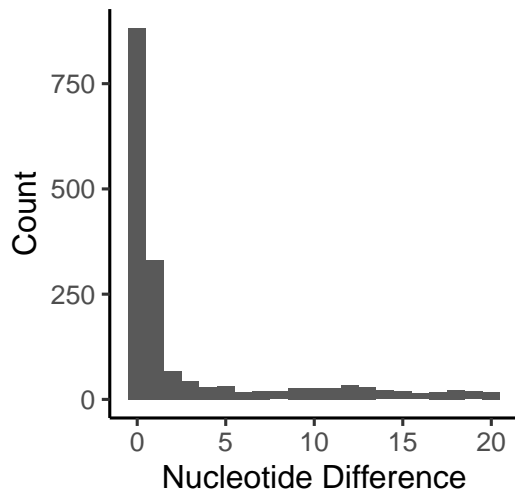


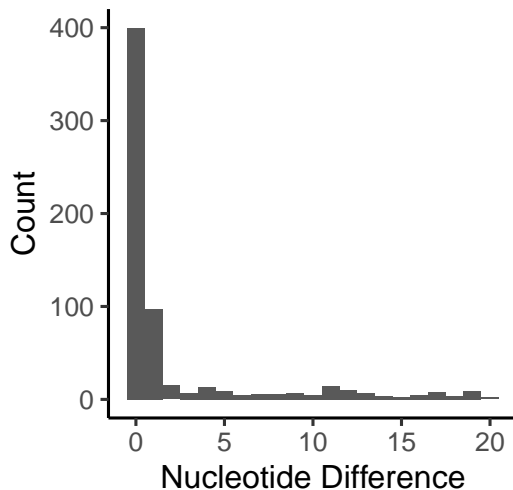
### IGHV1-2\*02

2019 sequences assigned  
883 (43.7%) exact matches, in which:  
868 unique CDR3  
6 unique J



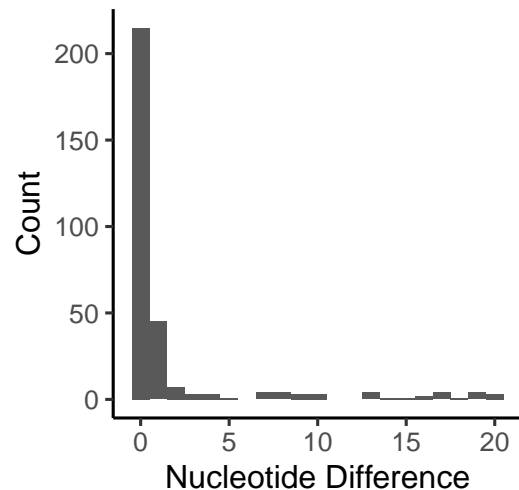
### IGHV1-8\*01

687 sequences assigned  
400 (58.2%) exact matches, in which:  
396 unique CDR3  
6 unique J



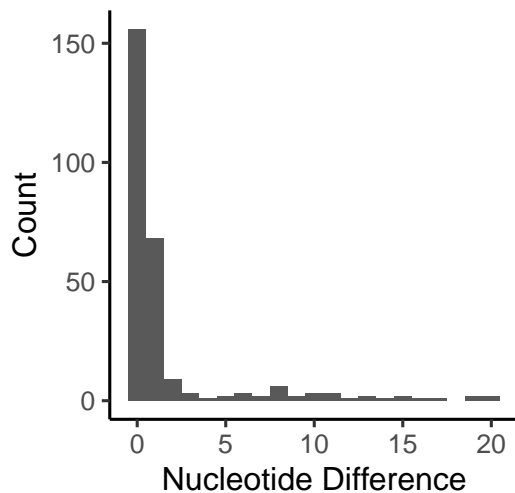
### IGHV1-24\*01

360 sequences assigned  
215 (59.7%) exact matches, in which:  
211 unique CDR3  
6 unique J



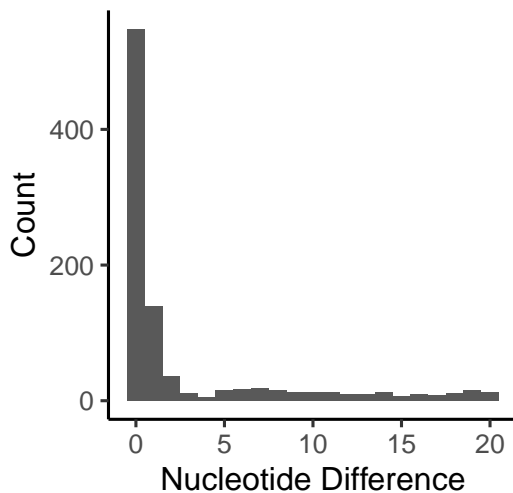
### IGHV1-2\*04

280 sequences assigned  
156 (55.7%) exact matches, in which:  
156 unique CDR3  
4 unique J



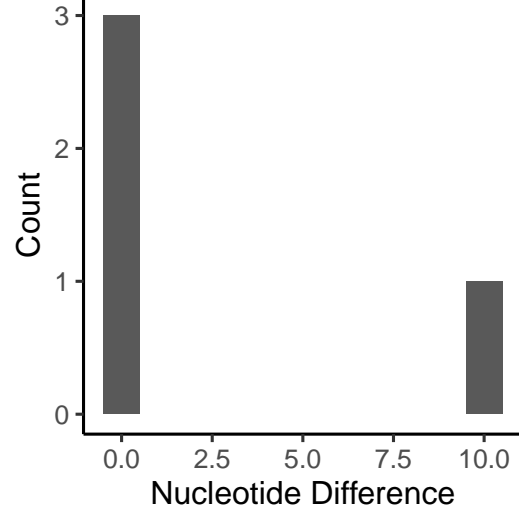
### IGHV1-18\*01

1220 sequences assigned  
548 (44.9%) exact matches, in which:  
543 unique CDR3  
6 unique J



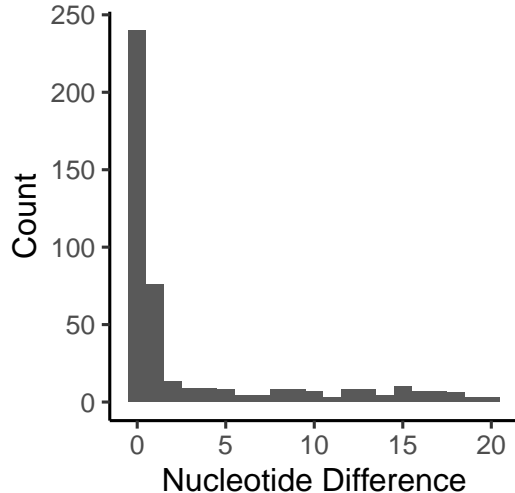
### IGHV1-45\*02

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



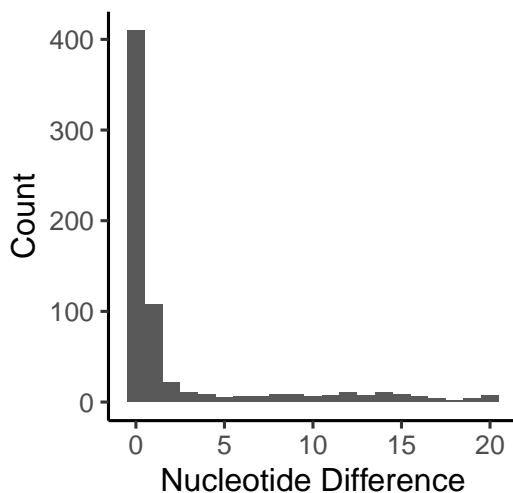
### IGHV1-3\*01

563 sequences assigned  
240 (42.6%) exact matches, in which:  
239 unique CDR3  
6 unique J



