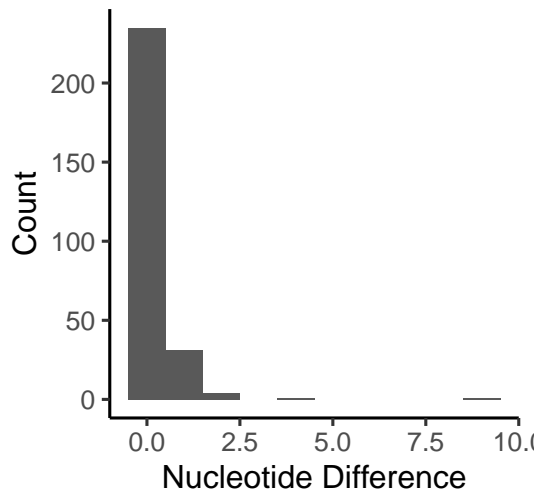


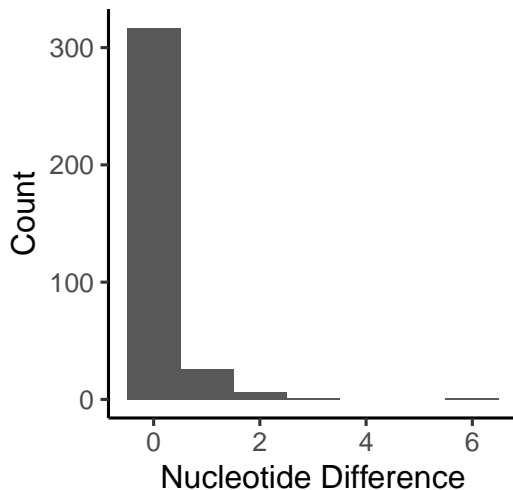
### IGHV1-2\*04

272 sequences assigned  
235 (86.4%) exact matches, in which:  
229 unique CDR3  
6 unique J



### IGHV1-8\*01

351 sequences assigned  
317 (90.3%) exact matches, in which:  
311 unique CDR3  
6 unique J



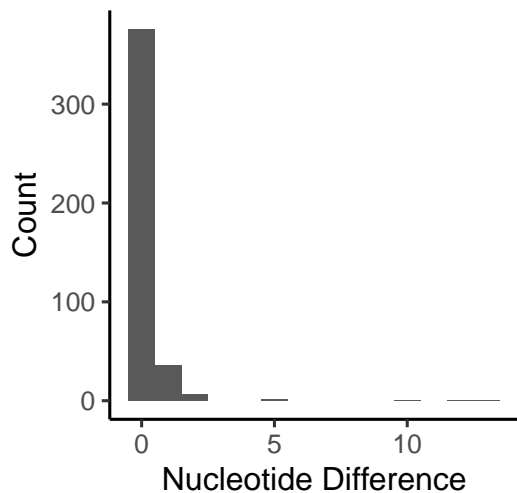
### IGHV1-38-4\*01

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



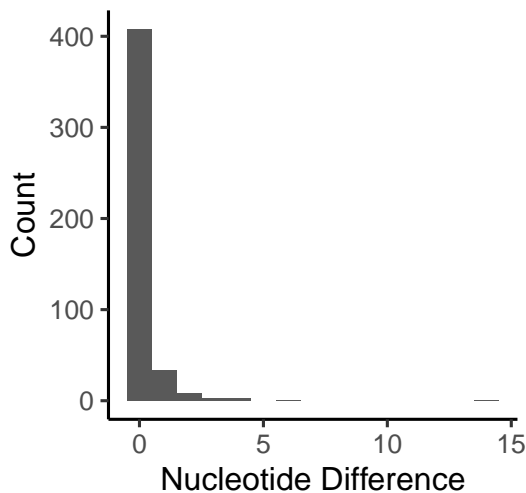
### IGHV1-2\*06

424 sequences assigned  
376 (88.7%) exact matches, in which:  
372 unique CDR3  
6 unique J



