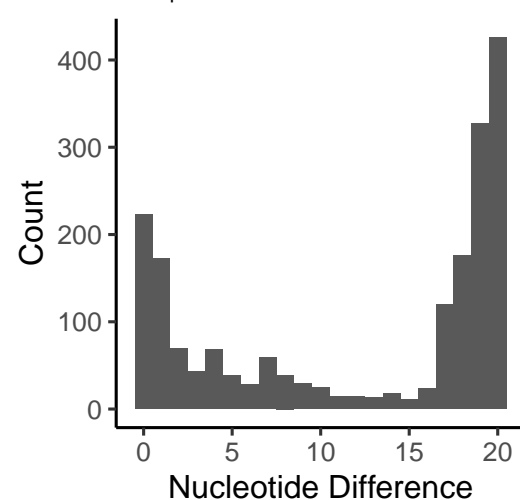
IGHV3-49*03_05

2052 sequences assigned
548 (26.7%) exact matches, in which:
338 unique CDR3
6 unique J



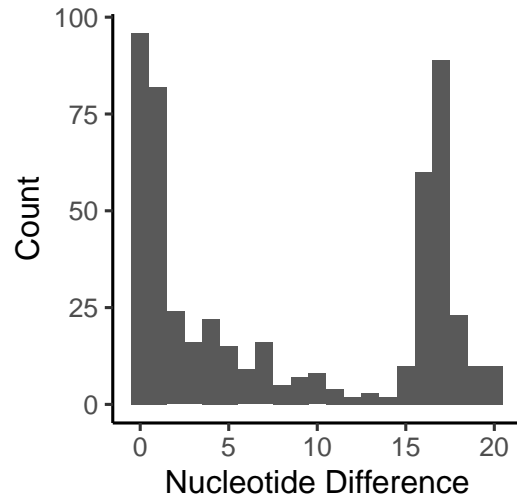
IGHV3-53*01_02

5394 sequences assigned
223 (4.1%) exact matches, in which:
151 unique CDR3
6 unique J



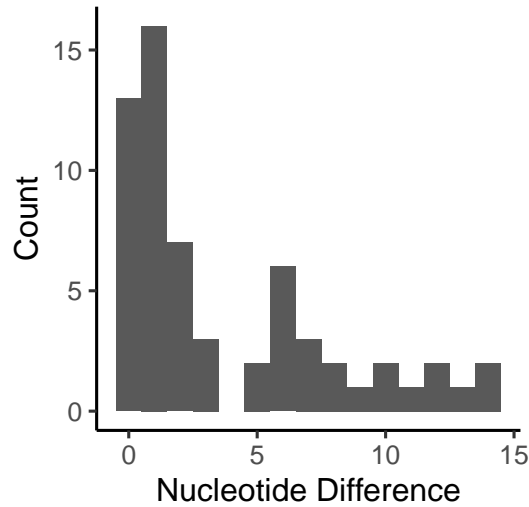
IGHV3-64*01

588 sequences assigned
96 (16.3%) exact matches, in which:
64 unique CDR3
5 unique J



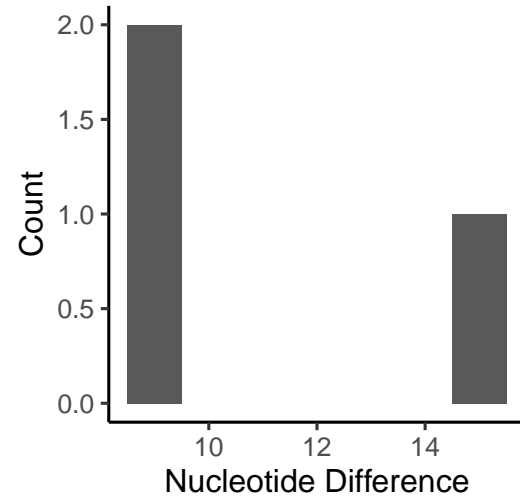
IGHV3-66*03

61 sequences assigned
13 (21.3%) exact matches, in which:
11 unique CDR3
4 unique J



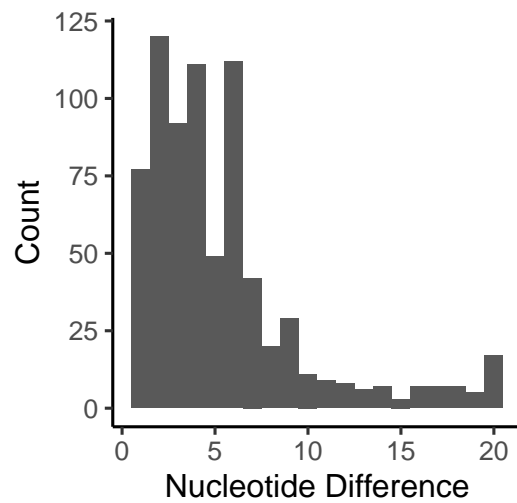
IGHV3-71*01_04

8 sequences assigned
No exact matches.