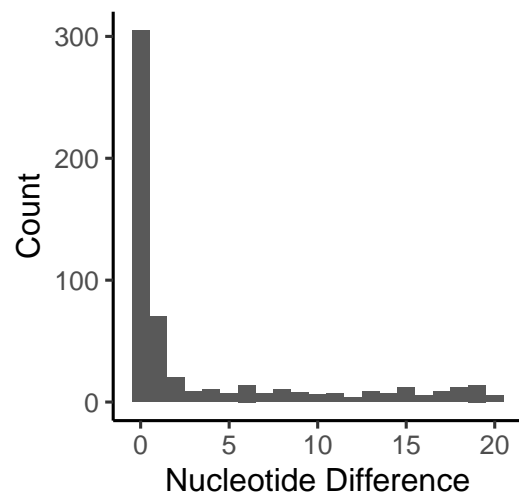
### IGHV1-18\*04

807 sequences assigned  
410 (50.8%) exact matches, in which:  
407 unique CDR3  
6 unique J



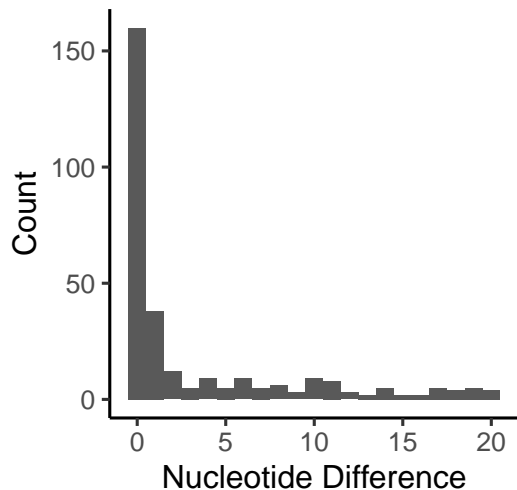
### IGHV1-46\*01

680 sequences assigned  
305 (44.9%) exact matches, in which:  
303 unique CDR3  
6 unique J



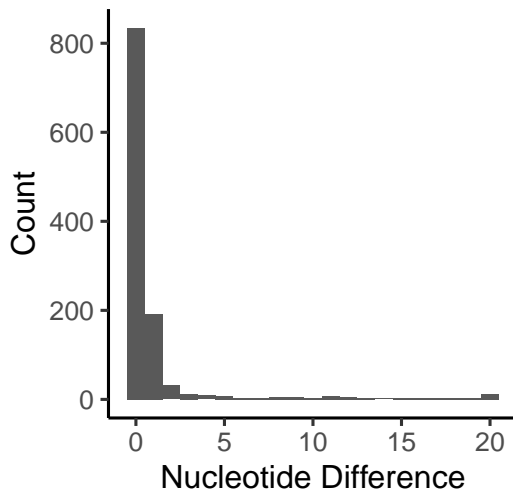
### IGHV1-46\*03

335 sequences assigned  
160 (47.8%) exact matches, in which:  
158 unique CDR3  
6 unique J



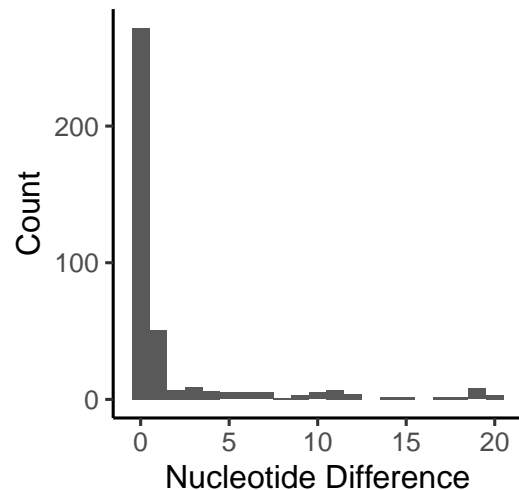
### IGHV1-69\*10

1350 sequences assigned  
835 (61.9%) exact matches, in which:  
832 unique CDR3  
6 unique J



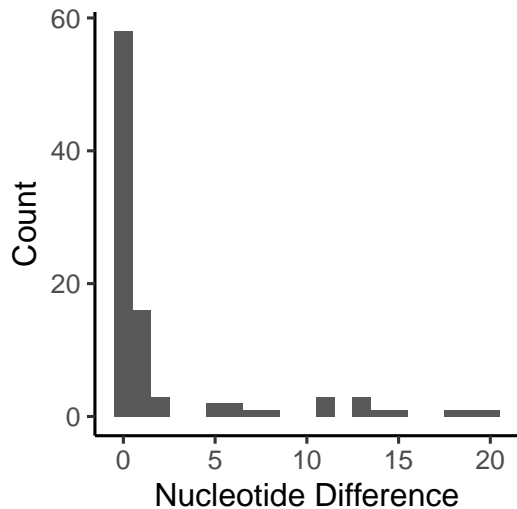
### IGHV2-26\*01

443 sequences assigned  
272 (61.4%) exact matches, in which:  
271 unique CDR3  
5 unique J



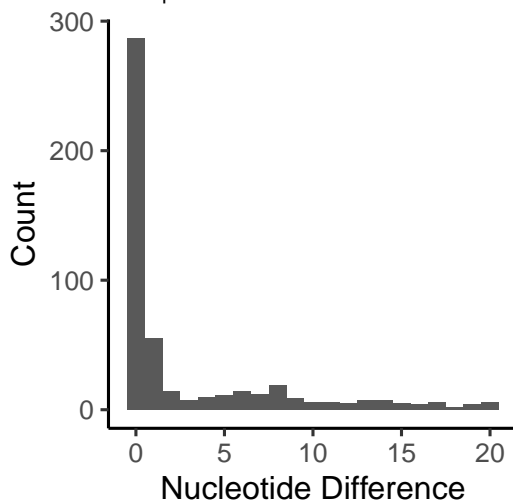
### IGHV1-58\*01

103 sequences assigned  
58 (56.3%) exact matches, in which:  
58 unique CDR3  
6 unique J



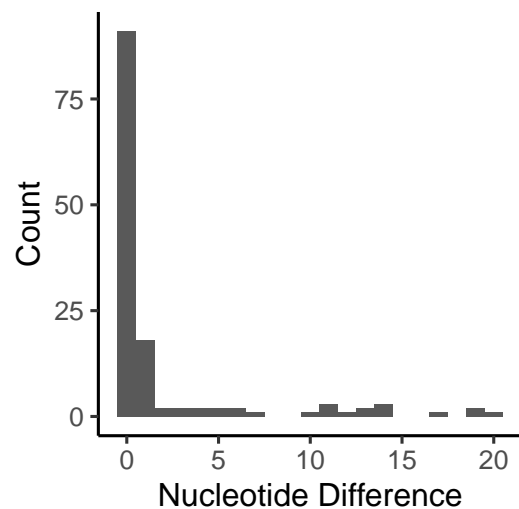
### IGHV2-5\*01

533 sequences assigned  
287 (53.8%) exact matches, in which:  
286 unique CDR3  
6 unique J