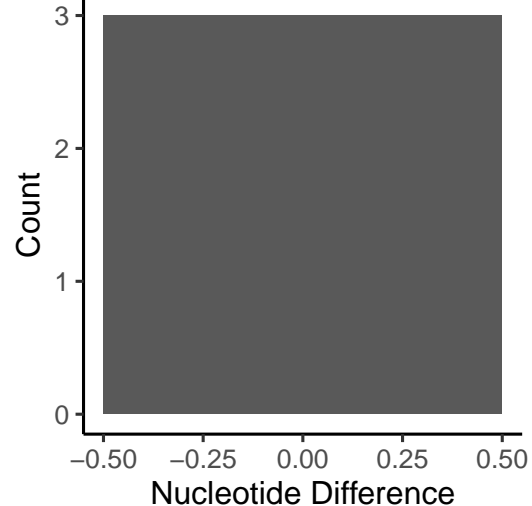
### IGHV1-18\*01

459 sequences assigned  
408 (88.9%) exact matches, in which:  
396 unique CDR3  
6 unique J



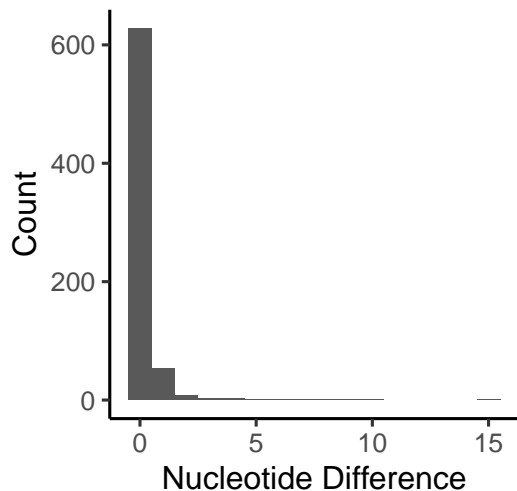
### IGHV1-45\*02

3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
2 unique J



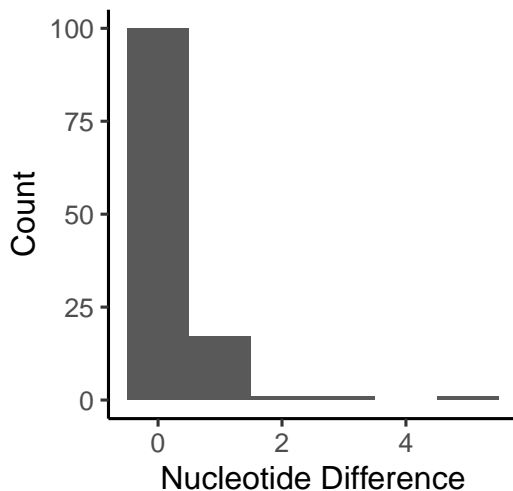
### IGHV1-3\*01

701 sequences assigned  
628 (89.6%) exact matches, in which:  
613 unique CDR3  
6 unique J



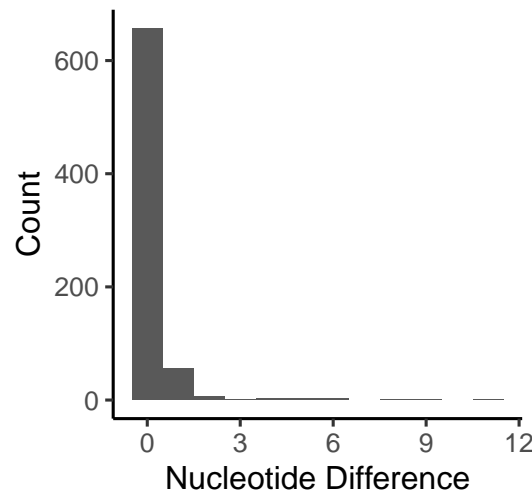
### IGHV1-24\*01

120 sequences assigned  
100 (83.3%) exact matches, in which:  
98 unique CDR3  
6 unique J



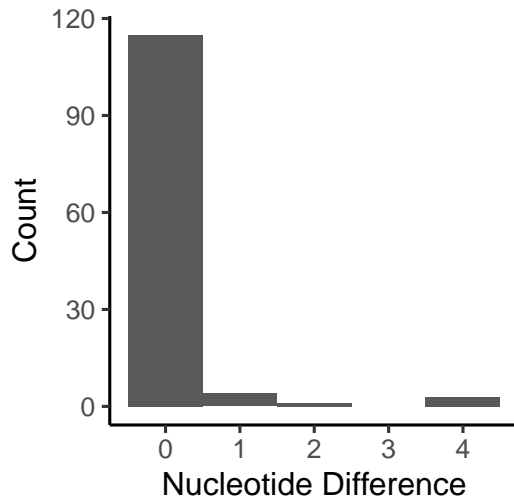
### IGHV1-46\*01

734 sequences assigned  
657 (89.5%) exact matches, in which:  
637 unique CDR3  
6 unique J



