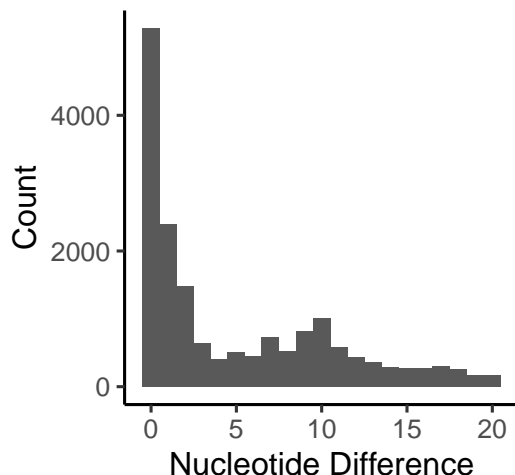


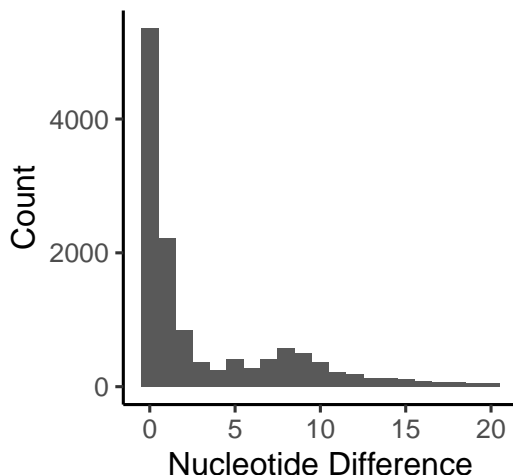
IGHV1-2*02

18462 sequences assigned
5281 (28.6%) exact matches, in which:
5064 unique CDR3
6 unique J



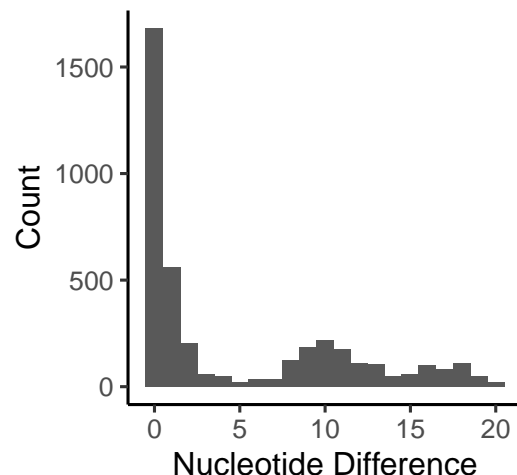
IGHV1-8*01

12966 sequences assigned
5354 (41.3%) exact matches, in which:
5136 unique CDR3
6 unique J



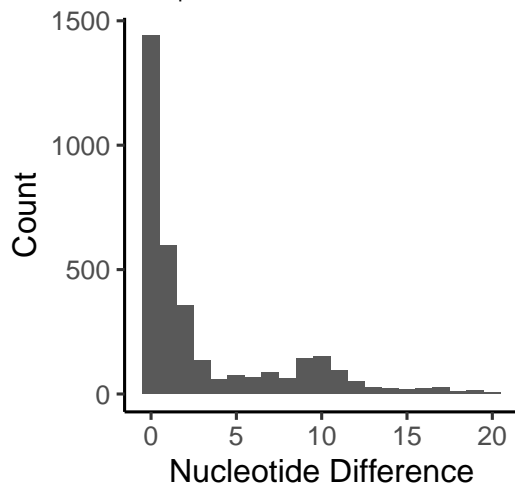
IGHV1-24*01

4155 sequences assigned
1681 (40.5%) exact matches, in which:
1613 unique CDR3
6 unique J



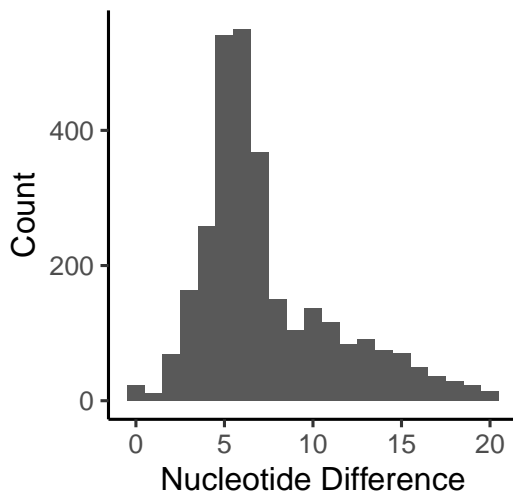
IGHV1-2*04

3506 sequences assigned
1440 (41.1%) exact matches, in which:
1391 unique CDR3
6 unique J



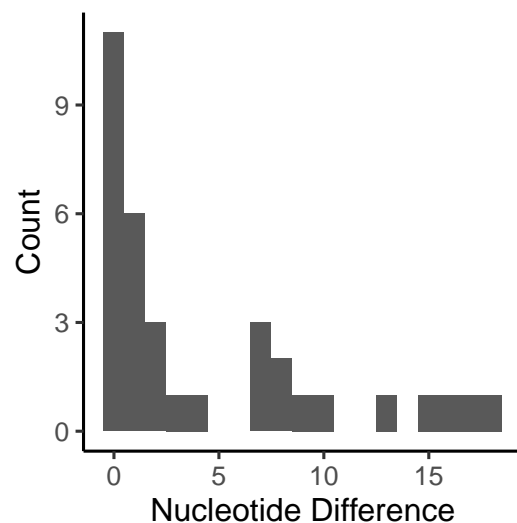
IGHV1-8*02

3107 sequences assigned
23 (0.7%) exact matches, in which:
23 unique CDR3
4 unique J



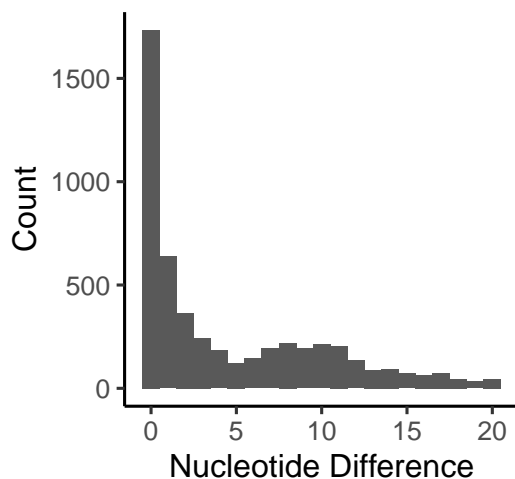
IGHV1-45*02

38 sequences assigned
11 (28.9%) exact matches, in which:
11 unique CDR3
4 unique J



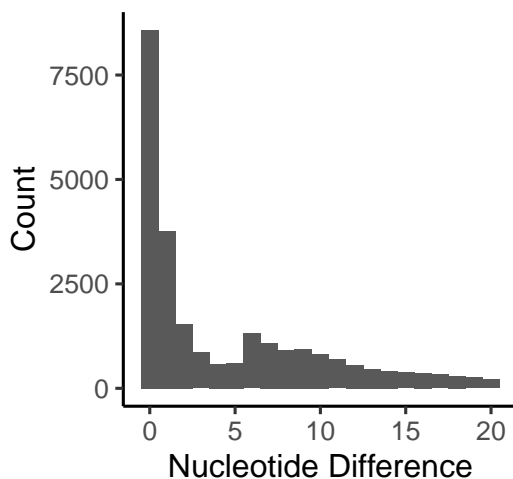
IGHV1-3*01_05

5520 sequences assigned
1734 (31.4%) exact matches, in which:
1663 unique CDR3
6 unique J



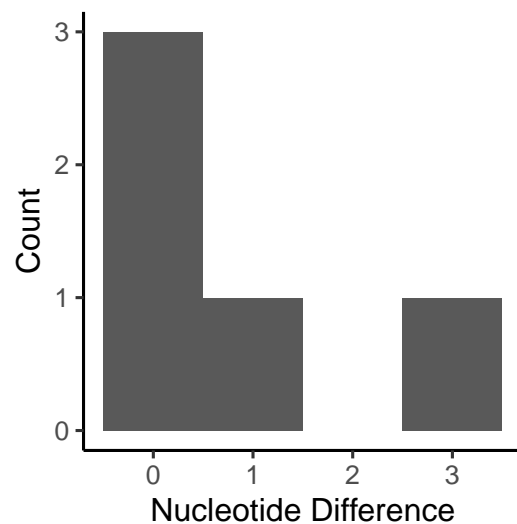
IGHV1-18*01

26354 sequences assigned
8577 (32.5%) exact matches, in which:
8137 unique CDR3
6 unique J



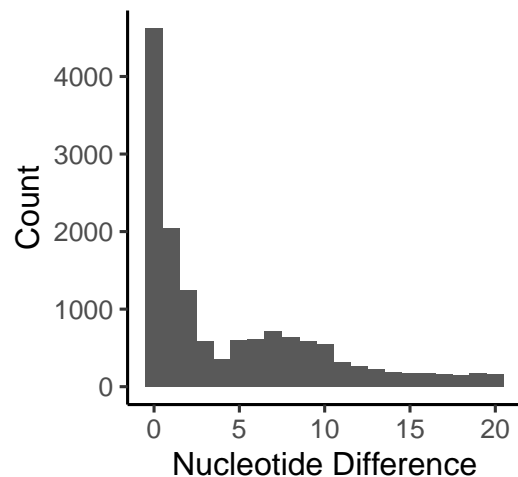
IGHV1-45*03

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



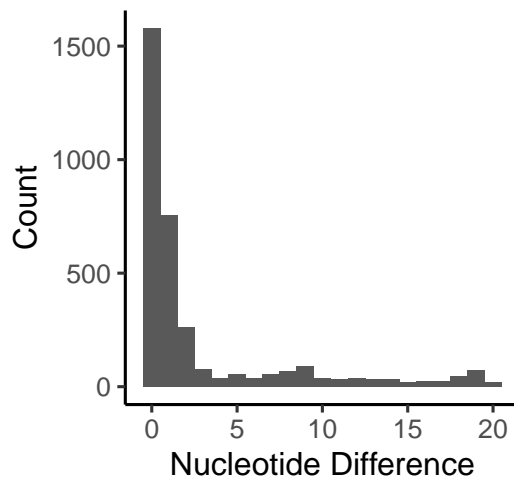
IGHV1-46*01

15481 sequences assigned
4620 (29.8%) exact matches, in which:
4409 unique CDR3
6 unique J



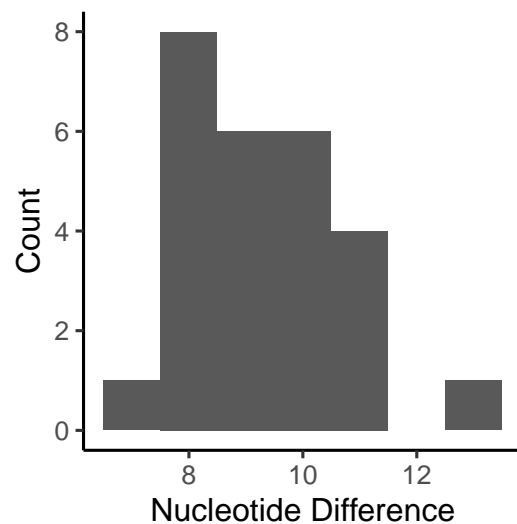
IGHV1-69*02

3668 sequences assigned
1578 (43%) exact matches, in which:
1509 unique CDR3
6 unique J



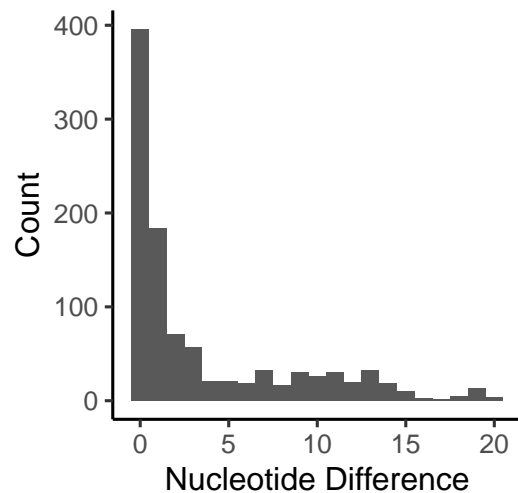
IGHV1-NL1*01

26 sequences assigned
No exact matches.