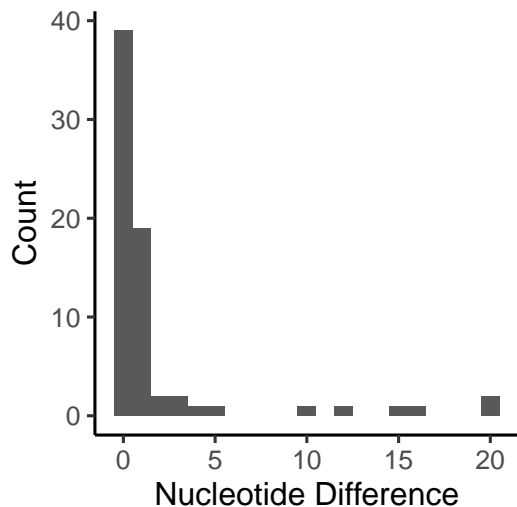
### IGHV2-70\*01

148 sequences assigned  
91 (61.5%) exact matches, in which:  
91 unique CDR3  
5 unique J



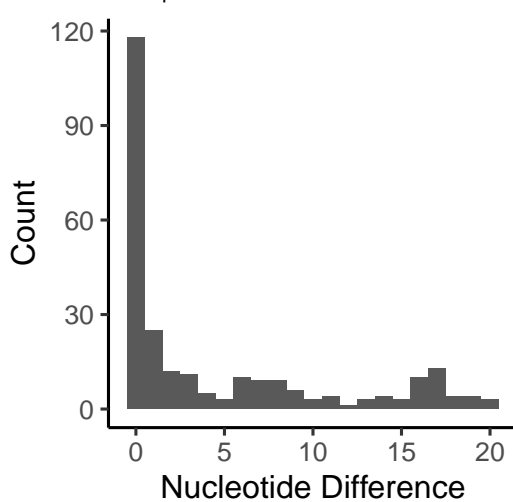
### IGHV1-58\*02

78 sequences assigned  
39 (50%) exact matches, in which:  
38 unique CDR3  
5 unique J



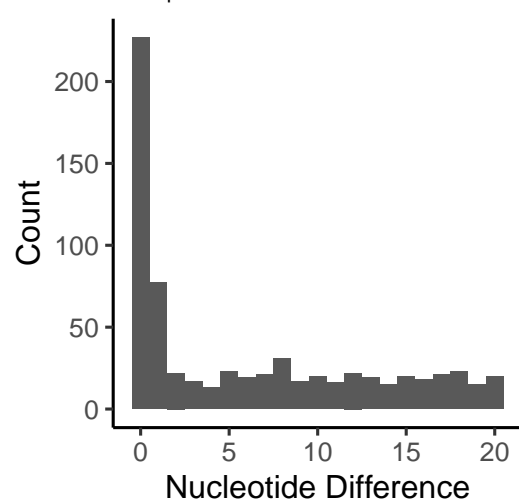
### IGHV2-5\*02

334 sequences assigned  
118 (35.3%) exact matches, in which:  
118 unique CDR3  
6 unique J



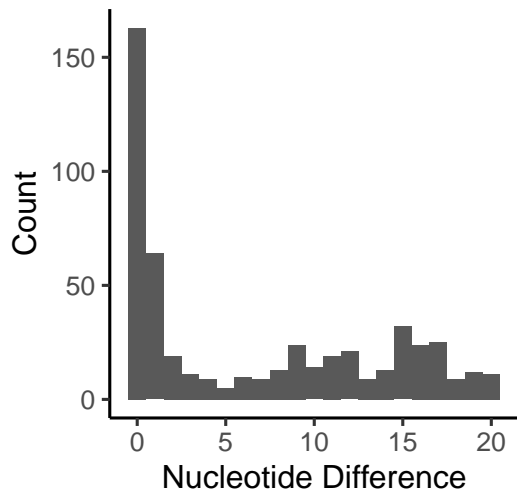
### IGHV3-7\*01

820 sequences assigned  
227 (27.7%) exact matches, in which:  
224 unique CDR3  
6 unique J



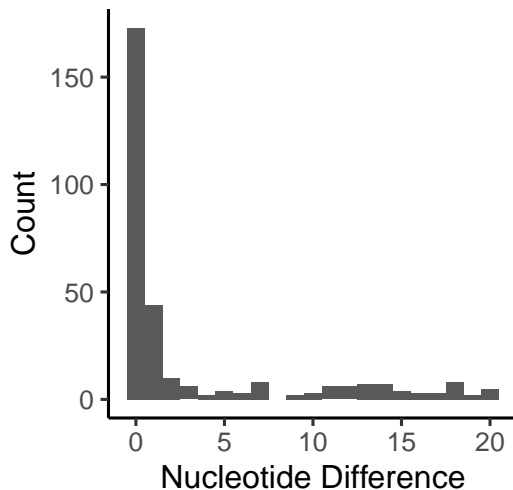
### IGHV3-7\*03

658 sequences assigned  
163 (24.8%) exact matches, in which:  
162 unique CDR3  
5 unique J



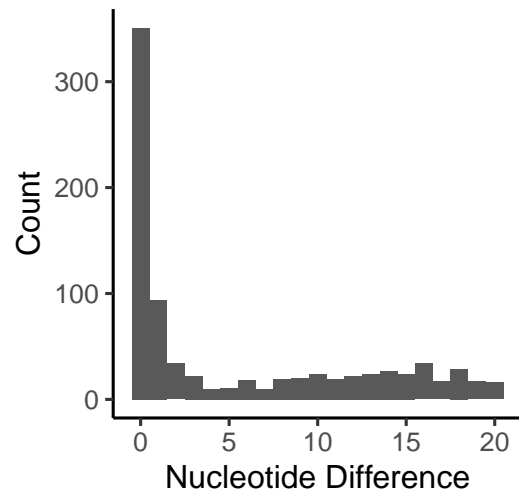
### IGHV3-11\*06

567 sequences assigned  
173 (30.5%) exact matches, in which:  
173 unique CDR3  
6 unique J



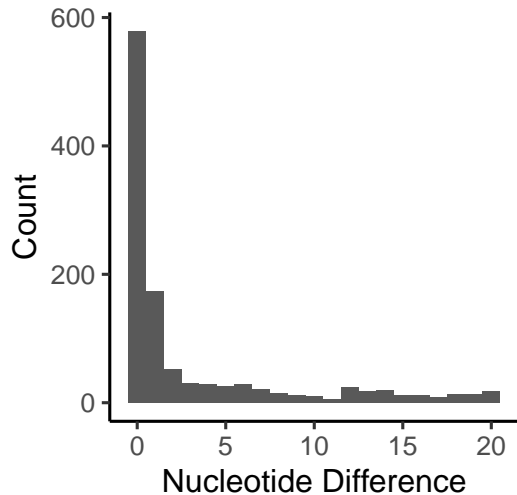
### IGHV3-15\*01

1065 sequences assigned  
351 (33%) exact matches, in which:  
348 unique CDR3  
6 unique J



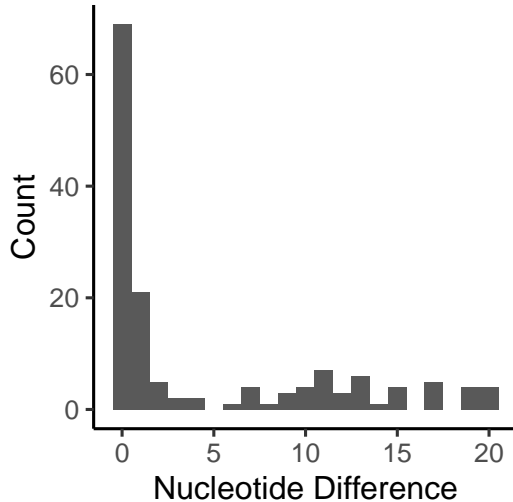
### IGHV3-9\*01

1343 sequences assigned  
579 (43.1%) exact matches, in which:  
575 unique CDR3  
6 unique J