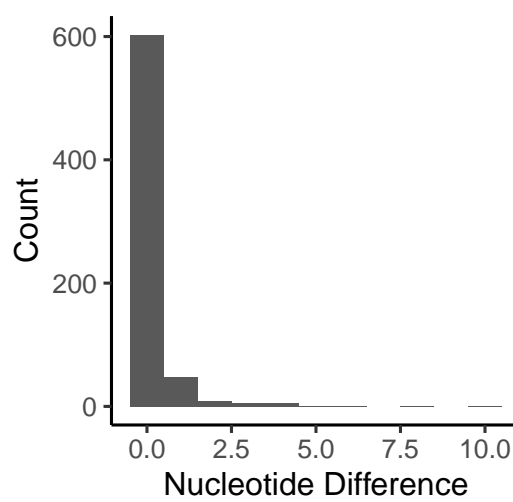
### IGHV1–58\*02

123 sequences assigned  
115 (93.5%) exact matches, in which:  
114 unique CDR3  
5 unique J



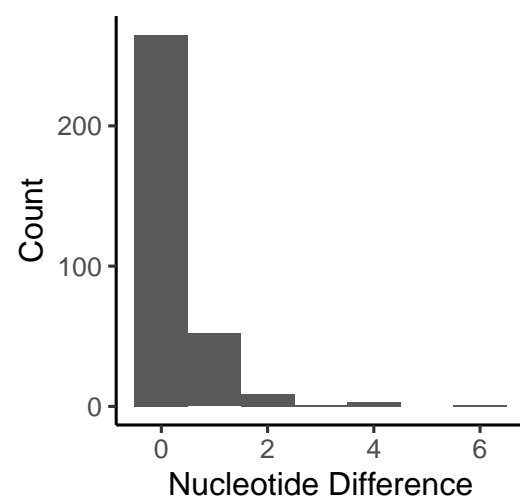
### IGHV2–5\*02

676 sequences assigned  
603 (89.2%) exact matches, in which:  
591 unique CDR3  
6 unique J



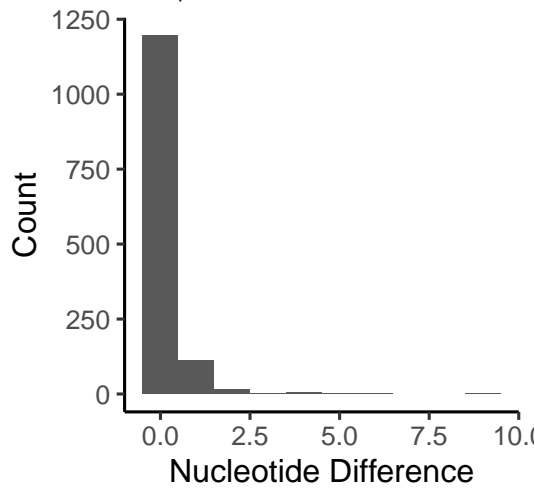
### IGHV3–7\*01

332 sequences assigned  
265 (79.8%) exact matches, in which:  
255 unique CDR3  
6 unique J



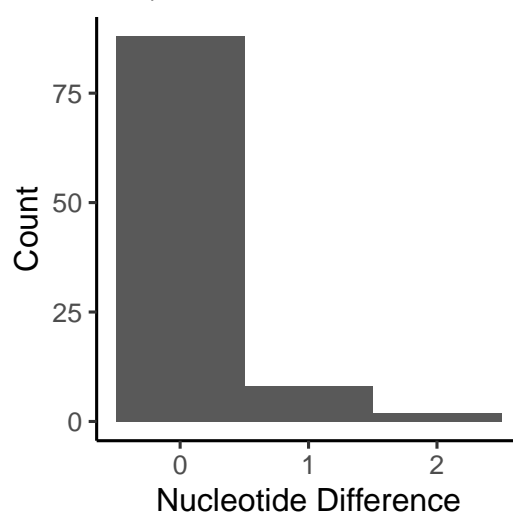
### IGHV1–69\*04

1338 sequences assigned  
1195 (89.3%) exact matches, in which:  
1157 unique CDR3  
6 unique J