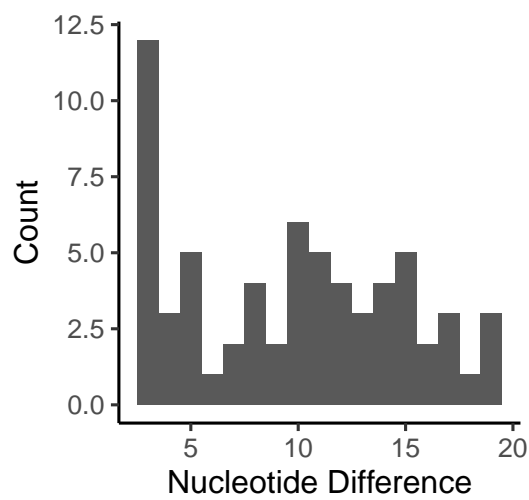
IGHV3-64*04

909 sequences assigned
No exact matches.



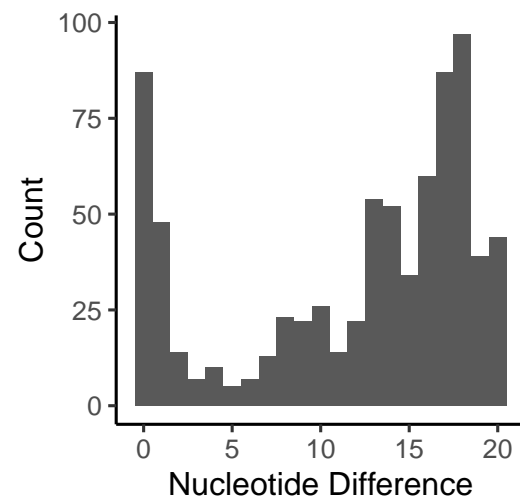
IGHV3-69-1*01

86 sequences assigned
No exact matches.



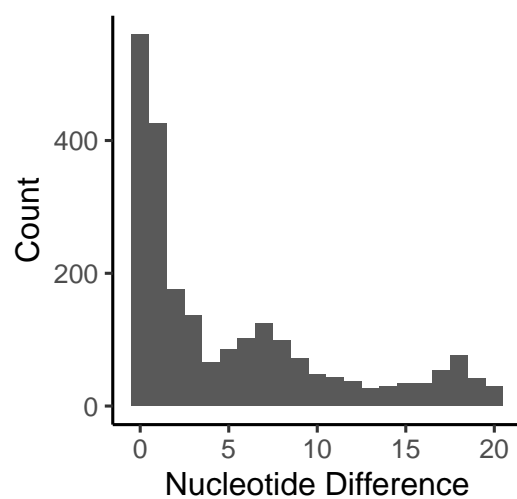
IGHV3-72*01

1505 sequences assigned
87 (5.8%) exact matches, in which:
50 unique CDR3
5 unique J



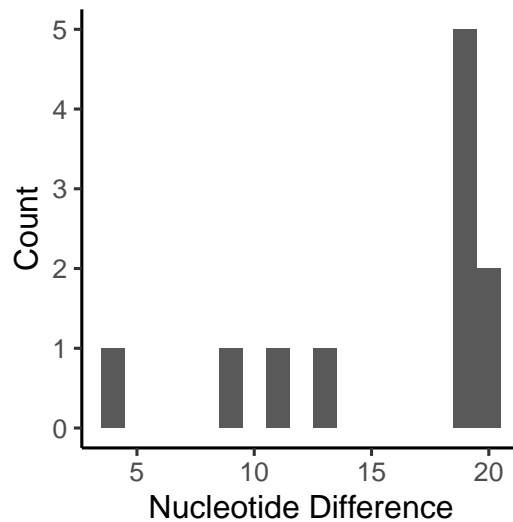
IGHV3-66*01

2577 sequences assigned
560 (21.7%) exact matches, in which:
403 unique CDR3
6 unique J



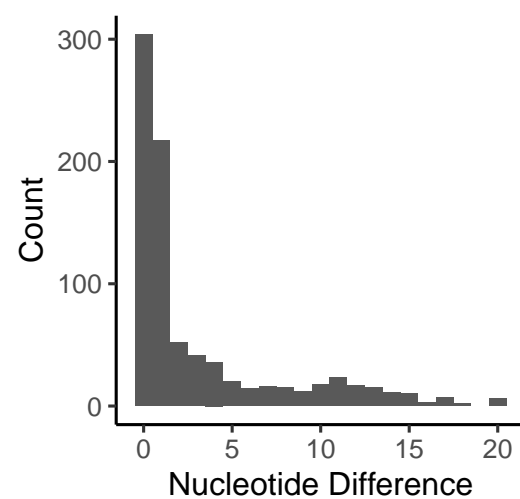
IGHV3-69-1*02

21 sequences assigned
No exact matches.