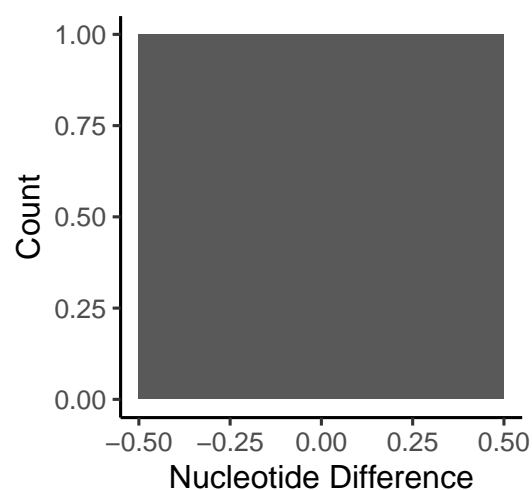
### IGHV3-13\*01

174 sequences assigned  
69 (39.7%) exact matches, in which:  
69 unique CDR3  
5 unique J



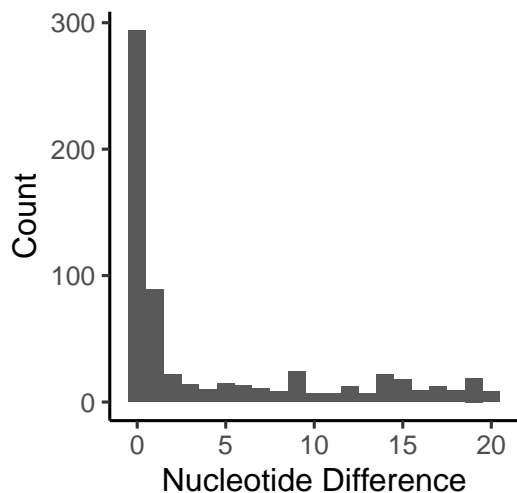
### IGHV3-20\*02

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



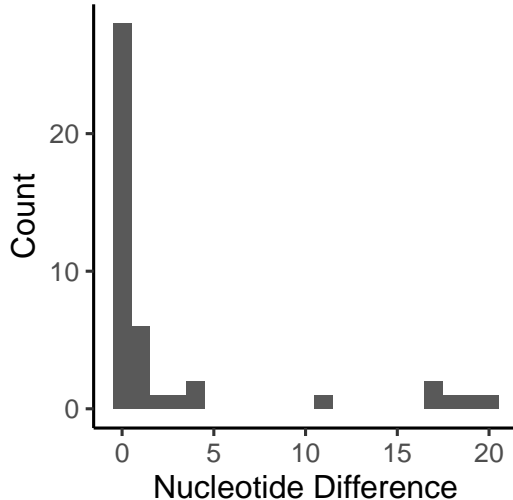
### IGHV3-11\*01

759 sequences assigned  
294 (38.7%) exact matches, in which:  
290 unique CDR3  
6 unique J



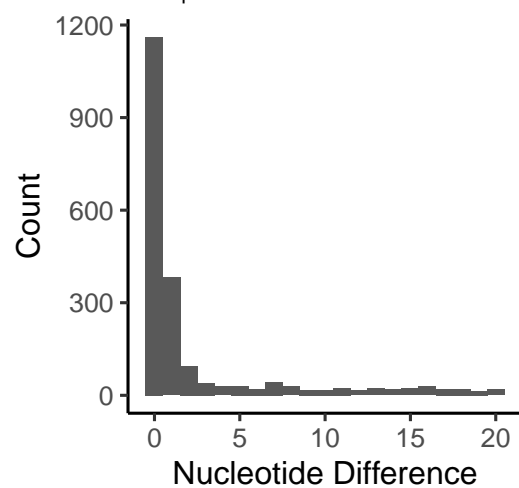
### IGHV3-13\*05

45 sequences assigned  
28 (62.2%) exact matches, in which:  
28 unique CDR3  
4 unique J



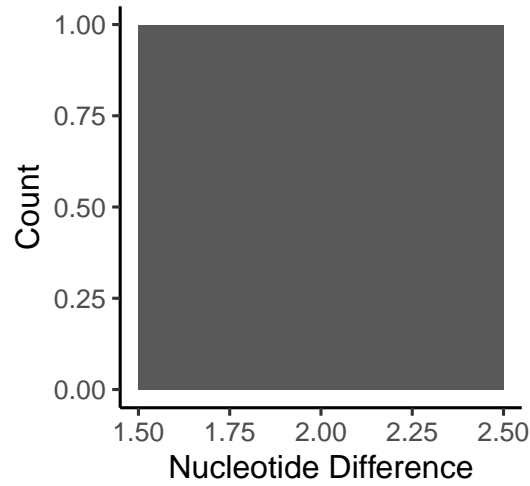
### IGHV3-21\*01

2424 sequences assigned  
1161 (47.9%) exact matches, in which:  
1155 unique CDR3  
6 unique J



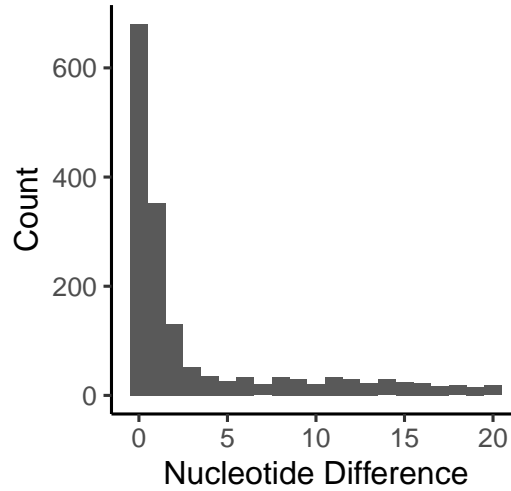
### IGHV3-22\*02

1 sequences assigned  
No exact matches.



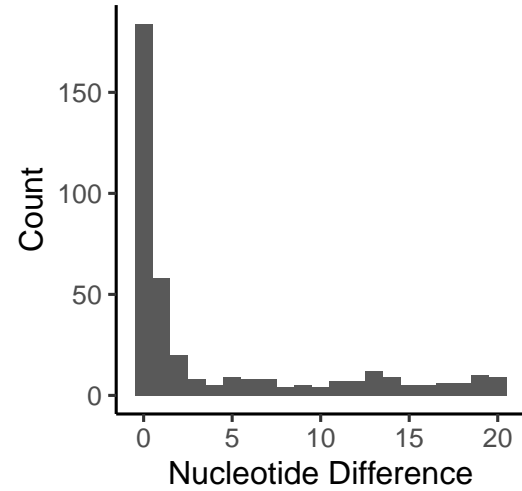
### IGHV3-33\*01

1858 sequences assigned  
681 (36.7%) exact matches, in which:  
677 unique CDR3  
6 unique J



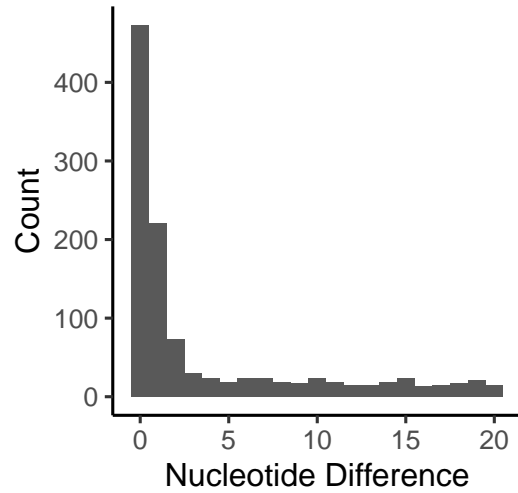
### IGHV3-48\*02

489 sequences assigned  
184 (37.6%) exact matches, in which:  
181 unique CDR3  
6 unique J