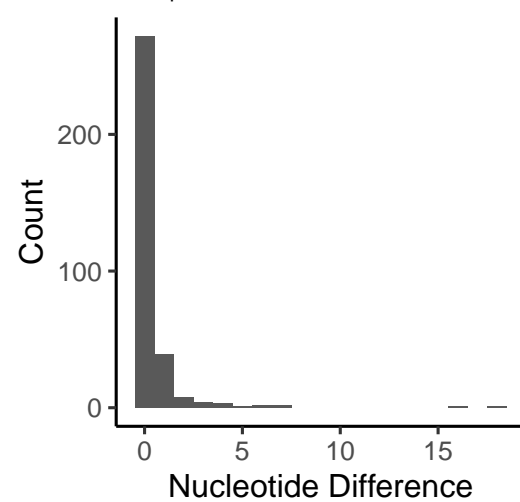
### IGHV2–26\*01

98 sequences assigned  
88 (89.8%) exact matches, in which:  
86 unique CDR3  
5 unique J



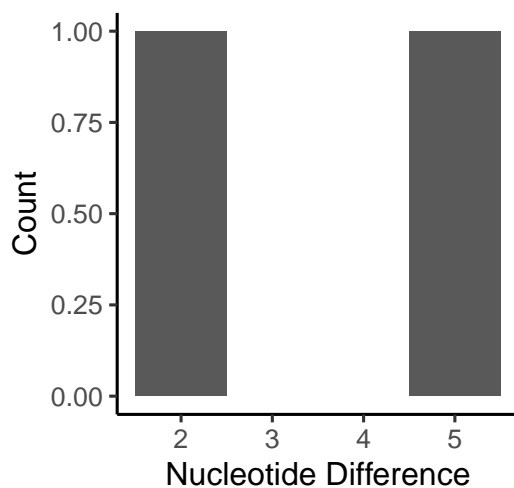
### IGHV3–7\*04

333 sequences assigned  
272 (81.7%) exact matches, in which:  
266 unique CDR3  
6 unique J



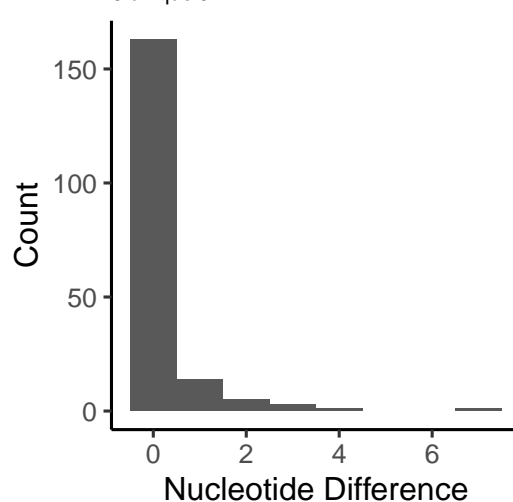
### IGHV1–69D\*01

2 sequences assigned  
No exact matches.



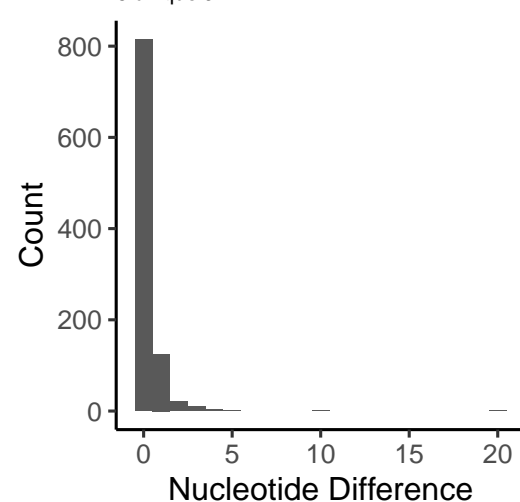
### IGHV2–70\*15

187 sequences assigned  
163 (87.2%) exact matches, in which:  
163 unique CDR3  
6 unique J



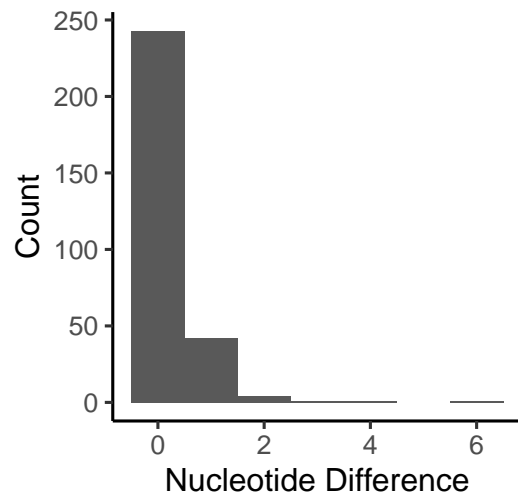
### IGHV3–9\*01

981 sequences assigned  
815 (83.1%) exact matches, in which:  
772 unique CDR3  
6 unique J