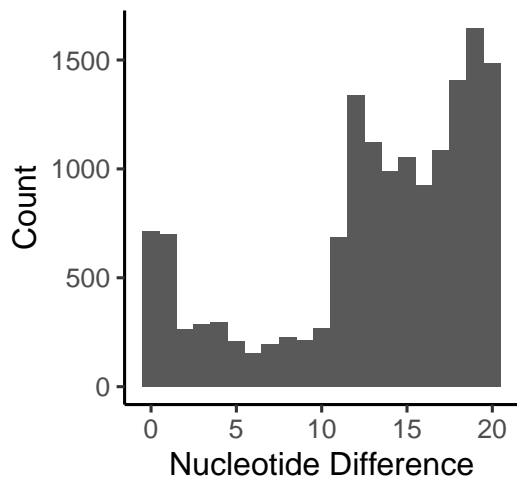
IGHV3-73*01_02

968 sequences assigned
304 (31.4%) exact matches, in which:
192 unique CDR3
5 unique J



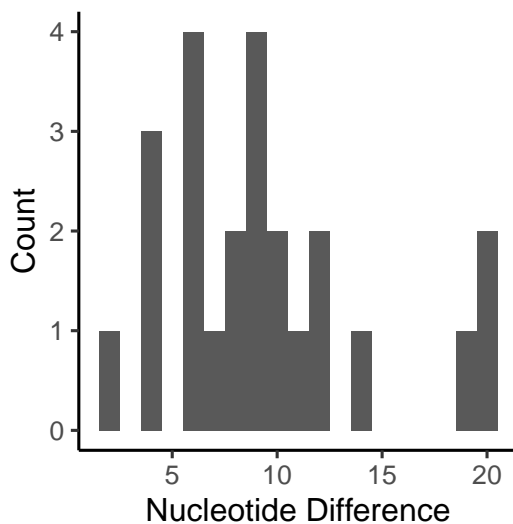
IGHV3-74*01_02

31611 sequences assigned
714 (2.3%) exact matches, in which:
480 unique CDR3
6 unique J



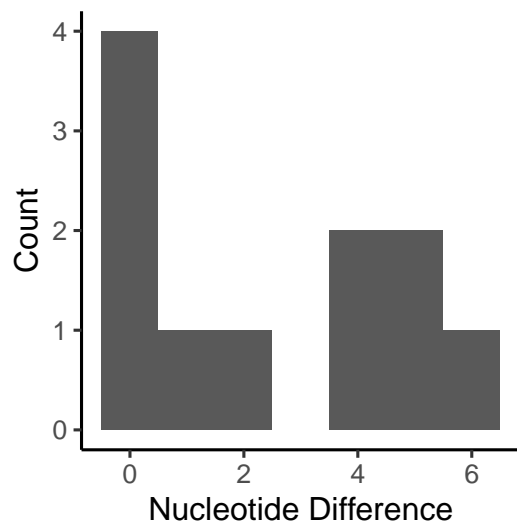
IGHV3-NL1*01

63 sequences assigned
No exact matches.



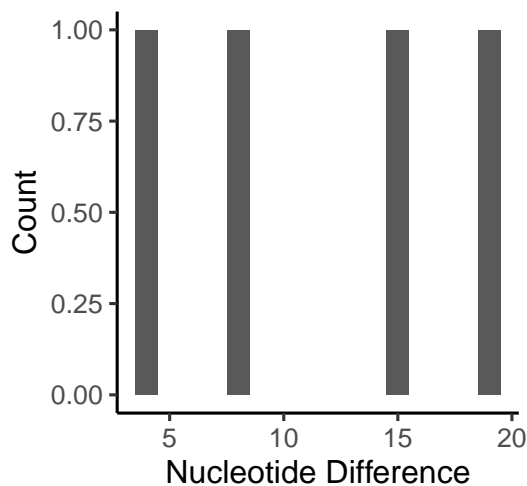
IGHV4-28*02_05

11 sequences assigned
4 (36.4%) exact matches, in which:
4 unique CDR3
3 unique J



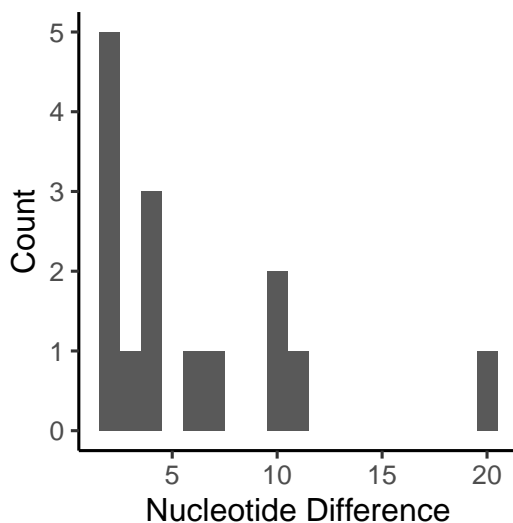
IGHV3-43D*04

5 sequences assigned
No exact matches.