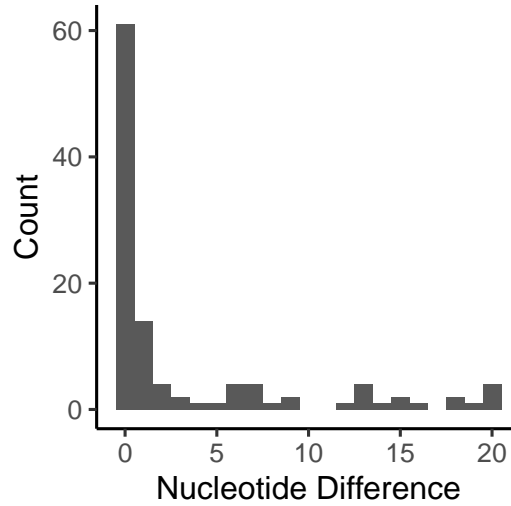
### IGHV3-30\*01

1305 sequences assigned  
473 (36.2%) exact matches, in which:  
471 unique CDR3  
6 unique J



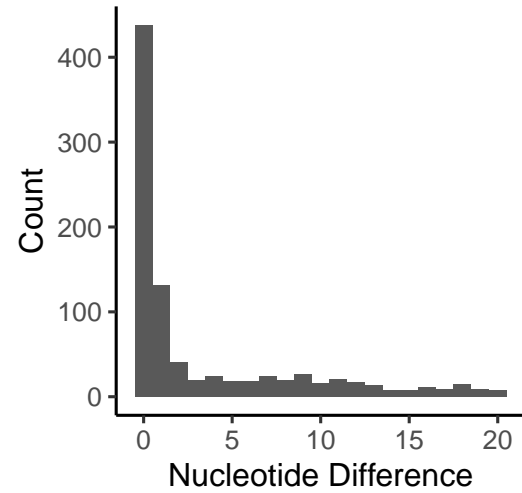
### IGHV3-43\*01

140 sequences assigned  
61 (43.6%) exact matches, in which:  
61 unique CDR3  
4 unique J



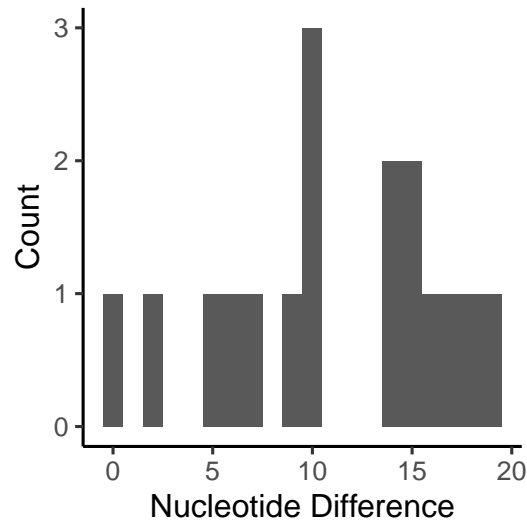
### IGHV3-48\*03

1045 sequences assigned  
438 (41.9%) exact matches, in which:  
437 unique CDR3  
6 unique J



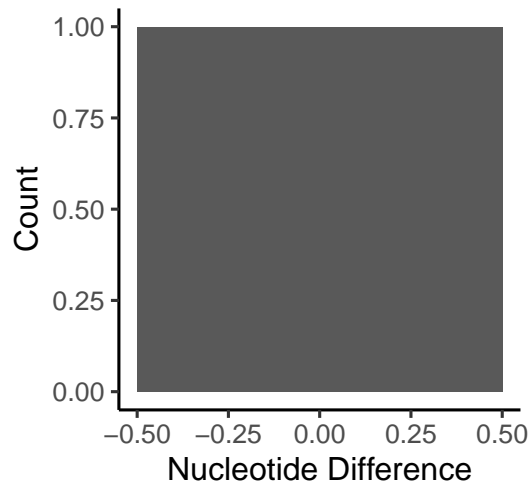
### IGHV3-30-3\*03

54 sequences assigned  
1 (1.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



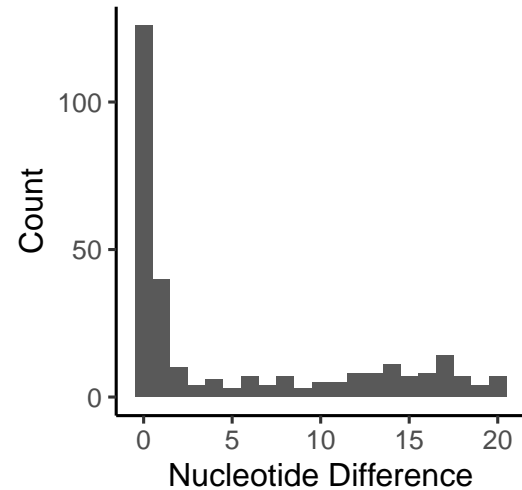
### IGHV3-47\*02

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



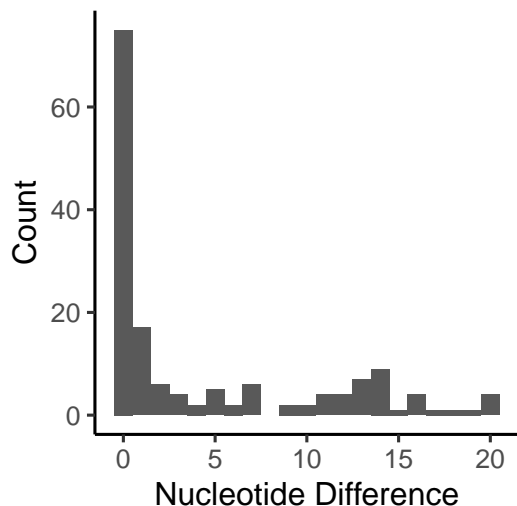
### IGHV3-49\*04

387 sequences assigned  
126 (32.6%) exact matches, in which:  
125 unique CDR3  
6 unique J



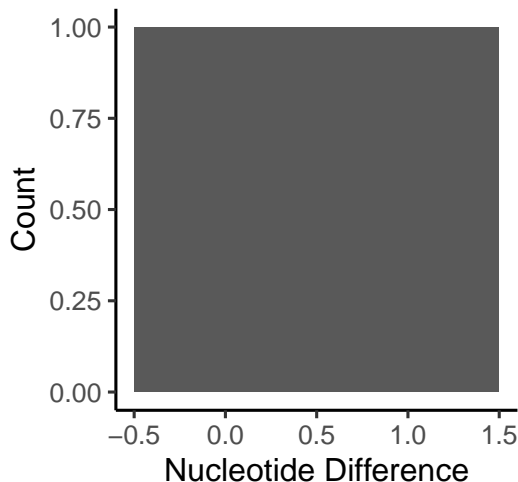
### IGHV3-49\*05

197 sequences assigned  
75 (38.1%) exact matches, in which:  
74 unique CDR3  
6 unique J