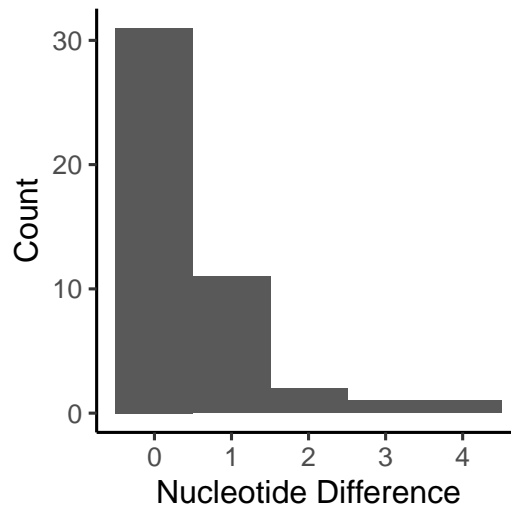
### IGHV3-11\*01

295 sequences assigned  
243 (82.4%) exact matches, in which:  
231 unique CDR3  
6 unique J



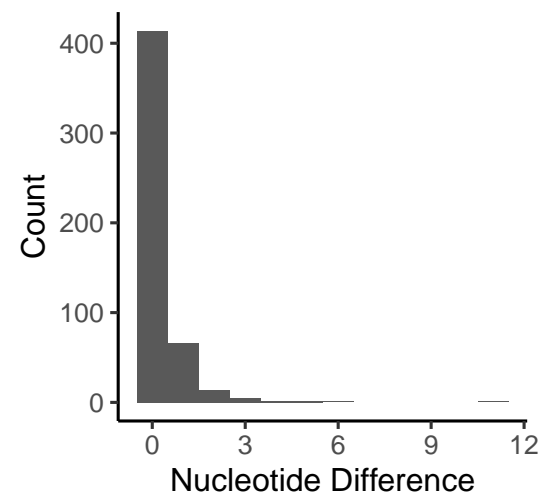
### IGHV3-20\*01

46 sequences assigned  
31 (67.4%) exact matches, in which:  
30 unique CDR3  
4 unique J



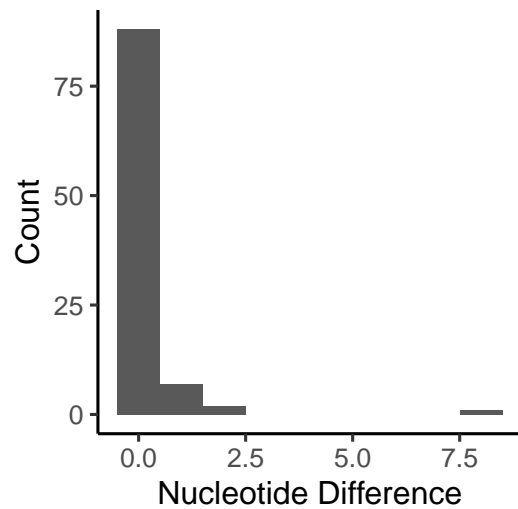
### IGHV3-33\*01

505 sequences assigned  
414 (82%) exact matches, in which:  
400 unique CDR3  
6 unique J



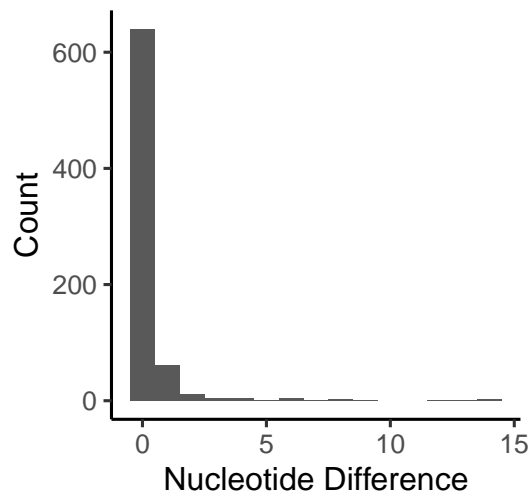
### IGHV3-13\*01

98 sequences assigned  
88 (89.8%) exact matches, in which:  
84 unique CDR3  
5 unique J