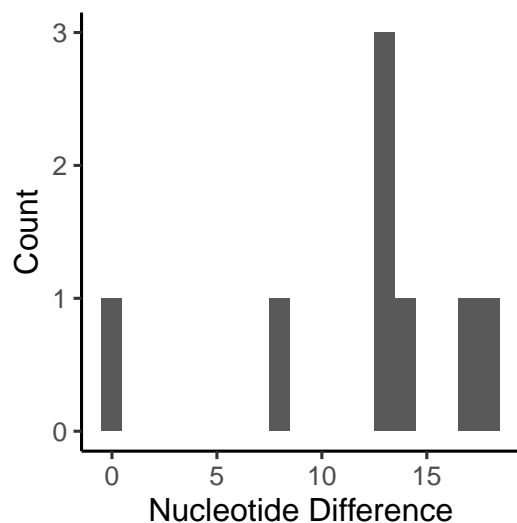
IGHV4-28*03

19 sequences assigned
No exact matches.



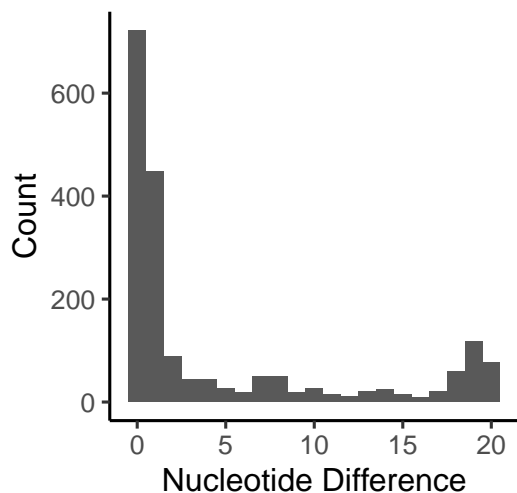
IGHV4-30-4*01

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



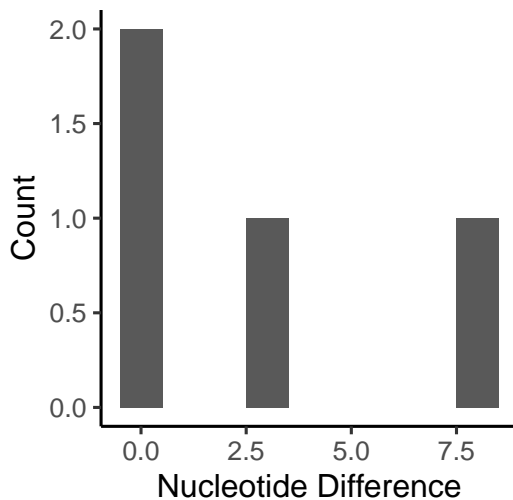
IGHV3-64D*06

2968 sequences assigned
722 (24.3%) exact matches, in which:
423 unique CDR3
6 unique J



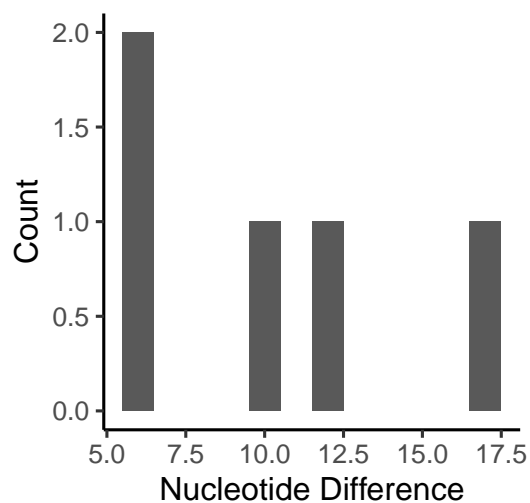
IGHV4-28*01_07

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



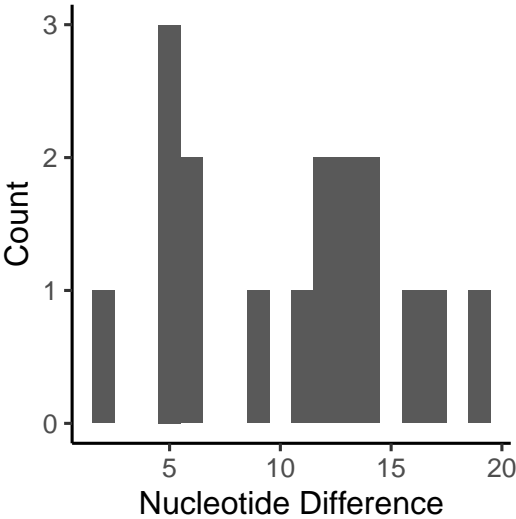
IGHV4-30-2*01

7 sequences assigned
No exact matches.