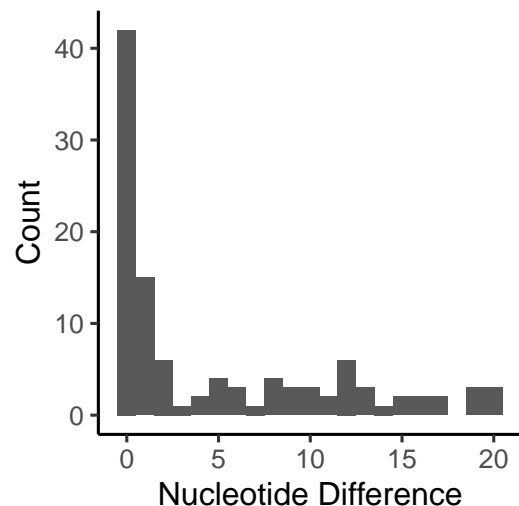
### IGHV3-66\*03

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



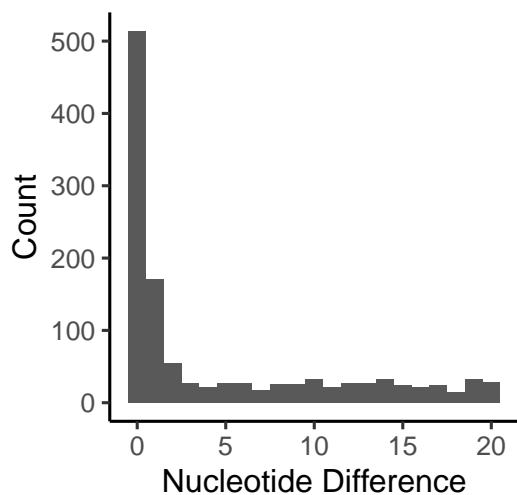
### IGHV3-73\*02

123 sequences assigned  
42 (34.1%) exact matches, in which:  
42 unique CDR3  
4 unique J



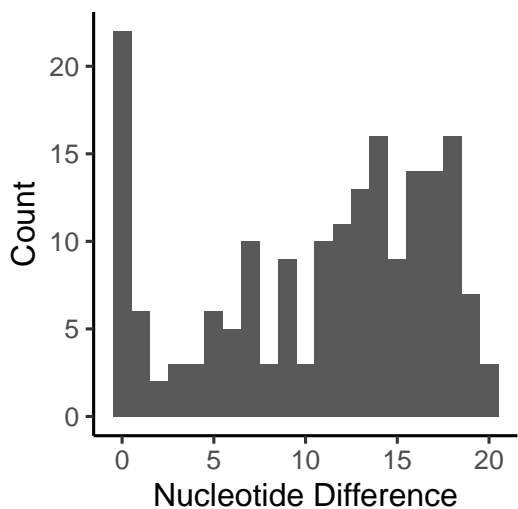
### IGHV3-53\*01

1443 sequences assigned  
514 (35.6%) exact matches, in which:  
506 unique CDR3  
6 unique J



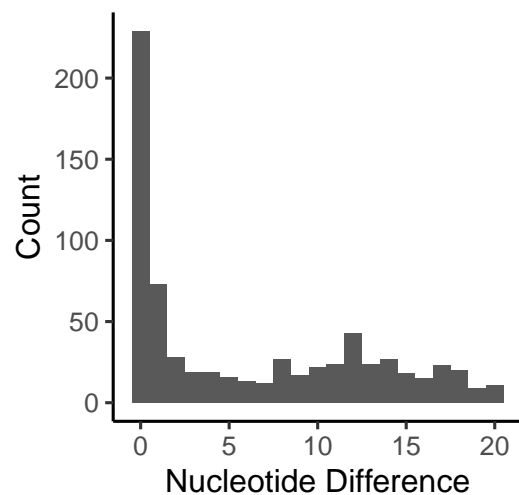
### IGHV3-72\*01

233 sequences assigned  
22 (9.4%) exact matches, in which:  
22 unique CDR3  
5 unique J



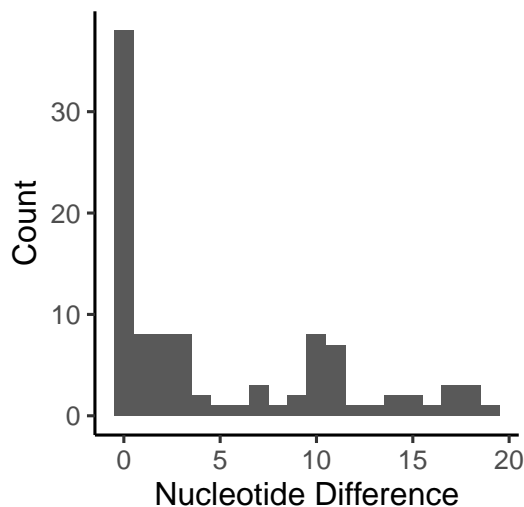
### IGHV3-74\*01

789 sequences assigned  
229 (29%) exact matches, in which:  
225 unique CDR3  
6 unique J



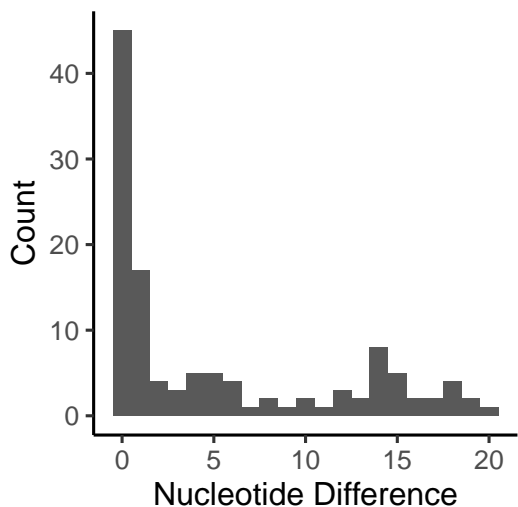
### IGHV3-64\*01

123 sequences assigned  
38 (30.9%) exact matches, in which:  
38 unique CDR3  
6 unique J



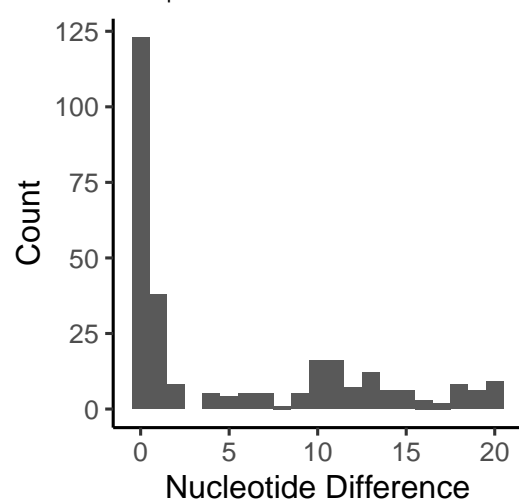
### IGHV3-73\*01

135 sequences assigned  
45 (33.3%) exact matches, in which:  
45 unique CDR3  
5 unique J



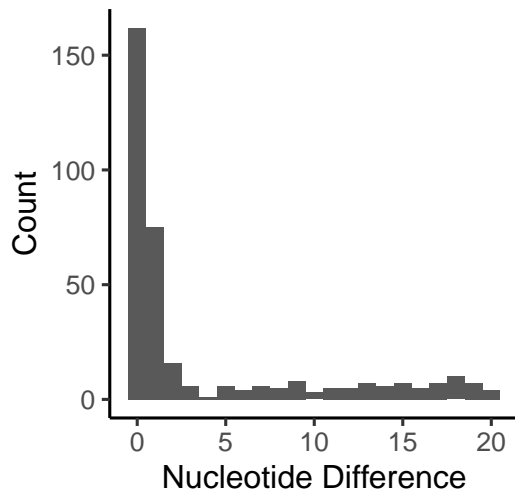
### IGHV3-64D\*06

410 sequences assigned  
123 (30%) exact matches, in which:  
122 unique CDR3  
6 unique J