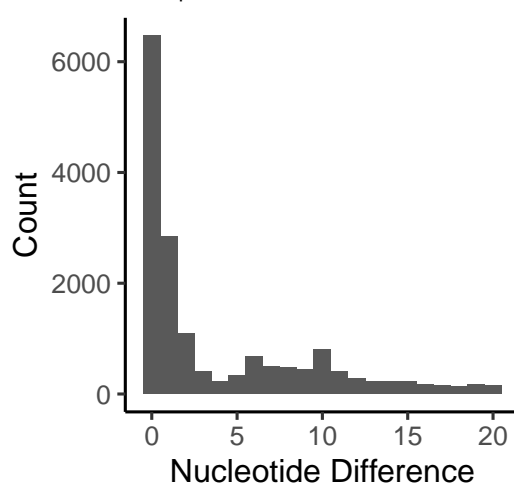
IGHV1-58*02

1049 sequences assigned
396 (37.8%) exact matches, in which:
384 unique CDR3
6 unique J



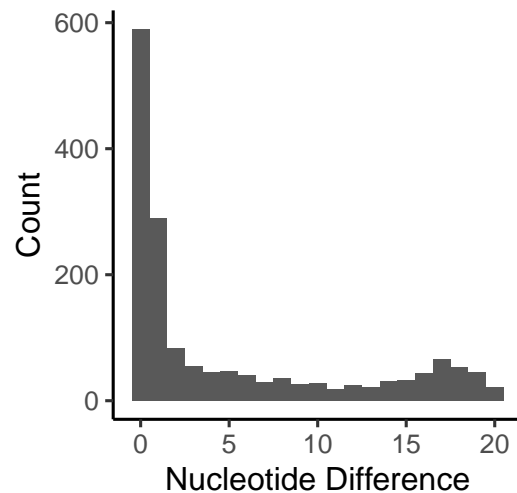
IGHV1-69*01_12_13

17866 sequences assigned
6469 (36.2%) exact matches, in which:
6253 unique CDR3
6 unique J



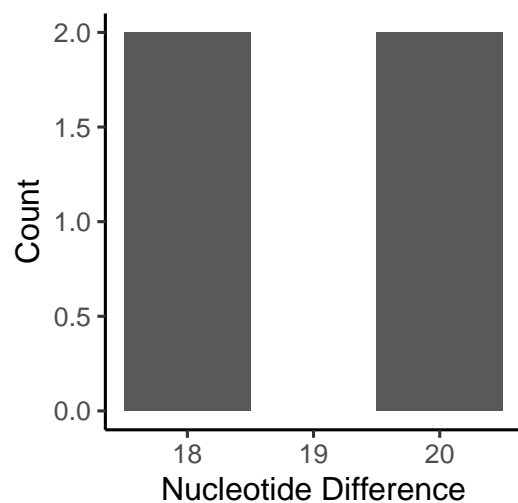
IGHV2-5*01

1696 sequences assigned
590 (34.8%) exact matches, in which:
563 unique CDR3
6 unique J



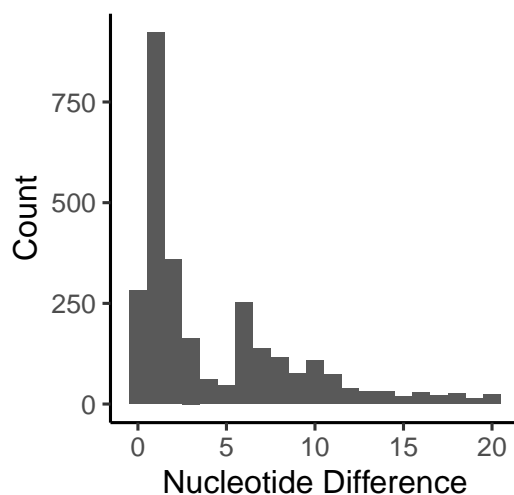
IGHV1-69-2*01

5 sequences assigned
No exact matches.



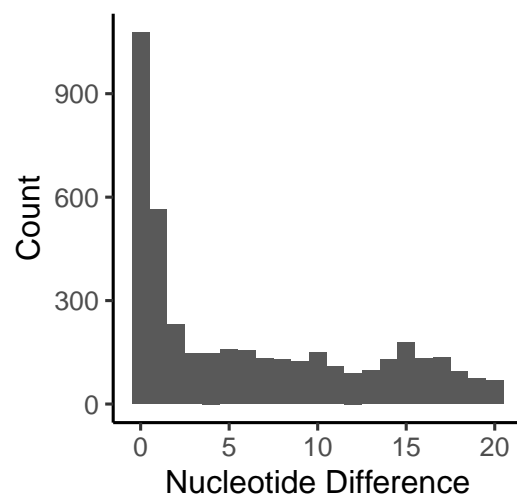
IGHV1-69*04_09

3286 sequences assigned
281 (8.6%) exact matches, in which:
280 unique CDR3
6 unique J



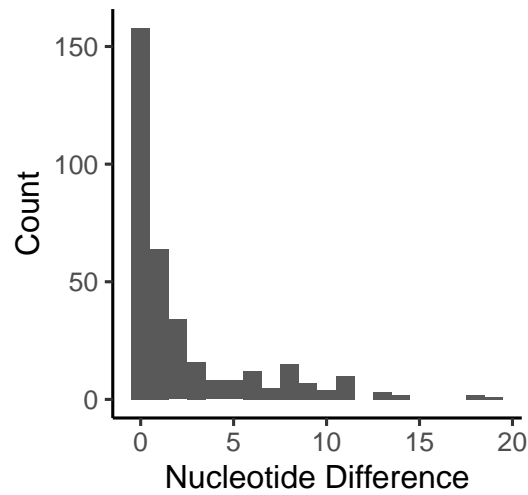
IGHV2-5*02

4389 sequences assigned
1078 (24.6%) exact matches, in which:
1033 unique CDR3
6 unique J



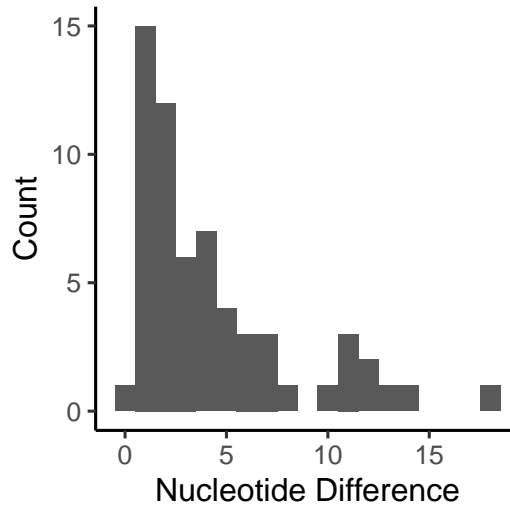
IGHV2-26*01

352 sequences assigned
158 (44.9%) exact matches, in which:
153 unique CDR3
5 unique J



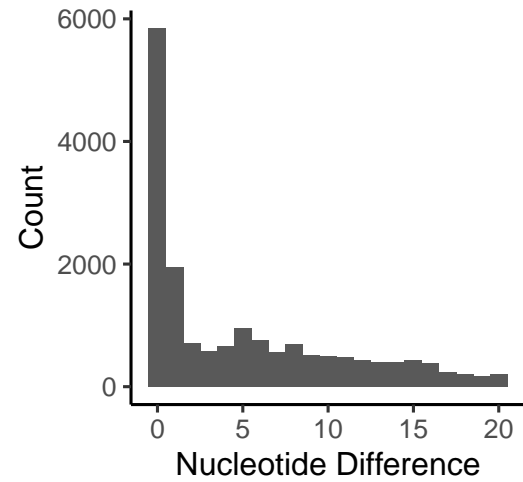
IGHV2-70*12

64 sequences assigned
1 (1.6%) exact matches, in which:
1 unique CDR3
1 unique J



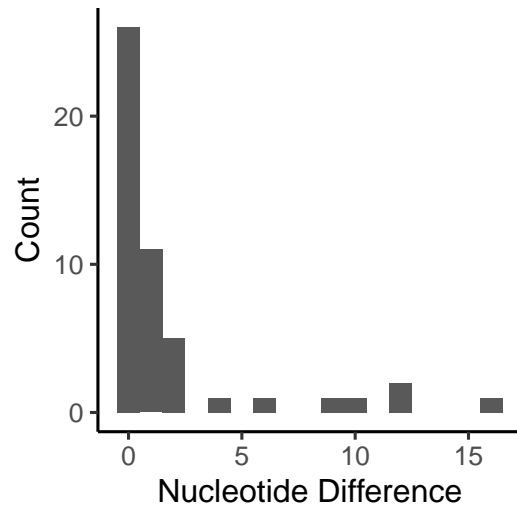
IGHV3-9*01

18618 sequences assigned
5844 (31.4%) exact matches, in which:
4806 unique CDR3
6 unique J



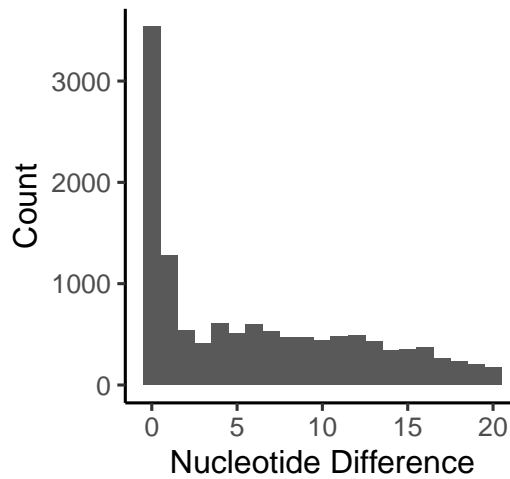
IGHV2-26*04

49 sequences assigned
26 (53.1%) exact matches, in which:
26 unique CDR3
5 unique J



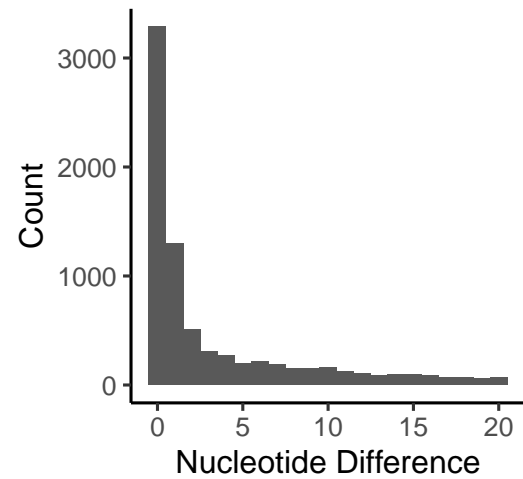
IGHV3-7*01

13848 sequences assigned
3536 (25.5%) exact matches, in which:
2972 unique CDR3
6 unique J



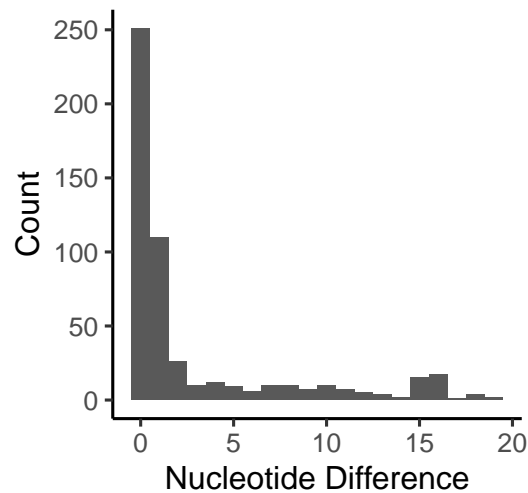
IGHV3-11*01

7964 sequences assigned
3287 (41.3%) exact matches, in which:
2779 unique CDR3
6 unique J



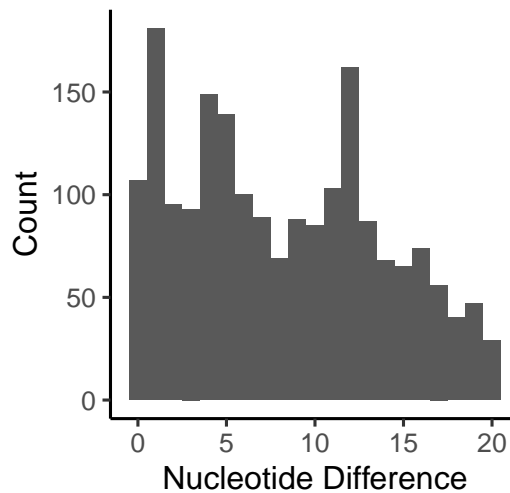
IGHV2-70*01

523 sequences assigned
251 (48%) exact matches, in which:
248 unique CDR3
6 unique J