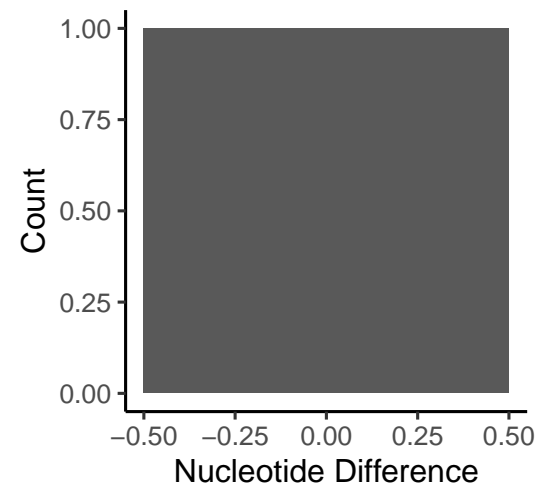
### IGHV3-21\*01

736 sequences assigned  
640 (87%) exact matches, in which:  
613 unique CDR3  
6 unique J



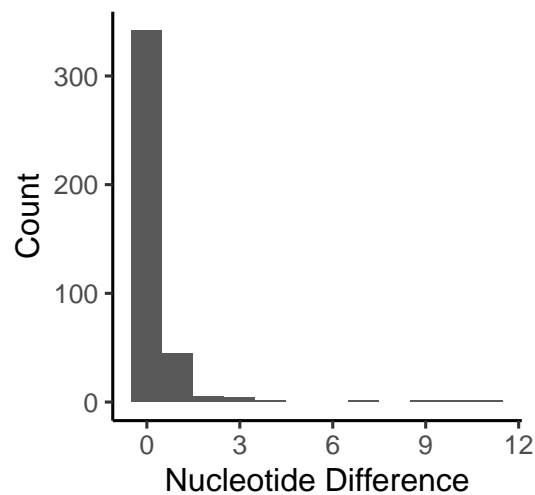
### IGHV3-38-3\*01

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



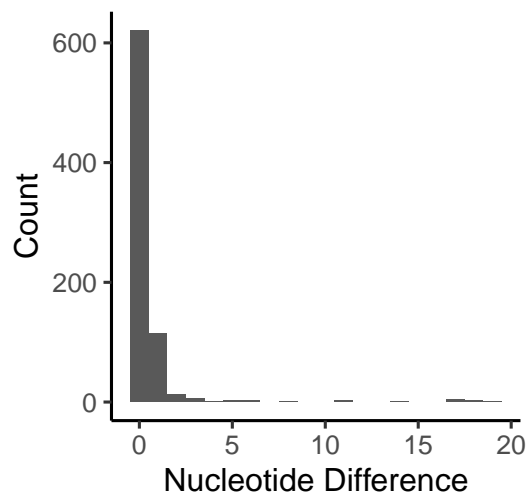
### IGHV3-15\*01

401 sequences assigned  
342 (85.3%) exact matches, in which:  
335 unique CDR3  
6 unique J



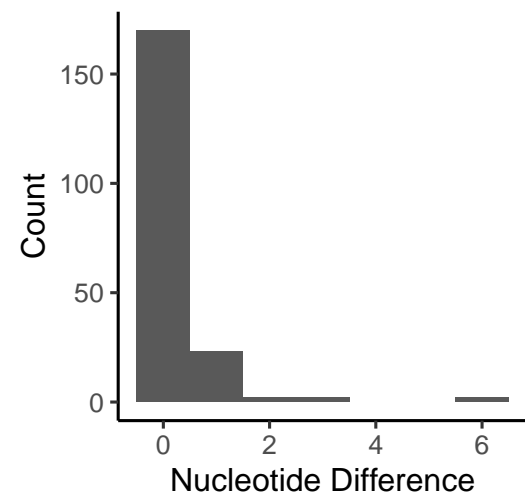
### IGHV3-30-3\*01

778 sequences assigned  
621 (79.8%) exact matches, in which:  
597 unique CDR3  
6 unique J