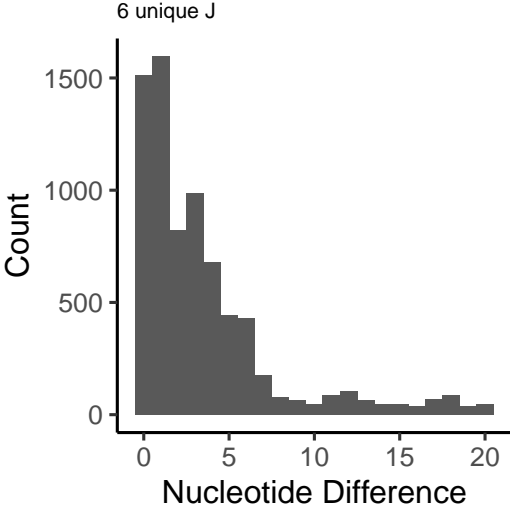
IGHV4-30-2*03

21 sequences assigned
No exact matches.



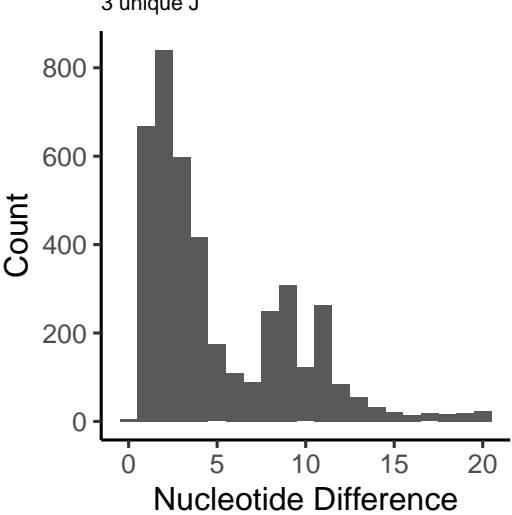
IGHV4-31*03_04

8418 sequences assigned
1511 (17.9%) exact matches, in which:
1204 unique CDR3
6 unique J



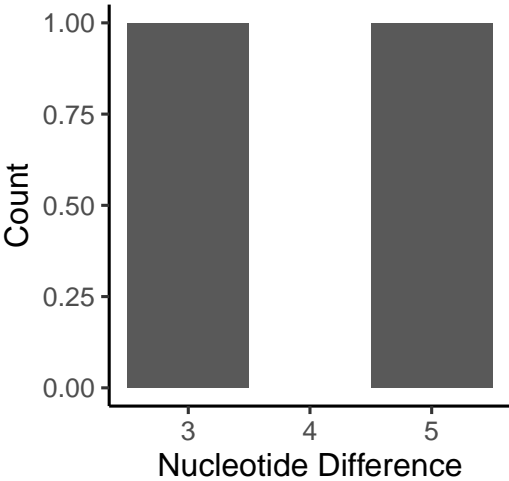
IGHV4-39*07

4367 sequences assigned
5 (0.1%) exact matches, in which:
5 unique CDR3
3 unique J



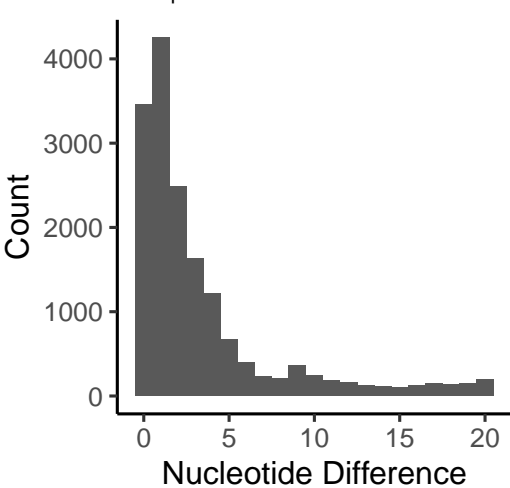
IGHV4-30-2*04

2 sequences assigned
No exact matches.



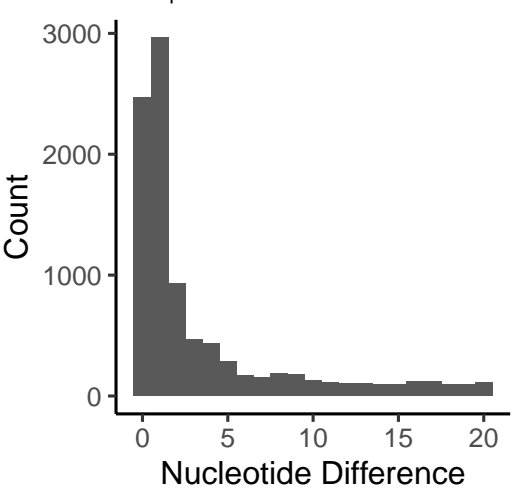
IGHV4-34*01_02

17972 sequences assigned
3460 (19.3%) exact matches, in which:
2463 unique CDR3
6 unique J