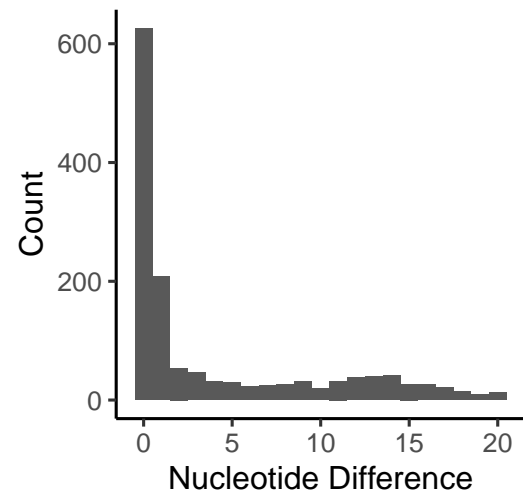
IGHV3-7*03

2135 sequences assigned
107 (5%) exact matches, in which:
101 unique CDR3
6 unique J



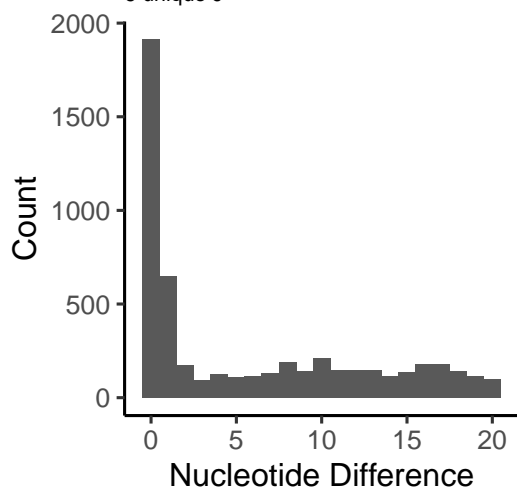
IGHV3-13*01

1485 sequences assigned
626 (42.2%) exact matches, in which:
497 unique CDR3
5 unique J



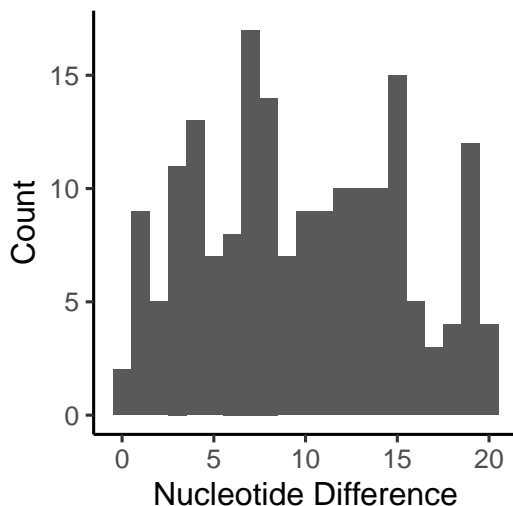
IGHV3-15*01_02

6332 sequences assigned
1913 (30.2%) exact matches, in which:
1631 unique CDR3
6 unique J



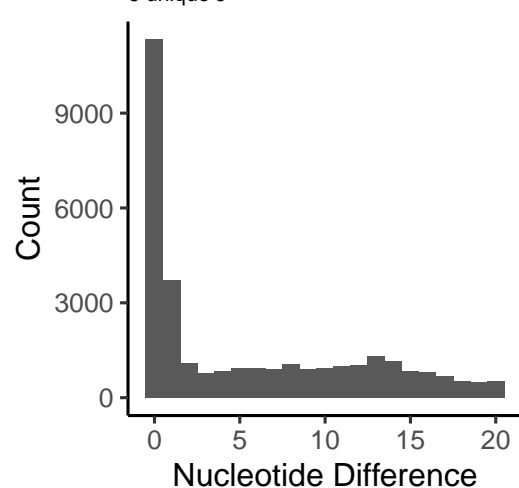
IGHV3-20*03_04

246 sequences assigned
2 (0.8%) exact matches, in which:
2 unique CDR3
1 unique J



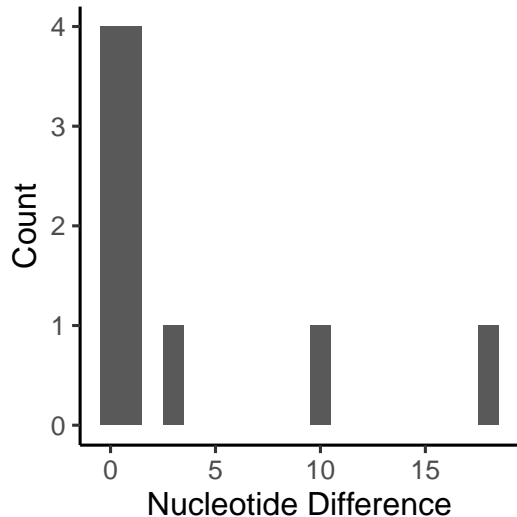
IGHV3-23*01_04

35972 sequences assigned
11332 (31.5%) exact matches, in which:
9305 unique CDR3
6 unique J



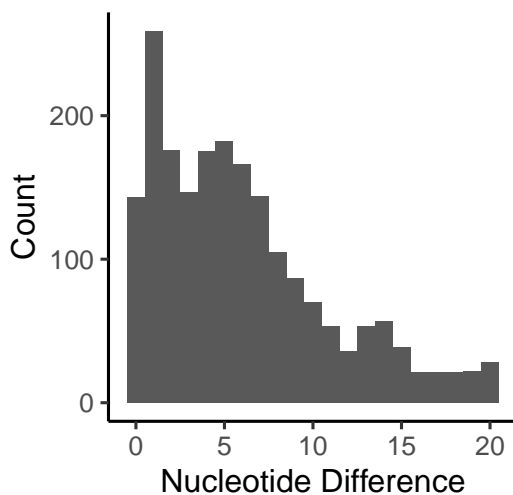
IGHV3-19*01

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



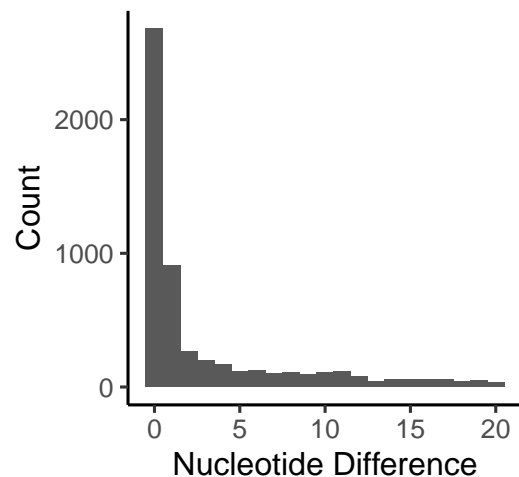
IGHV3-21*04

2136 sequences assigned
143 (6.7%) exact matches, in which:
143 unique CDR3
5 unique J



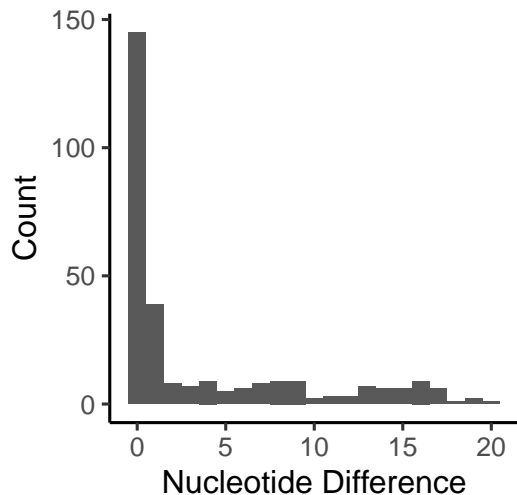
IGHV3-30*01

5558 sequences assigned
2680 (48.2%) exact matches, in which:
2299 unique CDR3
6 unique J



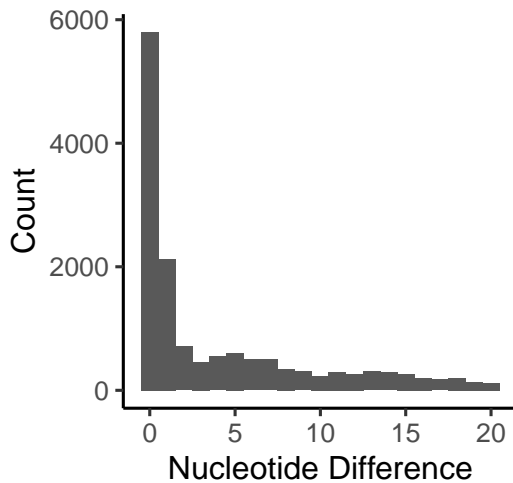
IGHV3-20*01_02

365 sequences assigned
145 (39.7%) exact matches, in which:
115 unique CDR3
5 unique J



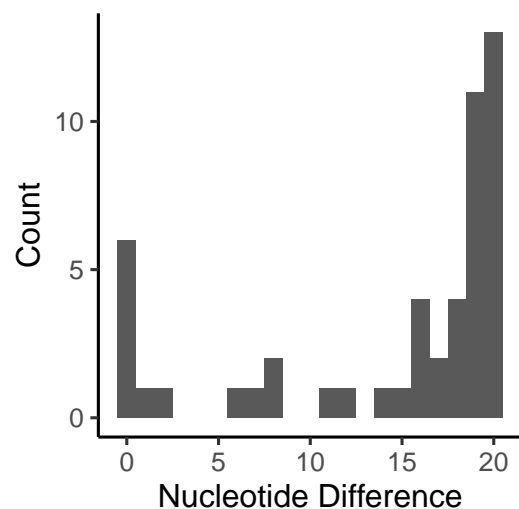
IGHV3-21*01_02

15556 sequences assigned
5800 (37.3%) exact matches, in which:
4887 unique CDR3
6 unique J



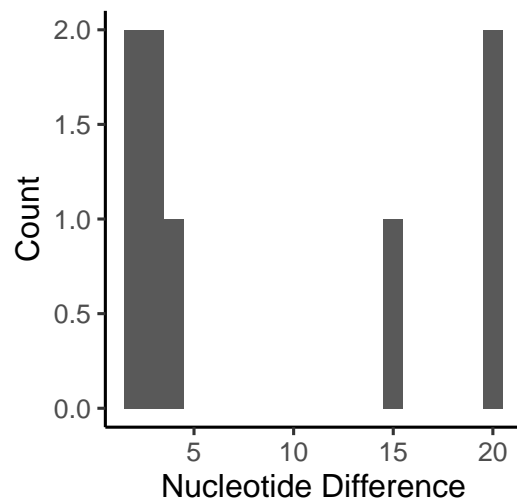
IGHV3-30-3*01

81 sequences assigned
6 (7.4%) exact matches, in which:
6 unique CDR3
4 unique J



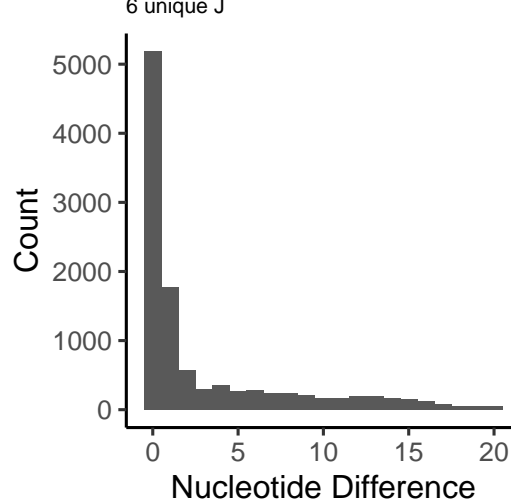
IGHV3-30-3*02

27 sequences assigned
No exact matches.