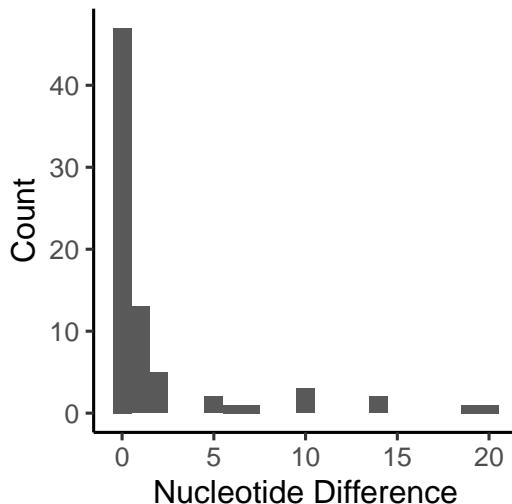
### IGHV4-4\*02

449 sequences assigned  
162 (36.1%) exact matches, in which:  
161 unique CDR3  
6 unique J



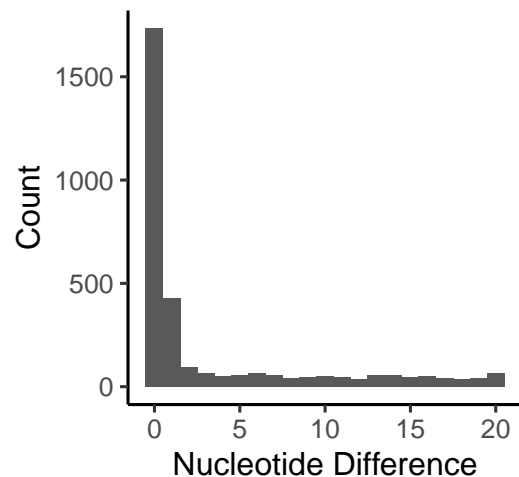
### IGHV4-31\*01

77 sequences assigned  
47 (61%) exact matches, in which:  
47 unique CDR3  
6 unique J



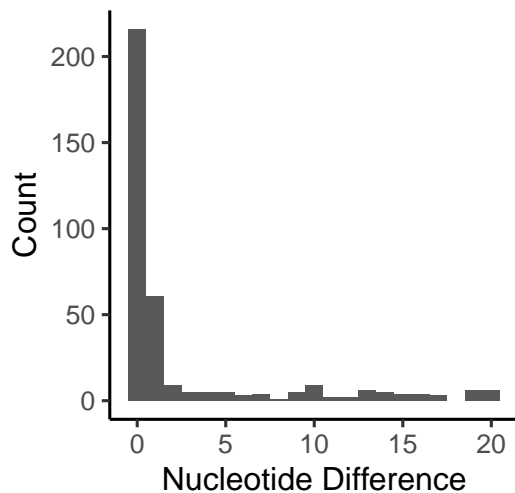
### IGHV4-39\*01

3744 sequences assigned  
1734 (46.3%) exact matches, in which:  
1727 unique CDR3  
6 unique J



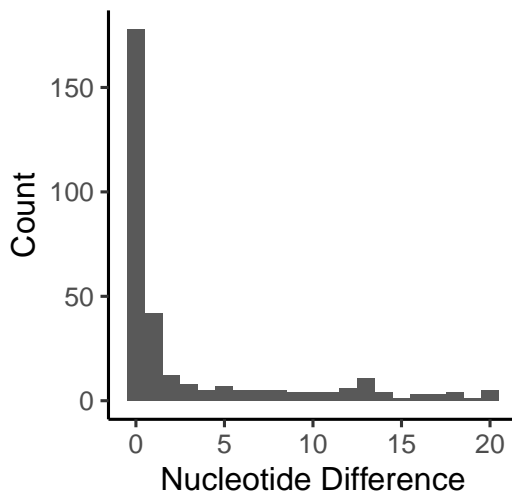
### IGHV4-4\*07

432 sequences assigned  
216 (50%) exact matches, in which:  
215 unique CDR3  
6 unique J



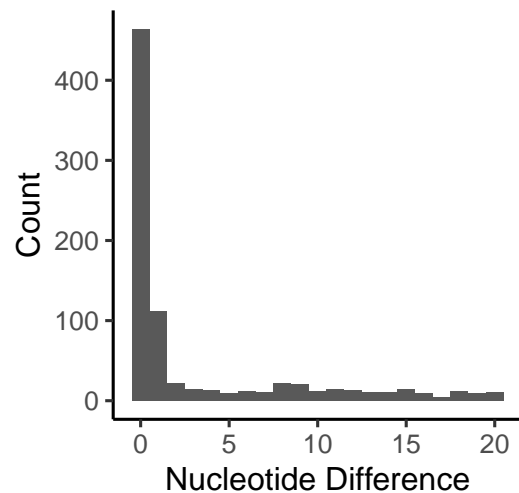
### IGHV4-31\*03

395 sequences assigned  
178 (45.1%) exact matches, in which:  
178 unique CDR3  
5 unique J



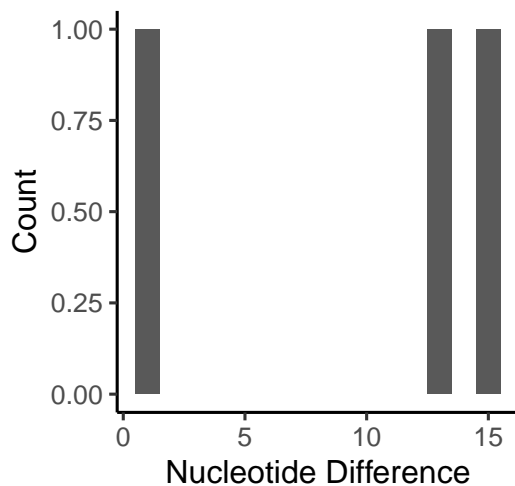
### IGHV4-59\*01

976 sequences assigned  
464 (47.5%) exact matches, in which:  
460 unique CDR3  
6 unique J



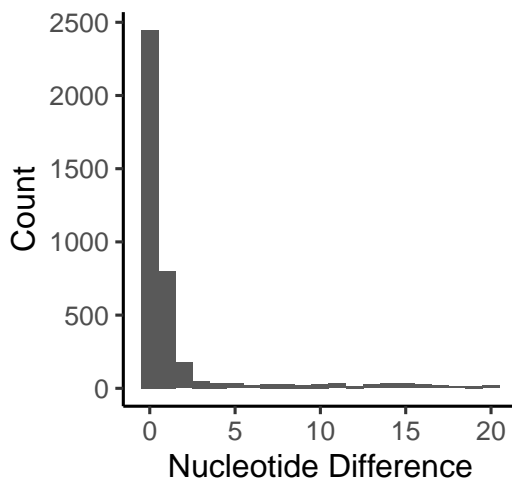
### IGHV4-28\*07

3 sequences assigned  
No exact matches.