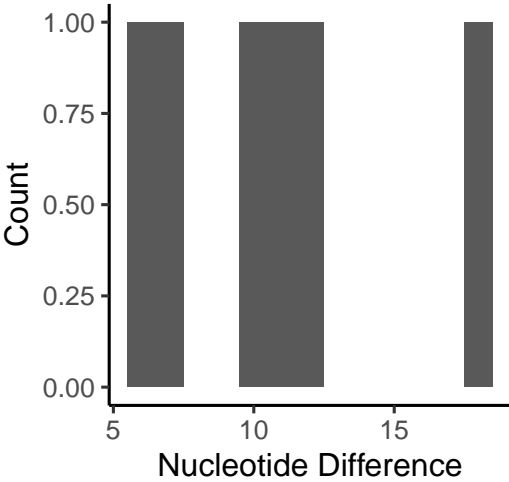
IGHV4-39*01_05

12102 sequences assigned
2467 (20.4%) exact matches, in which:
1781 unique CDR3
6 unique J



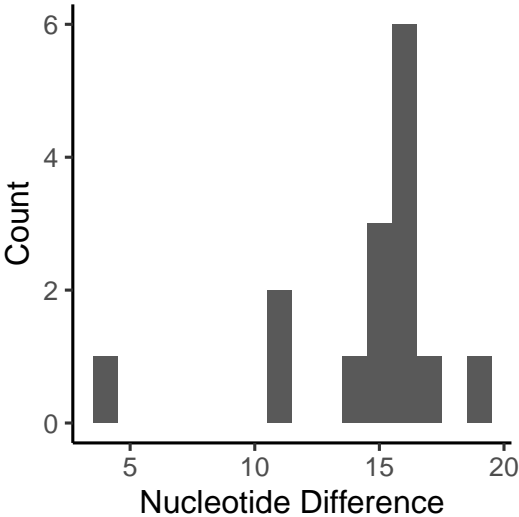
IGHV4-30-4*08

13 sequences assigned
No exact matches.



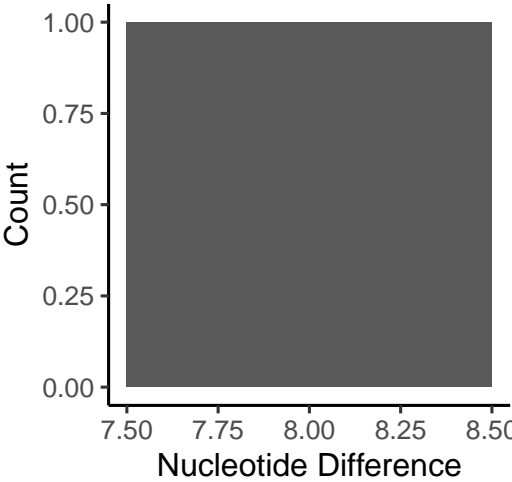
IGHV4-38-2*02

84 sequences assigned
No exact matches.



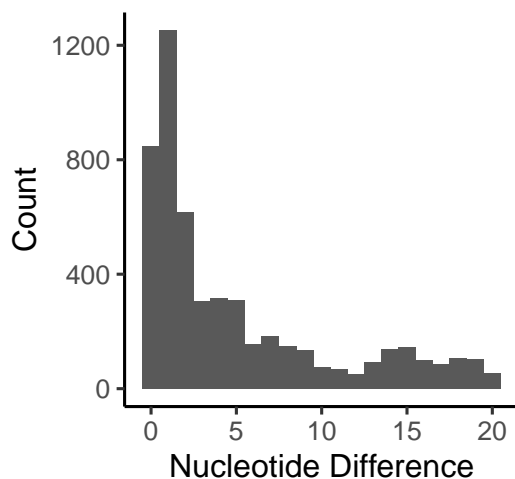
IGHV4-55*02_04_08

1 sequences assigned
No exact matches.



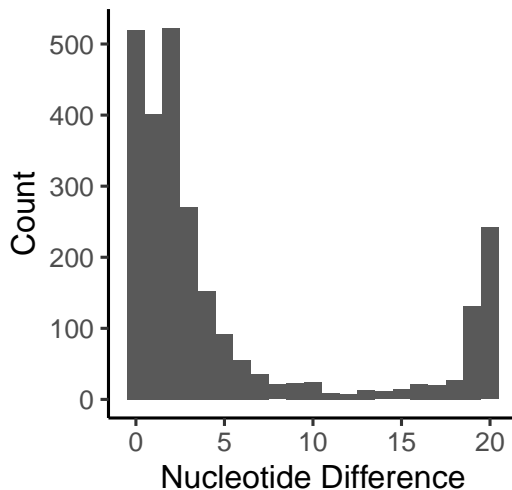
IGHV4-59*08

6980 sequences assigned
849 (12.2%) exact matches, in which:
665 unique CDR3
6 unique J