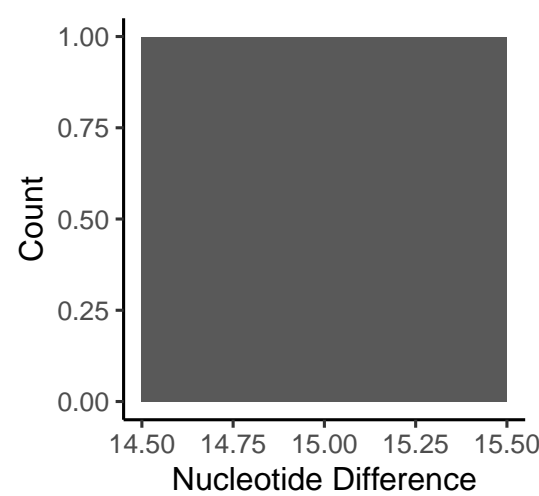
IGHV3-33*01

11203 sequences assigned
5185 (46.3%) exact matches, in which:
4471 unique CDR3
6 unique J



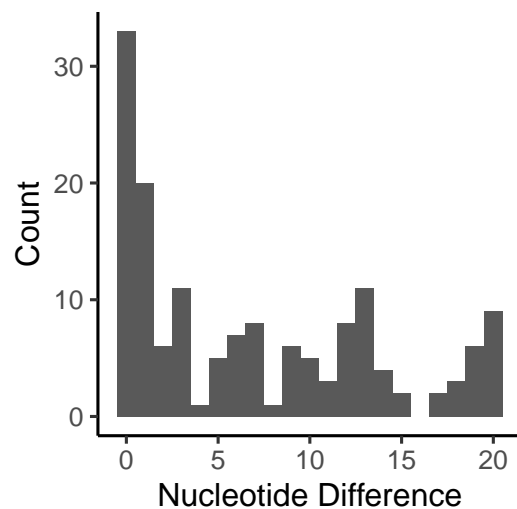
IGHV3-41*02

1 sequences assigned
No exact matches.



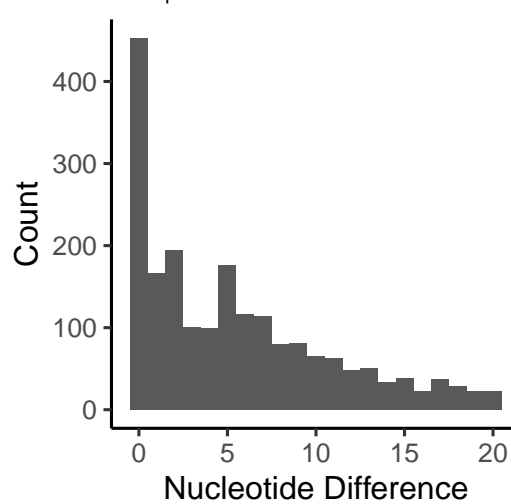
IGHV3-30-3*03

191 sequences assigned
33 (17.3%) exact matches, in which:
33 unique CDR3
4 unique J



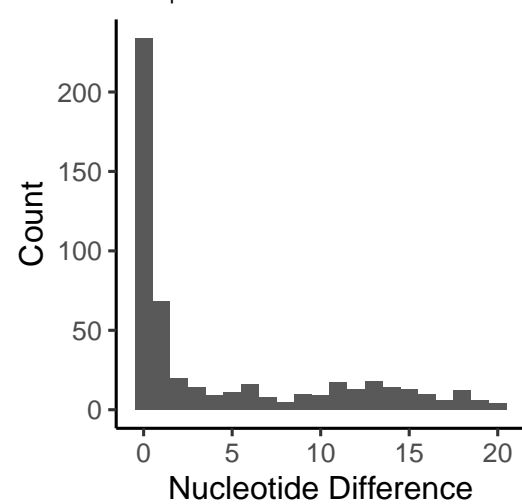
IGHV3-33*08

2124 sequences assigned
453 (21.3%) exact matches, in which:
441 unique CDR3
6 unique J



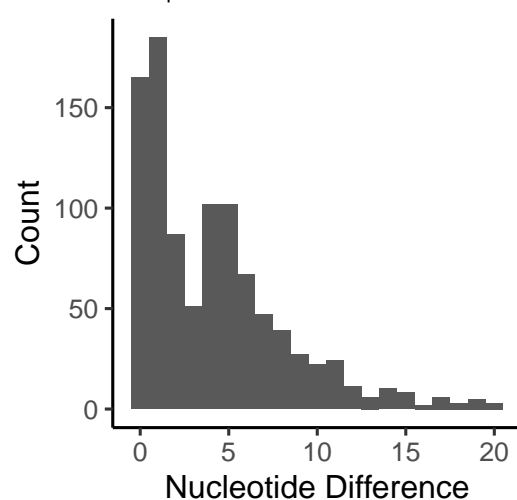
IGHV3-43*01

556 sequences assigned
234 (42.1%) exact matches, in which:
203 unique CDR3
6 unique J



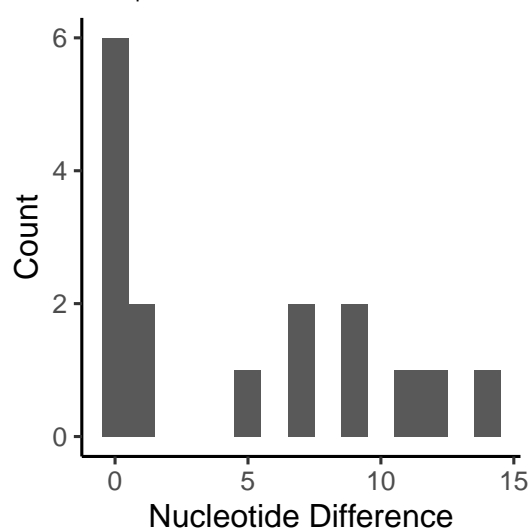
IGHV3-30*07

982 sequences assigned
165 (16.8%) exact matches, in which:
165 unique CDR3
6 unique J



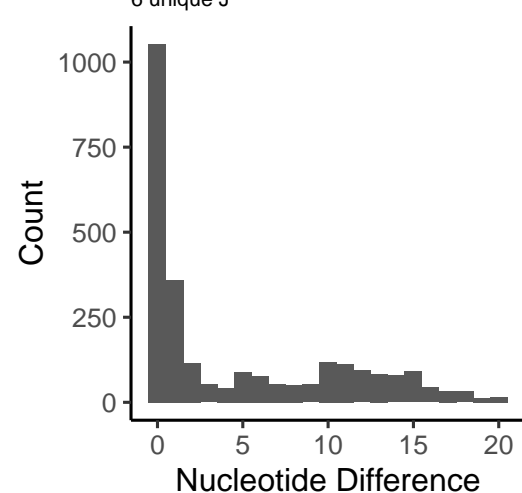
IGHV3-35*01

16 sequences assigned
6 (37.5%) exact matches, in which:
6 unique CDR3
3 unique J



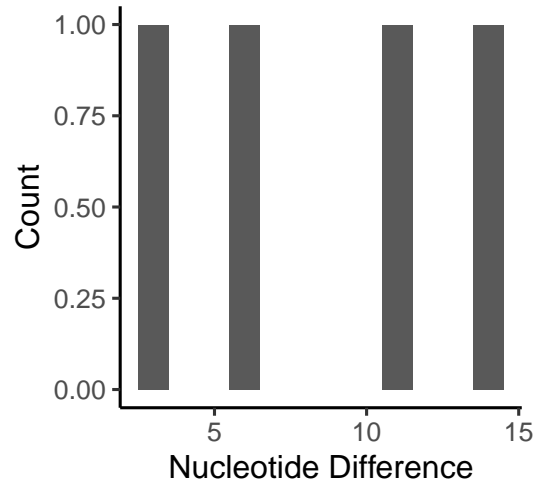
IGHV3-43*02

2895 sequences assigned
1053 (36.4%) exact matches, in which:
888 unique CDR3
6 unique J



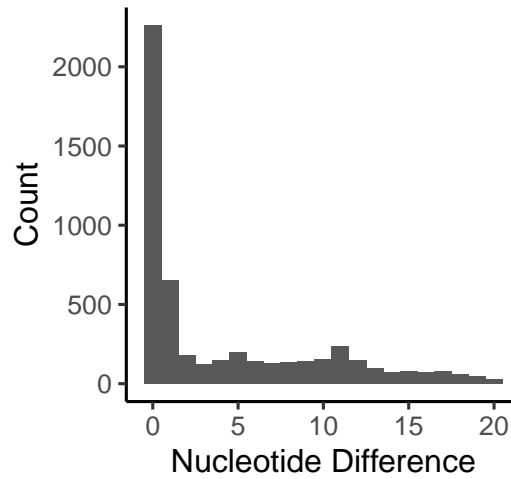
IGHV3-47*01

4 sequences assigned
No exact matches.



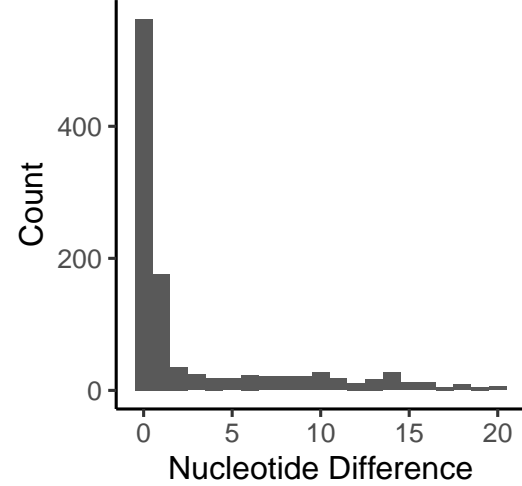
IGHV3-48*03

5433 sequences assigned
2261 (41.6%) exact matches, in which:
1900 unique CDR3
6 unique J



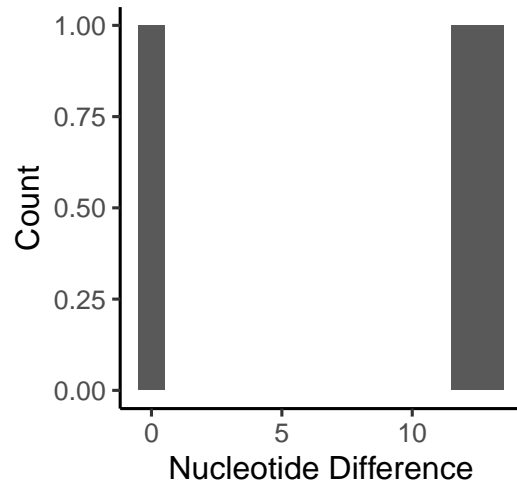
IGHV3-49*03_05

1095 sequences assigned
563 (51.4%) exact matches, in which:
484 unique CDR3
6 unique J



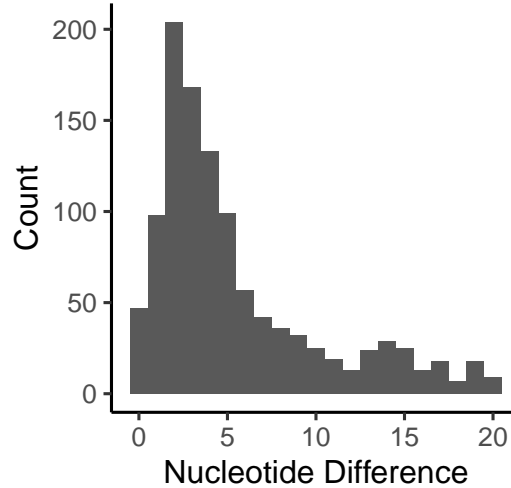
IGHV3-47*02

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



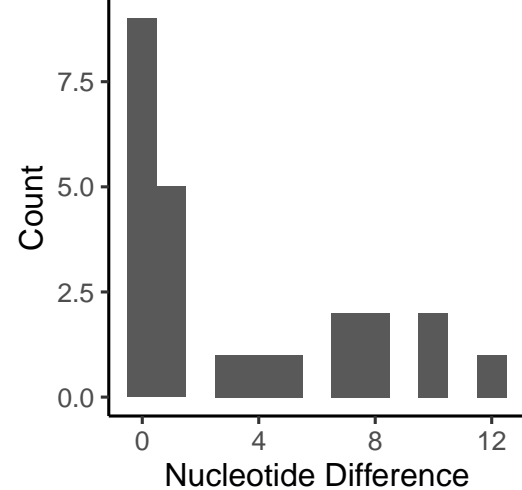
IGHV3-48*04

1170 sequences assigned
47 (4%) exact matches, in which:
47 unique CDR3
5 unique J