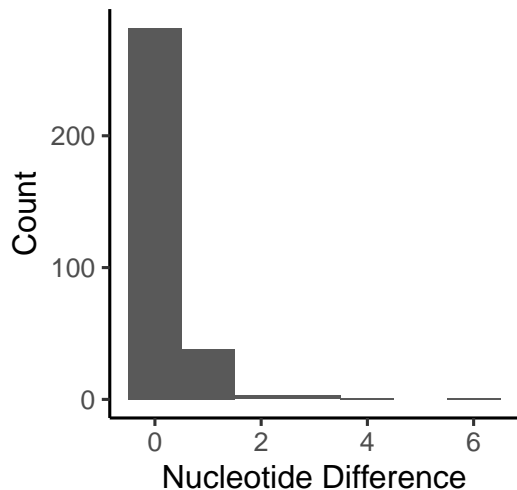
### IGHV3-43\*01

199 sequences assigned  
170 (85.4%) exact matches, in which:  
166 unique CDR3  
6 unique J



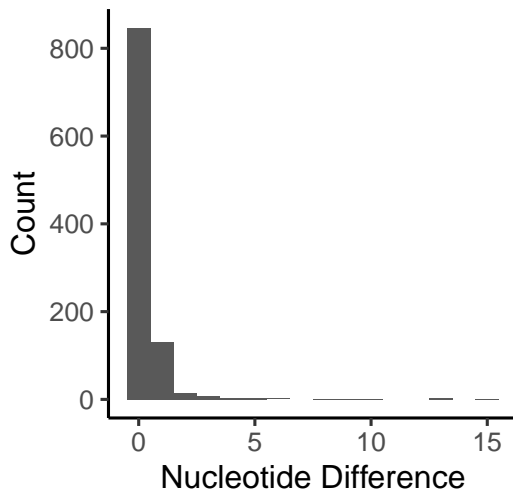
### IGHV3-43\*02

328 sequences assigned  
282 (86%) exact matches, in which:  
264 unique CDR3  
6 unique J



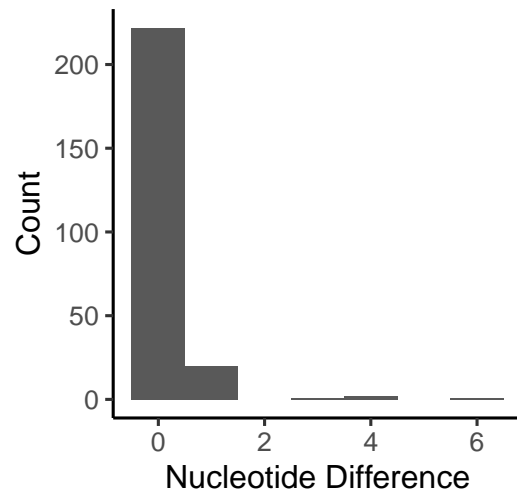
### IGHV3-48\*04

1018 sequences assigned  
847 (83.2%) exact matches, in which:  
818 unique CDR3  
6 unique J



### IGHV3-53\*04

246 sequences assigned  
222 (90.2%) exact matches, in which:  
212 unique CDR3  
6 unique J



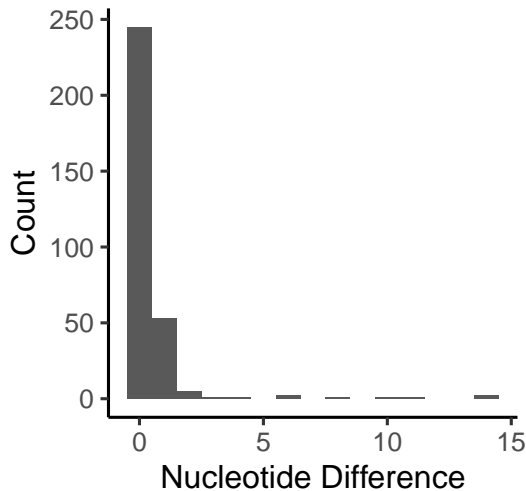
### IGHV3-47\*01

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



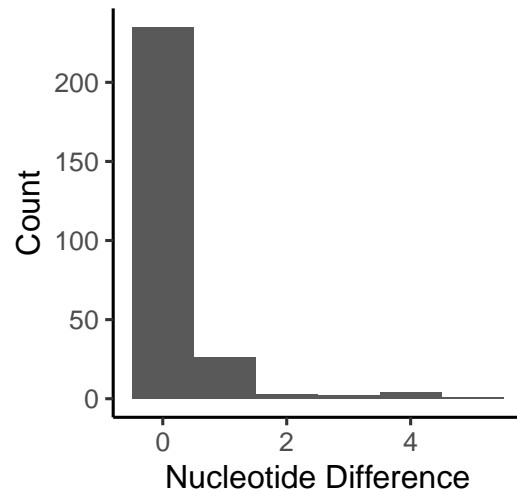
### IGHV3-49\*03

312 sequences assigned  
245 (78.5%) exact matches, in which:  
241 unique CDR3  
6 unique J