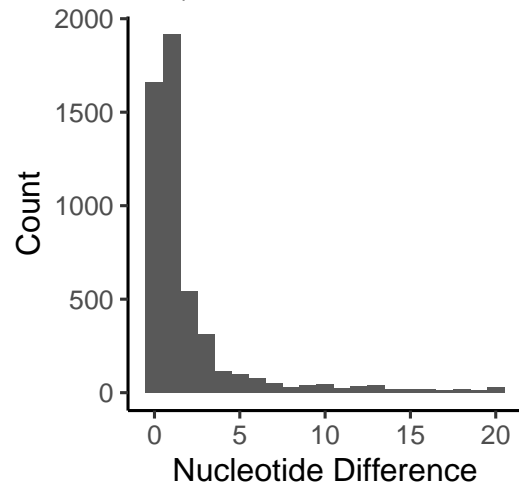
IGHV4-61*01

2894 sequences assigned
520 (18%) exact matches, in which:
454 unique CDR3
6 unique J



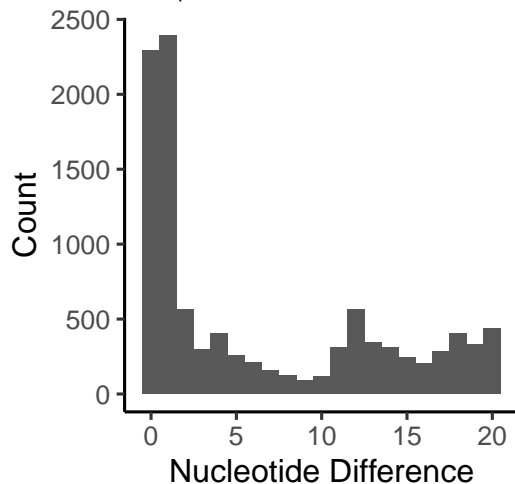
IGHV5-10-1*01_03

5951 sequences assigned
1663 (27.9%) exact matches, in which:
957 unique CDR3
6 unique J



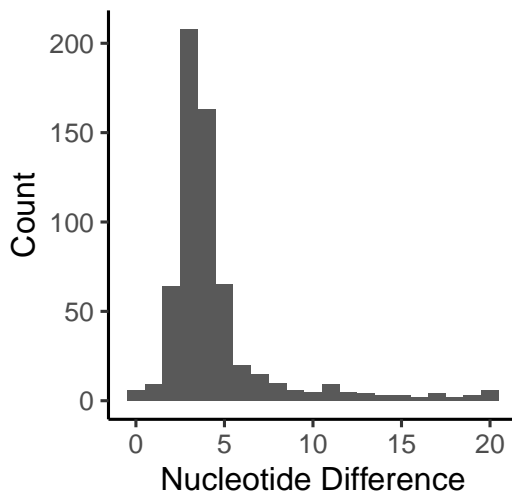
IGHV4-59*01_07

18930 sequences assigned
2293 (12.1%) exact matches, in which:
1794 unique CDR3
6 unique J



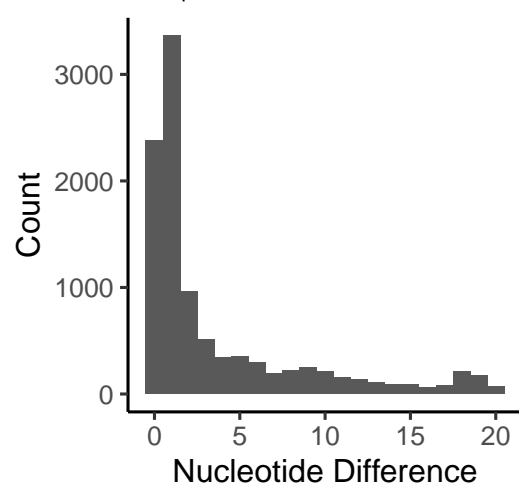
IGHV4-61*05

649 sequences assigned
6 (0.9%) exact matches, in which:
6 unique CDR3
4 unique J



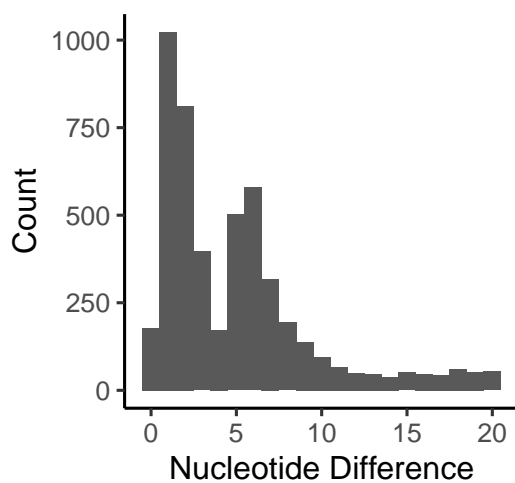
IGHV5-51*01_03

10669 sequences assigned
2382 (22.3%) exact matches, in which:
1246 unique CDR3
6 unique J