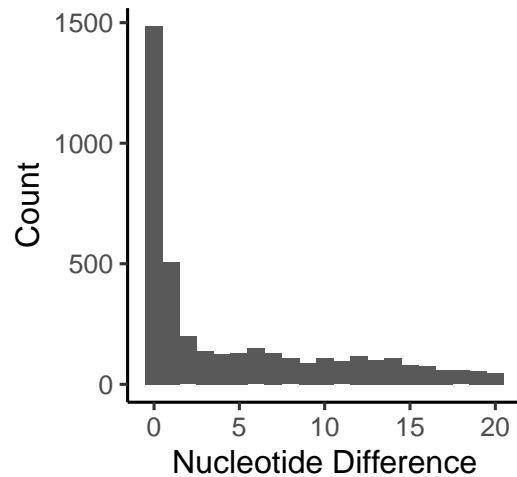
IGHV3-52*01_03

24 sequences assigned
9 (37.5%) exact matches, in which:
6 unique CDR3
4 unique J



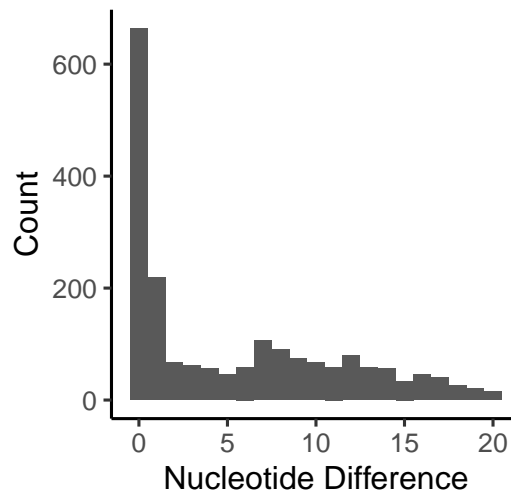
IGHV3-48*02

4249 sequences assigned
1486 (35%) exact matches, in which:
1256 unique CDR3
6 unique J



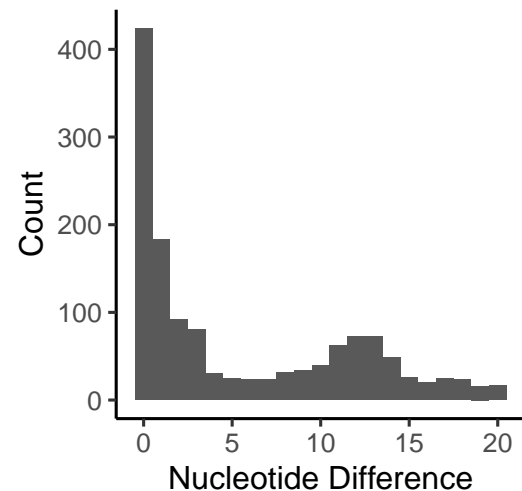
IGHV3-49*04

2082 sequences assigned
664 (31.9%) exact matches, in which:
581 unique CDR3
6 unique J



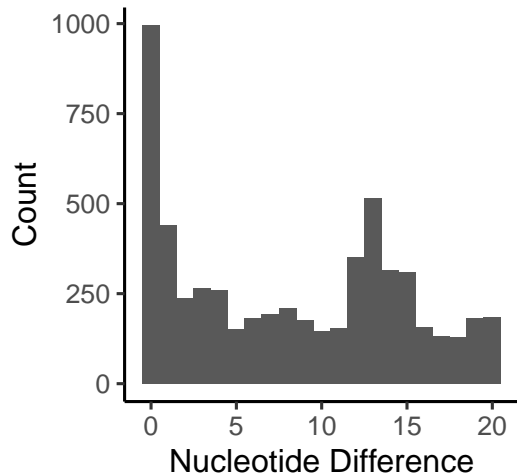
IGHV3-53*04

1444 sequences assigned
424 (29.4%) exact matches, in which:
361 unique CDR3
6 unique J



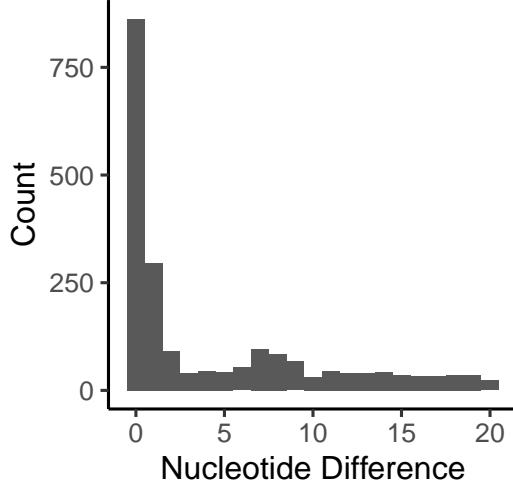
IGHV3-53*01_02

6153 sequences assigned
995 (16.2%) exact matches, in which:
837 unique CDR3
6 unique J



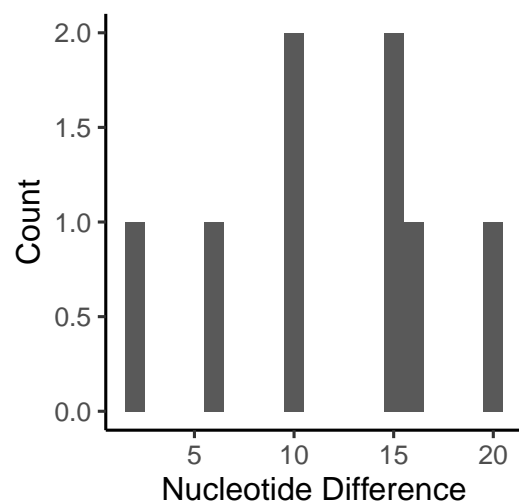
IGHV3-66*02

2255 sequences assigned
863 (38.3%) exact matches, in which:
740 unique CDR3
6 unique J



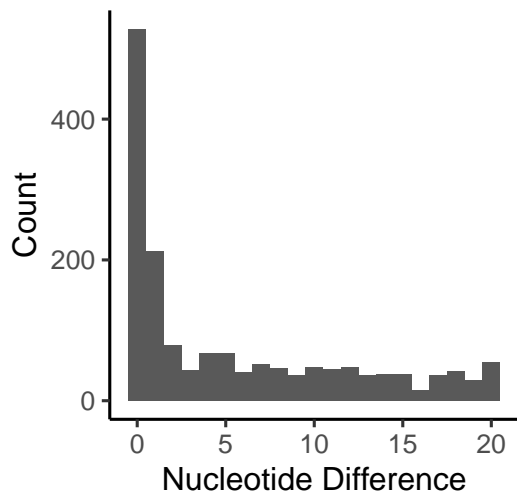
IGHV3-71*01_04

11 sequences assigned
No exact matches.



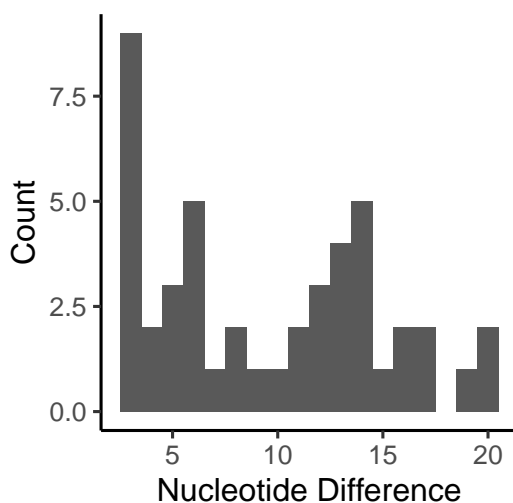
IGHV3-64*01

2564 sequences assigned
528 (20.6%) exact matches, in which:
420 unique CDR3
6 unique J



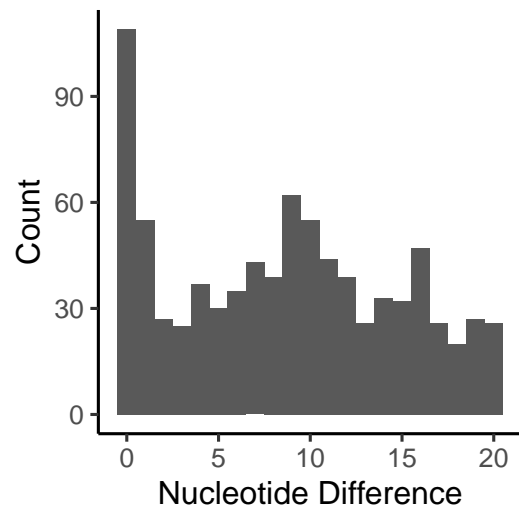
IGHV3-69-1*01

56 sequences assigned
No exact matches.



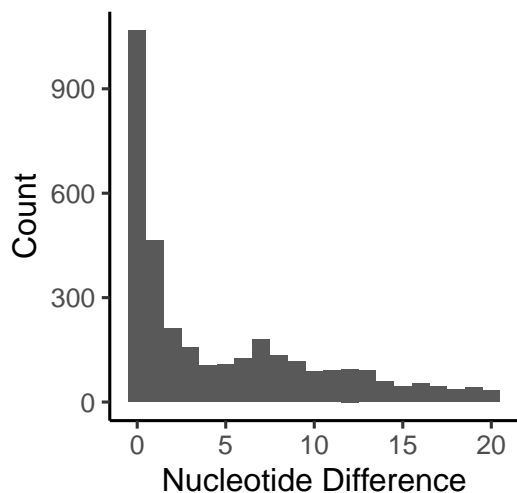
IGHV3-72*01

946 sequences assigned
109 (11.5%) exact matches, in which:
94 unique CDR3
5 unique J



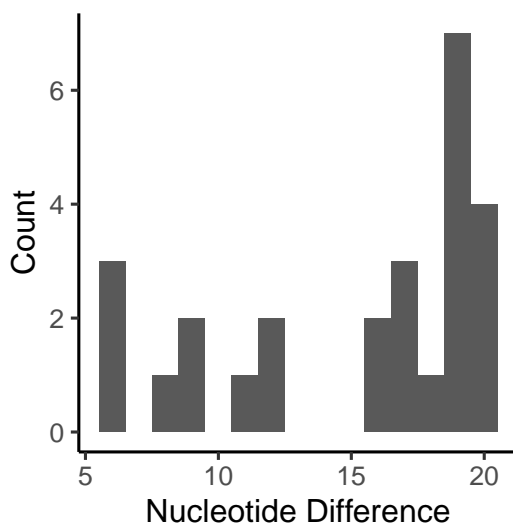
IGHV3-66*01

3706 sequences assigned
1068 (28.8%) exact matches, in which:
919 unique CDR3
6 unique J



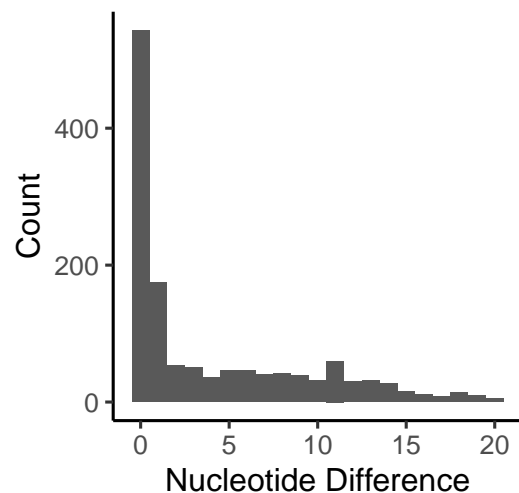
IGHV3-69-1*02

42 sequences assigned
No exact matches.