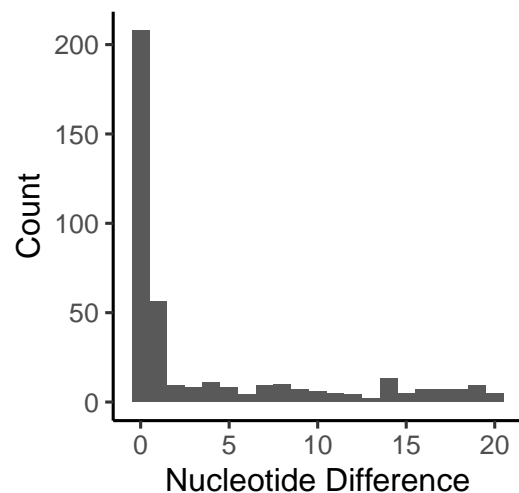
### IGHV4-34\*01

4242 sequences assigned  
2447 (57.7%) exact matches, in which:  
2422 unique CDR3  
6 unique J



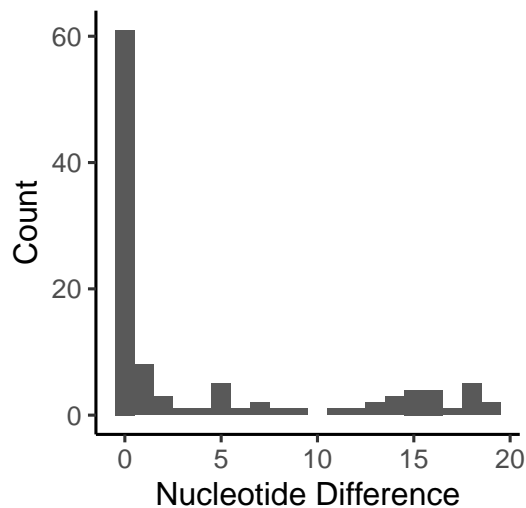
### IGHV4-59\*08

450 sequences assigned  
208 (46.2%) exact matches, in which:  
208 unique CDR3  
6 unique J



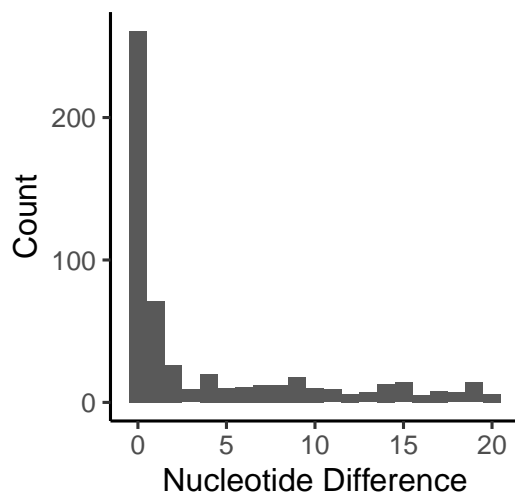
### IGHV4–61\*01

143 sequences assigned  
61 (42.7%) exact matches, in which:  
61 unique CDR3  
5 unique J



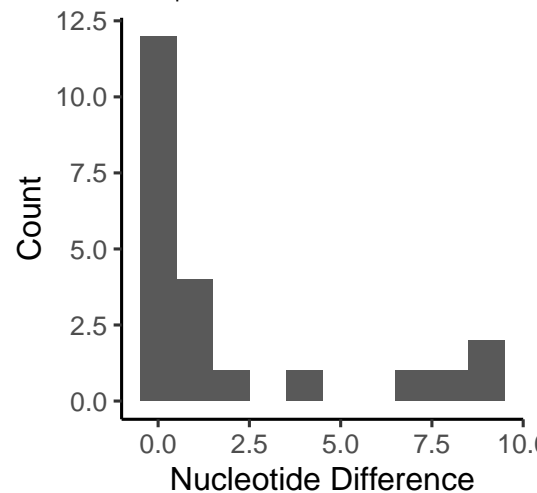
### IGHV5–51\*03

641 sequences assigned  
261 (40.7%) exact matches, in which:  
259 unique CDR3  
6 unique J



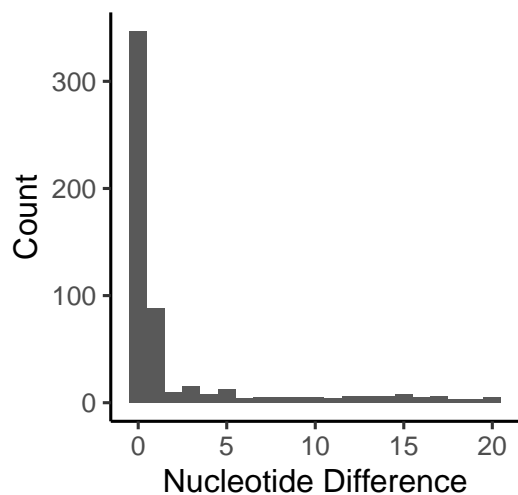
### IGHV7–4–1\*01

32 sequences assigned  
12 (37.5%) exact matches, in which:  
12 unique CDR3  
4 unique J



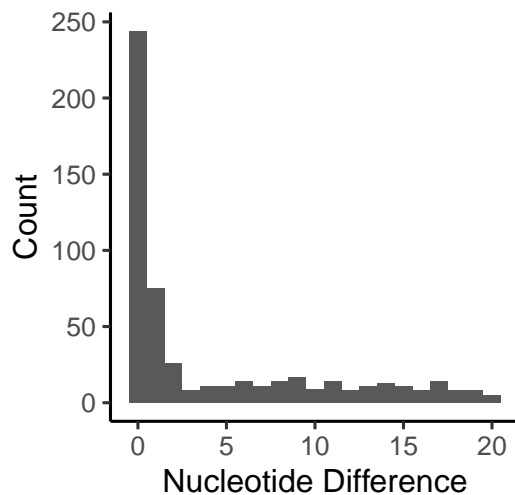
### IGHV5–10–1\*03

670 sequences assigned  
347 (51.8%) exact matches, in which:  
347 unique CDR3  
6 unique J



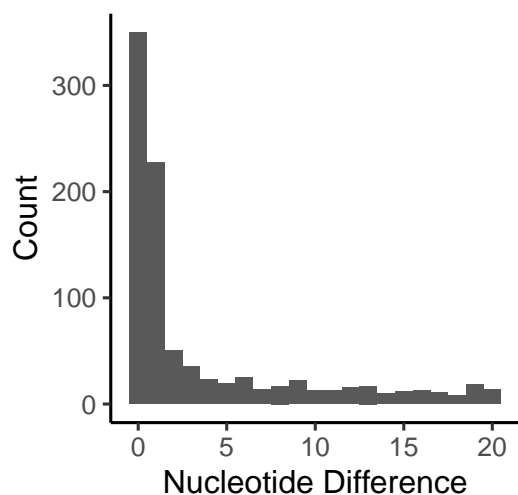
### IGHV6–1\*01

595 sequences assigned  
244 (41%) exact matches, in which:  
242 unique CDR3  
6 unique J



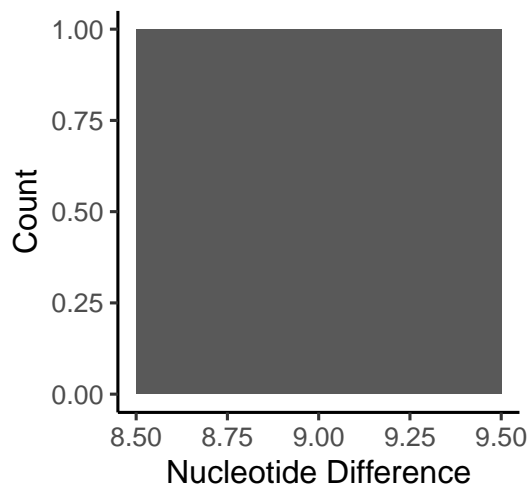
### IGHV5–51\*01

1085 sequences assigned  
350 (32.3%) exact matches, in which:  
350 unique CDR3  
6 unique J



### IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.







[illegible]