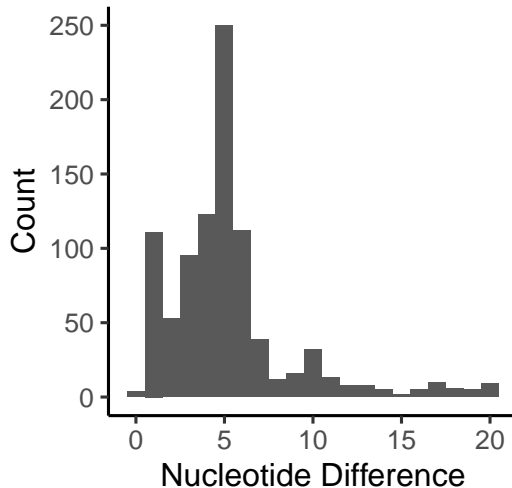
IGHV4-59*12

5736 sequences assigned
178 (3.1%) exact matches, in which:
170 unique CDR3
6 unique J



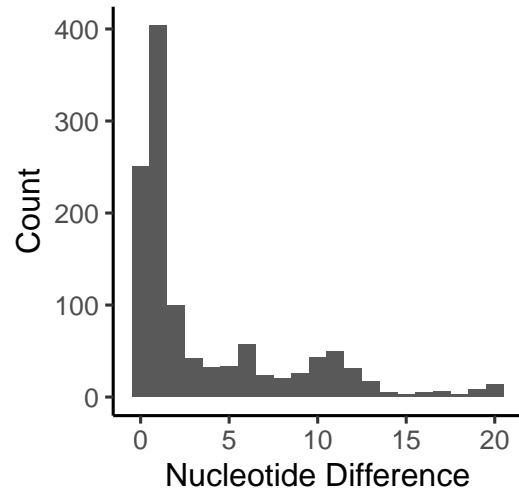
IGHV4-61*08

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



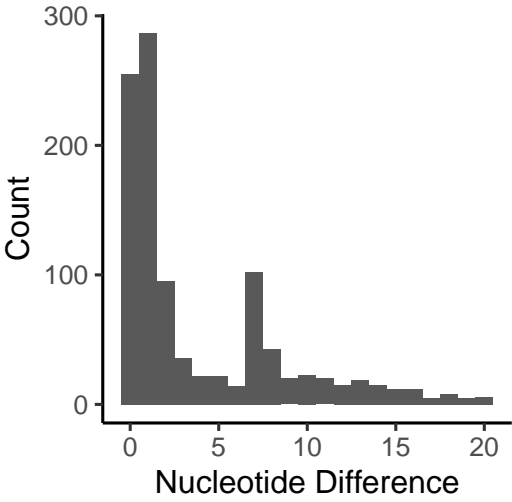
IGHV6-1*01_02

1599 sequences assigned
251 (15.7%) exact matches, in which:
201 unique CDR3
6 unique J



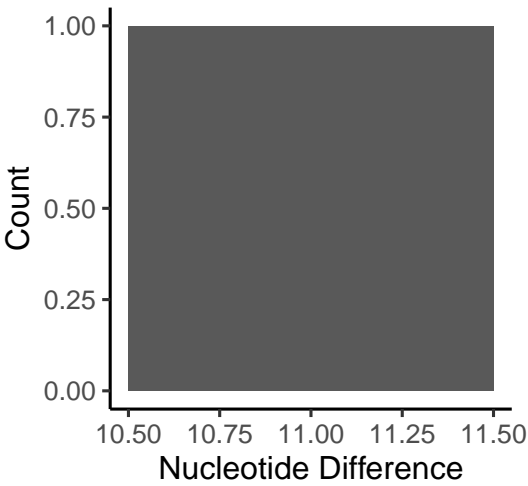
IGHV7-4-1*02

1090 sequences assigned
255 (23.4%) exact matches, in which:
196 unique CDR3
5 unique J



IGHV7-81*01

2 sequences assigned
No exact matches.





Novel sequence(s)IGHV1-30-06_G191TIGHV3-30-03_T288CIGHV3-30-03_G75CIGHV4-59-02_G88AIGHV5-51-07_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_T288CIGHV5-51*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.

Warning – no inferred sequences found.

Novel sequence(s)IGHV1-69*08_C191TIGHV3-30*03_T288CIGHV3-30-3*02_G75CIGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88AIGHV5-51*07_A128G 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.

Novel sequence(s)IGHV4-4*02_03_C300TIGHV5-51*07_A128G 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.

Warning – no inferred sequences found.

Novel sequence(s)IGHV4-59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV1-69*08_C191TIGHV3-11*06_T300CIGHV3-30*03_T288CIGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88AIGHV5-51*07_A128G 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.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3-30*03_T288CIGHV3-30-3*01_T288CIGHV4-59*02_G88AIGHV5-10-1*01_03_T258CIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3-48*04_A193T_C198T_A200C_C201T_T210A are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88A 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.

Novel sequence(s)IGHV3-33*01_C288TIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-33*01_T105C_A173T_T192G_C288T are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-30*04_T288CIGHV3-33*01_G75CIGHV4-30-2*03_T288CIGHV4-59*02_G88A are not listed in the genotype and will be ignored.