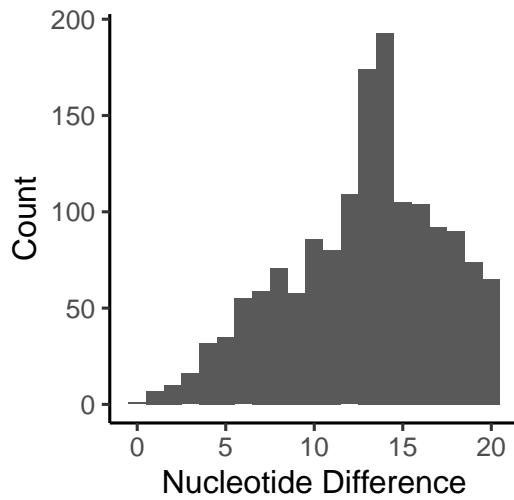
IGHV3-73*01_02

1378 sequences assigned
543 (39.4%) exact matches, in which:
460 unique CDR3
6 unique J



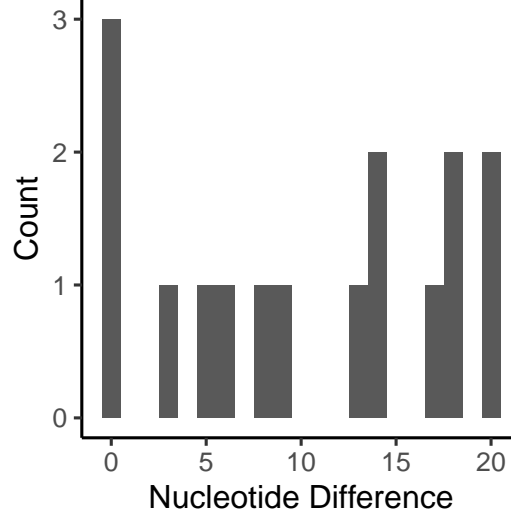
IGHV3-74*03

1985 sequences assigned
1 (0.1%) exact matches, in which:
1 unique CDR3
1 unique J



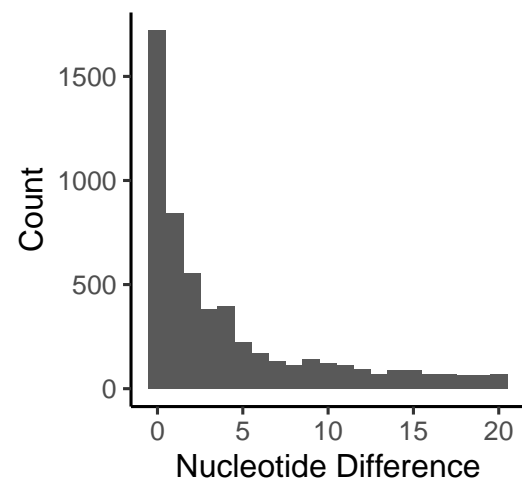
IGHV3-64D*06

40 sequences assigned
3 (7.5%) exact matches, in which:
3 unique CDR3
2 unique J



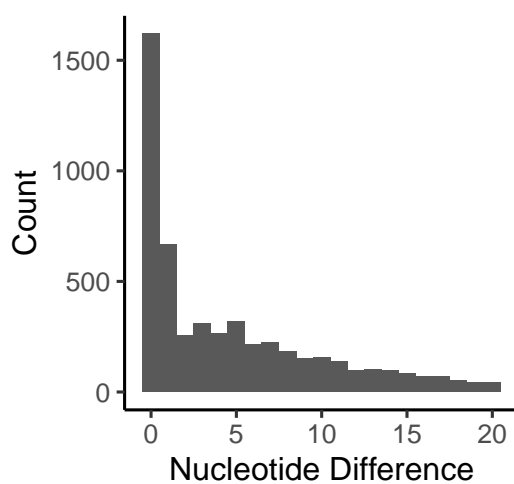
IGHV4-4*02_03

6379 sequences assigned
1721 (27%) exact matches, in which:
1636 unique CDR3
6 unique J



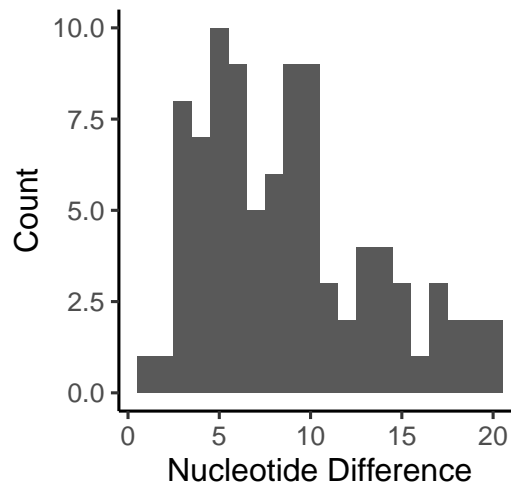
IGHV3-74*01_02

5458 sequences assigned
1620 (29.7%) exact matches, in which:
1340 unique CDR3
6 unique J



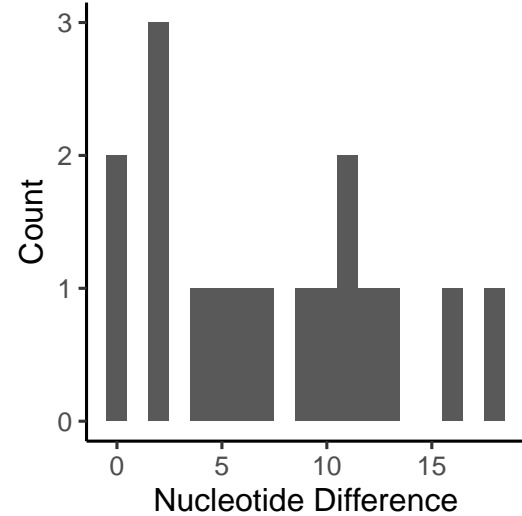
IGHV3-NL1*01

116 sequences assigned
No exact matches.



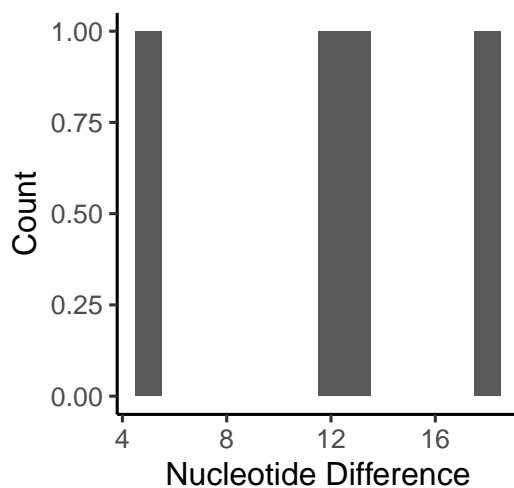
IGHV4-28*03

17 sequences assigned
2 (11.8%) exact matches, in which:
2 unique CDR3
1 unique J



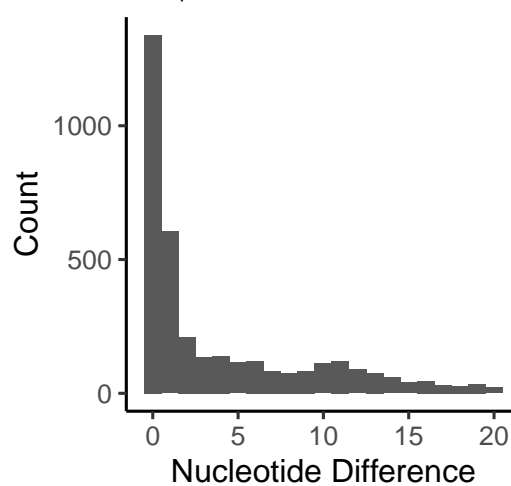
IGHV3-43D*04

5 sequences assigned
No exact matches.



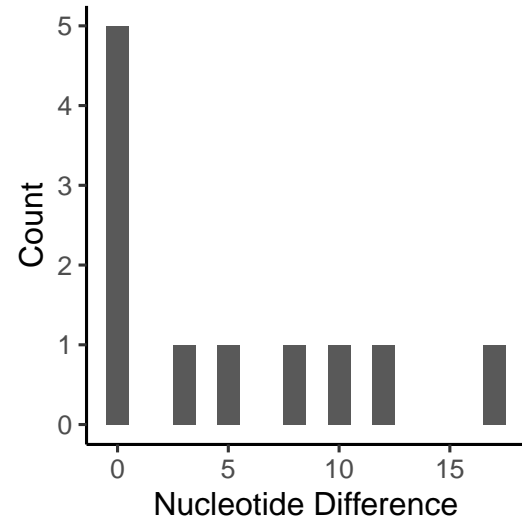
IGHV4-4*07

3828 sequences assigned
1339 (35%) exact matches, in which:
1282 unique CDR3
6 unique J



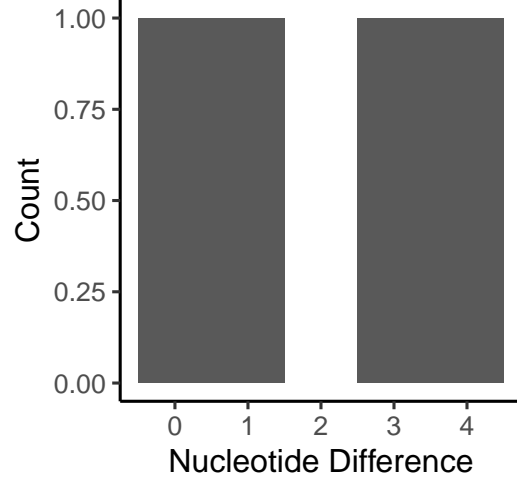
IGHV4-28*01_07

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



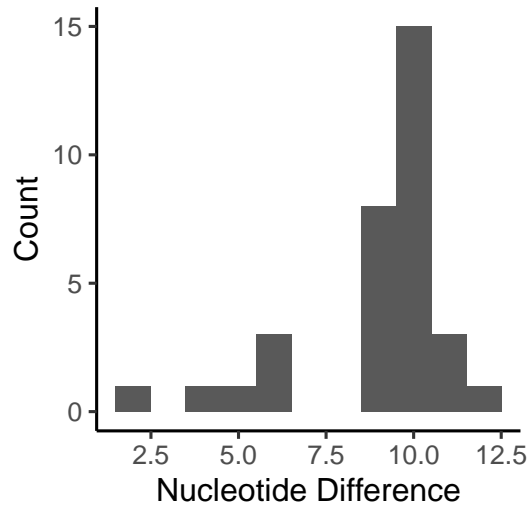
IGHV4-28*02_05

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



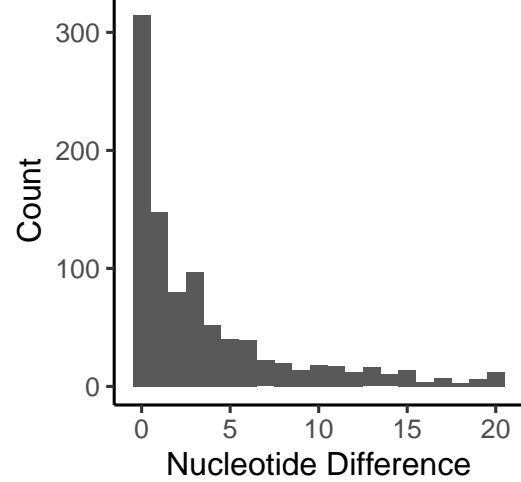
IGHV4-30-2*03

44 sequences assigned
No exact matches.



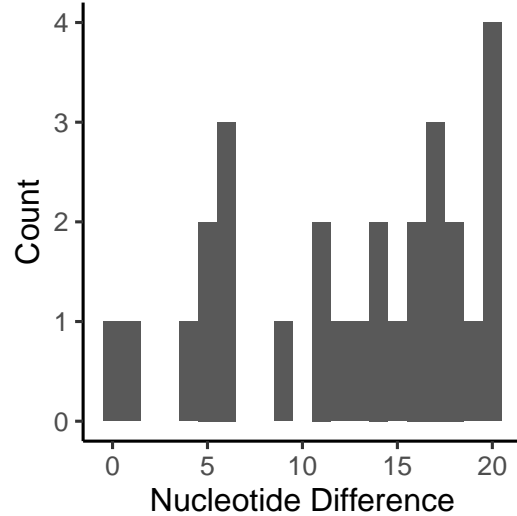
IGHV4-31*01

1039 sequences assigned
315 (30.3%) exact matches, in which:
306 unique CDR3
6 unique J



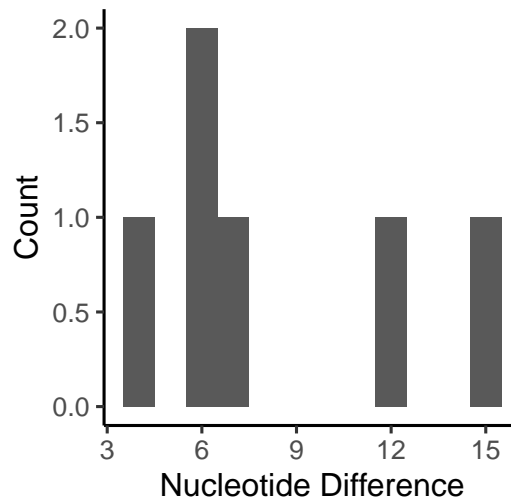
IGHV4-30-4*01

38 sequences assigned
1 (2.6%) exact matches, in which:
1 unique CDR3
1 unique J



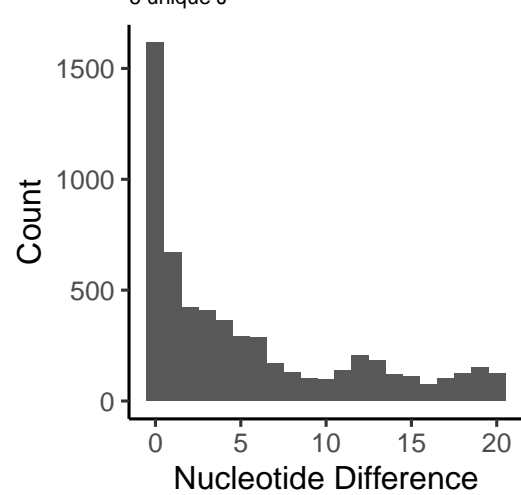
IGHV4-30-2*04

7 sequences assigned
No exact matches.



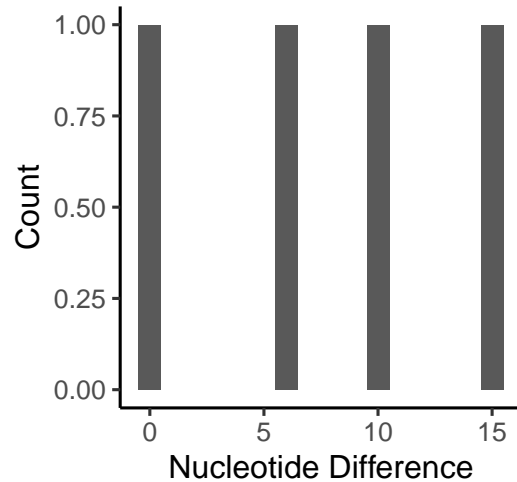
IGHV4-31*02

7271 sequences assigned
1616 (22.2%) exact matches, in which:
1572 unique CDR3
6 unique J



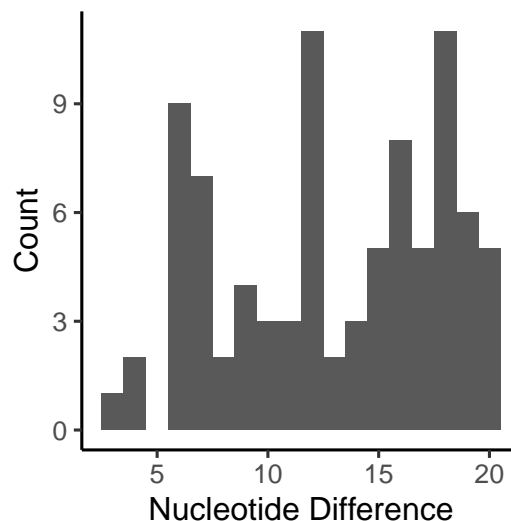
IGHV4-30-2*01

10 sequences assigned
1 (10%) exact matches, in which:
1 unique CDR3
1 unique J



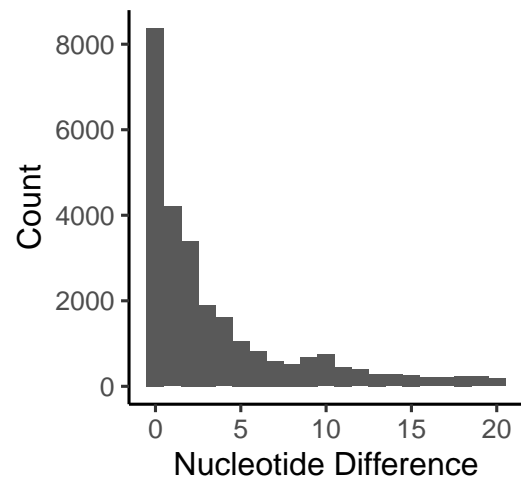
IGHV4-30-4*08

110 sequences assigned
No exact matches.



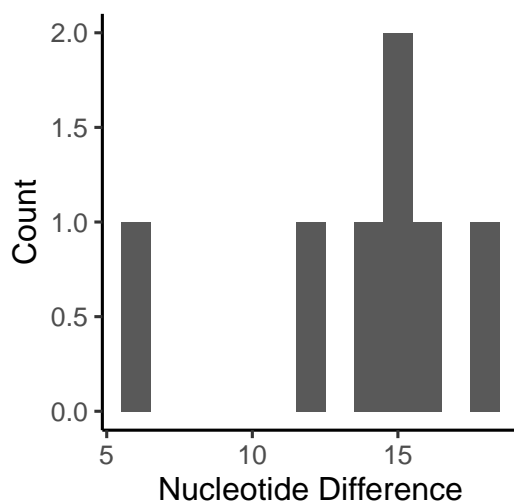
IGHV4-34*01_02

28217 sequences assigned
8378 (29.7%) exact matches, in which:
7814 unique CDR3
6 unique J



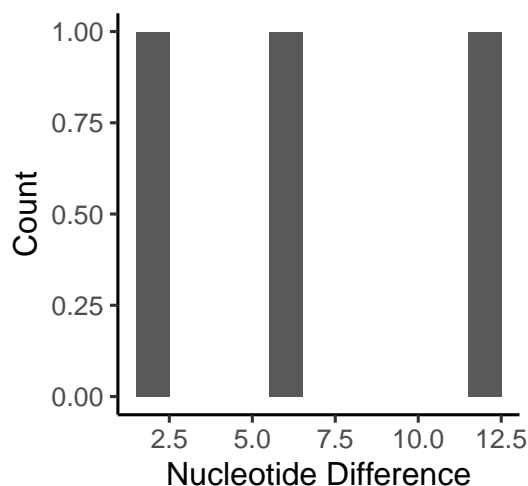
IGHV4-38-2*01

14 sequences assigned
No exact matches.



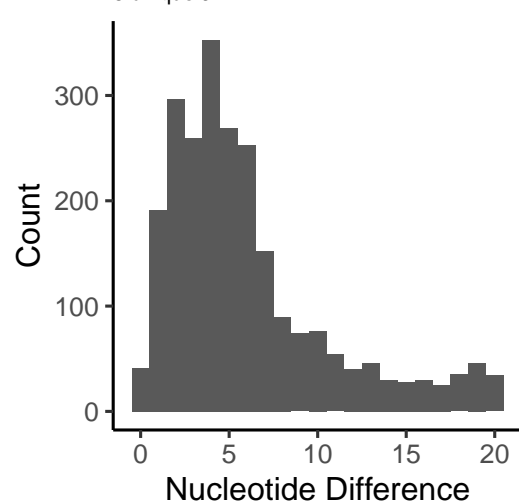
IGHV4-55*09

4 sequences assigned
No exact matches.



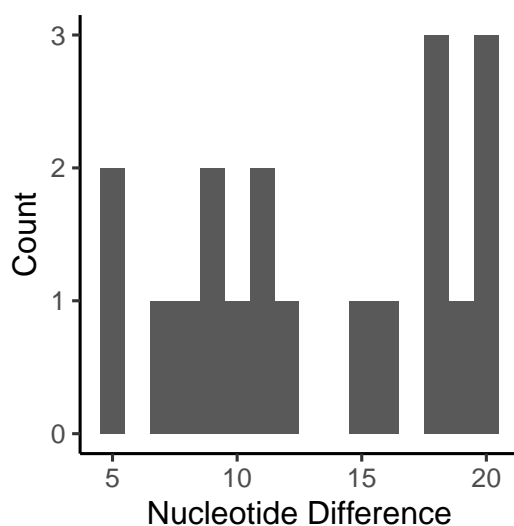
IGHV4-61*01

2613 sequences assigned
41 (1.6%) exact matches, in which:
35 unique CDR3
5 unique J



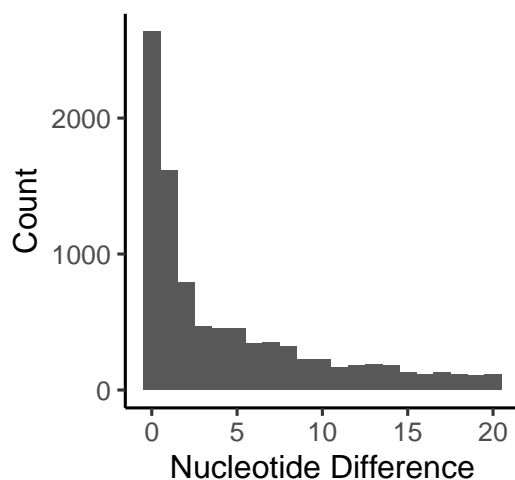
IGHV4-38-2*02

25 sequences assigned
No exact matches.



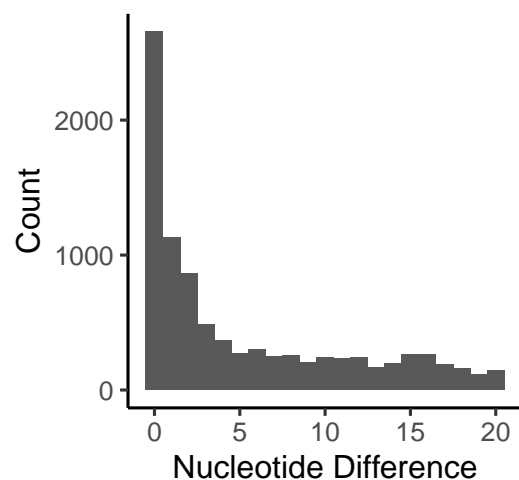
IGHV4-59*08

10213 sequences assigned
2635 (25.8%) exact matches, in which:
2510 unique CDR3
6 unique J



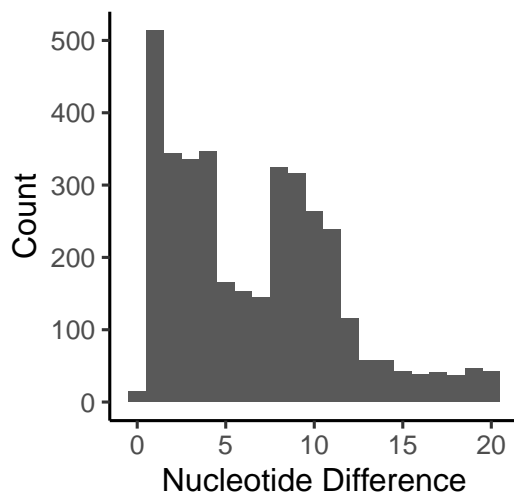
IGHV4-61*02

10110 sequences assigned
2655 (26.3%) exact matches, in which:
2571 unique CDR3
6 unique J



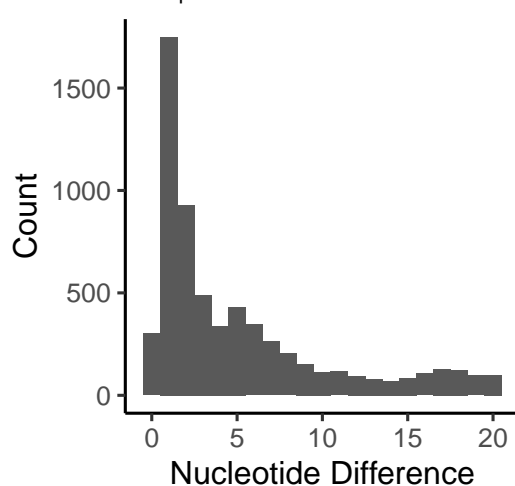
IGHV4-39*07

4011 sequences assigned
15 (0.4%) exact matches, in which:
15 unique CDR3
3 unique J



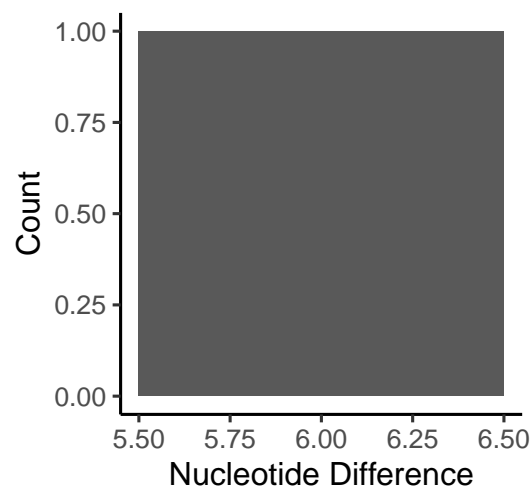
IGHV4-59*12

7052 sequences assigned
302 (4.3%) exact matches, in which:
300 unique CDR3
6 unique J



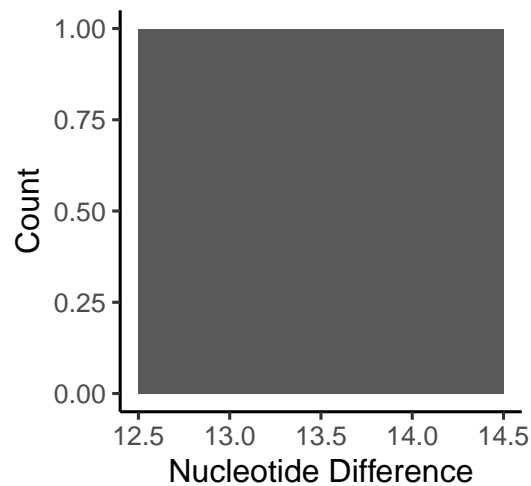
IGHV1/OR15-1*04

1 sequences assigned
No exact matches.



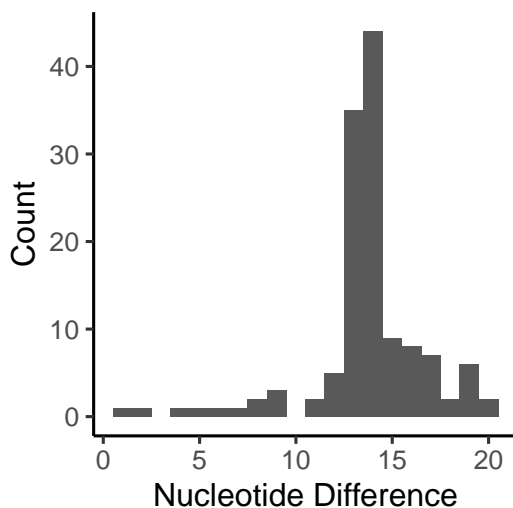
IGHV1/OR15-2*01

2 sequences assigned
No exact matches.



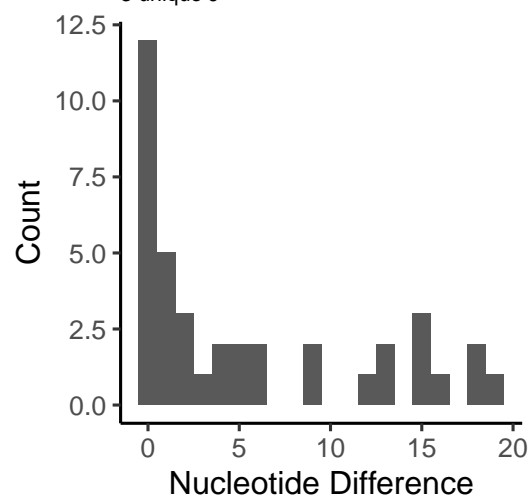
IGHV4/OR15-8*01

162 sequences assigned
No exact matches.



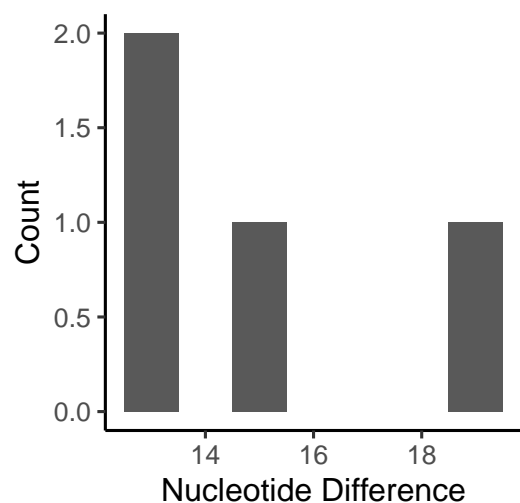
IGHV5-51*04

41 sequences assigned
12 (29.3%) exact matches, in which:
11 unique CDR3
3 unique J



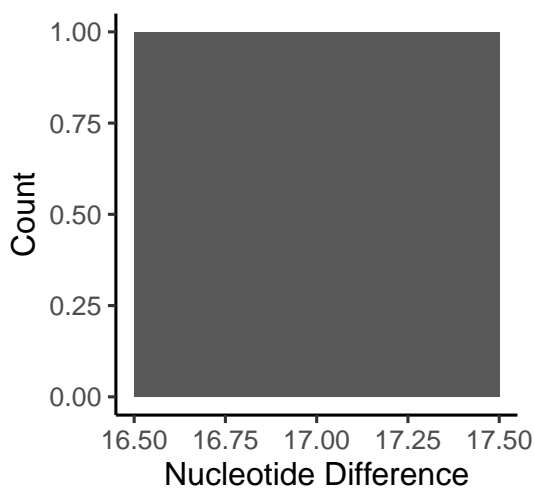
IGHV1/OR15-2*02_03

6 sequences assigned
No exact matches.



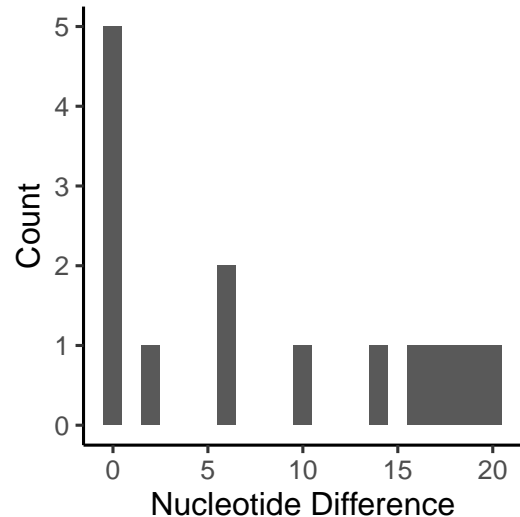
IGHV1/OR15-9*01

1 sequences assigned
No exact matches.



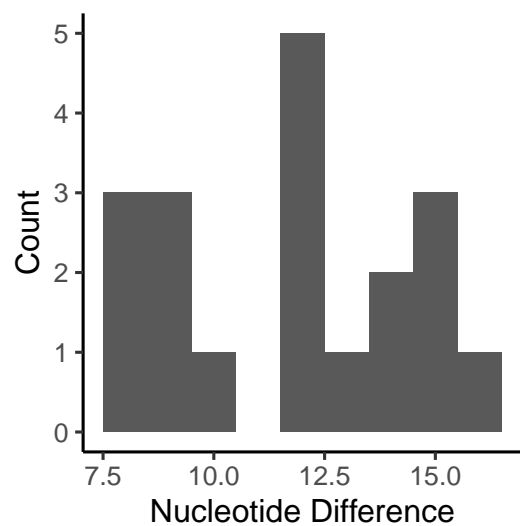
IGHV5-51*06

17 sequences assigned
5 (29.4%) exact matches, in which:
5 unique CDR3
1 unique J



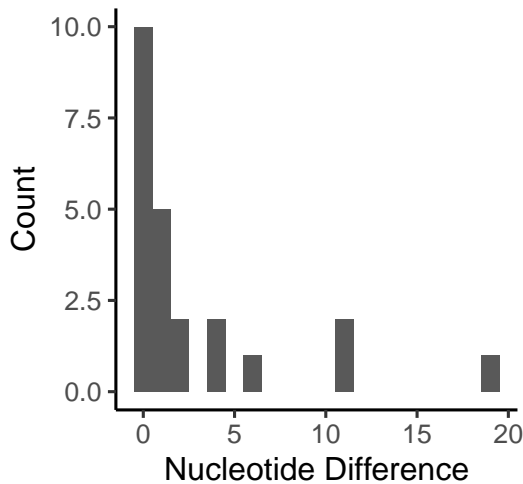
IGHV1/OR15-3*02

20 sequences assigned
No exact matches.



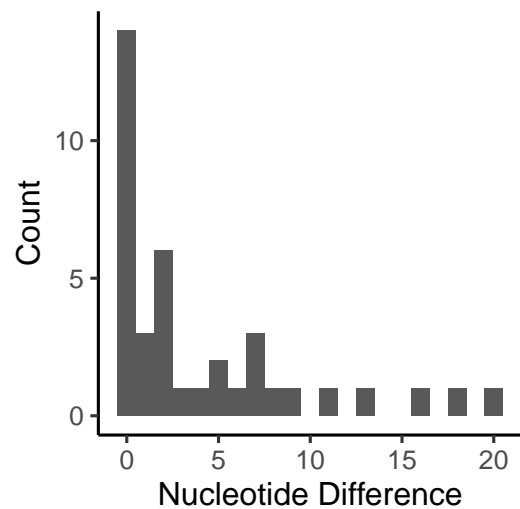
IGHV5-10-1*01_03

23 sequences assigned
10 (43.5%) exact matches, in which:
10 unique CDR3
3 unique J



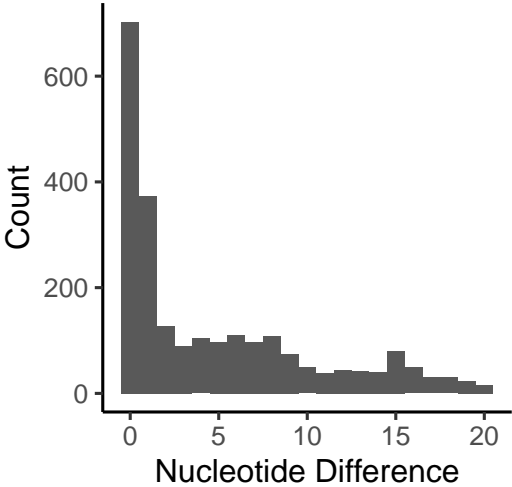
IGHV5-51*07

42 sequences assigned
14 (33.3%) exact matches, in which:
14 unique CDR3
3 unique J



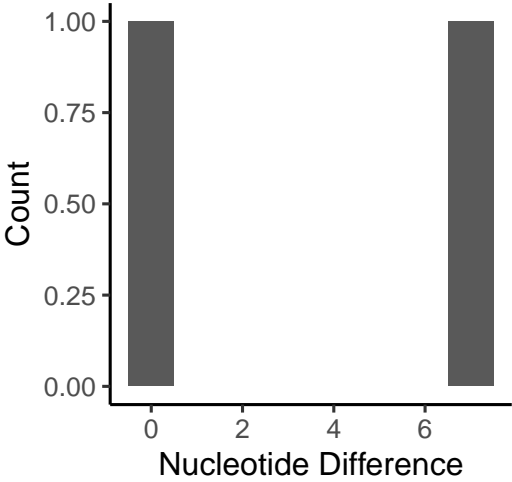
IGHV6-1*01_02

2405 sequences assigned
703 (29.2%) exact matches, in which:
668 unique CDR3
6 unique J



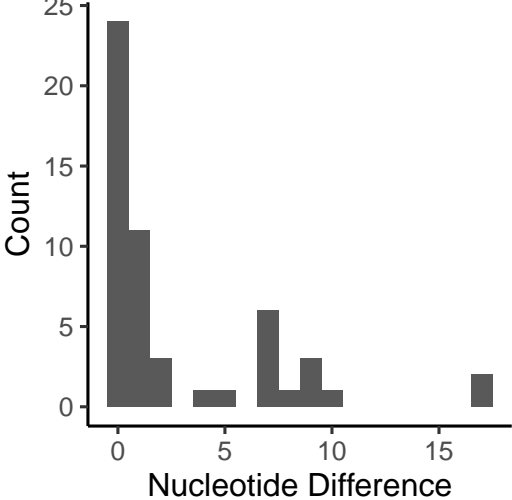
IGHV3/OR16-9*01

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



IGHV7-4-1*01

53 sequences assigned
24 (45.3%) exact matches, in which:
24 unique CDR3
3 unique J





[illegible]