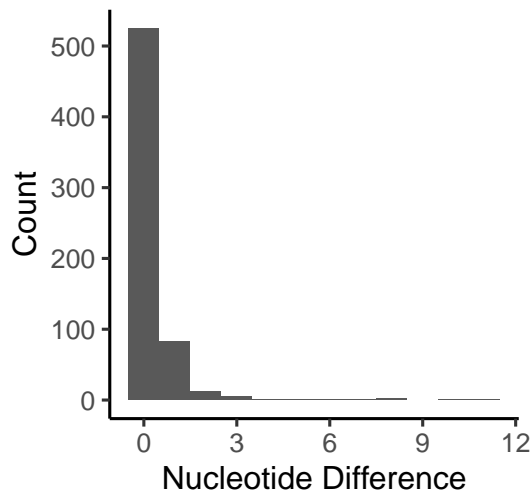
### IGHV3-64\*01

271 sequences assigned  
235 (86.7%) exact matches, in which:  
225 unique CDR3  
6 unique J



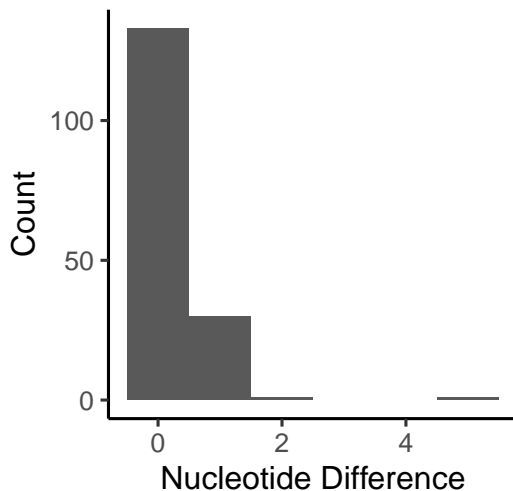
### IGHV3-48\*03

637 sequences assigned  
525 (82.4%) exact matches, in which:  
503 unique CDR3  
6 unique J



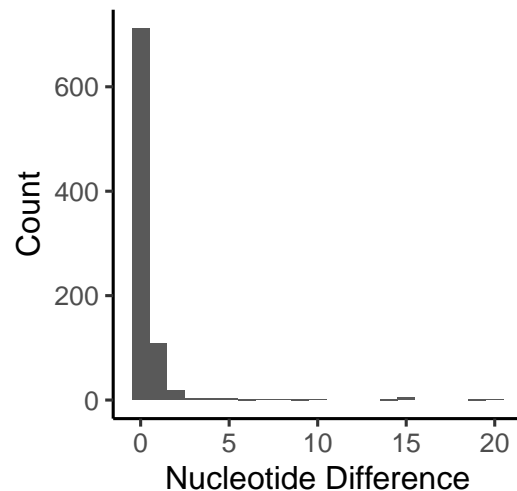
### IGHV3-49\*04

165 sequences assigned  
133 (80.6%) exact matches, in which:  
128 unique CDR3  
6 unique J



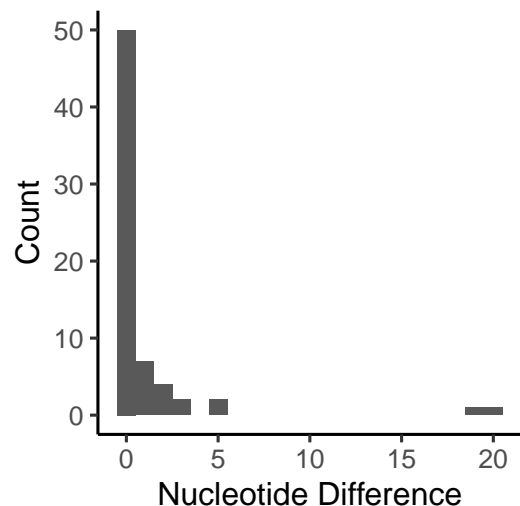
### IGHV3-66\*01

864 sequences assigned  
712 (82.4%) exact matches, in which:  
679 unique CDR3  
6 unique J



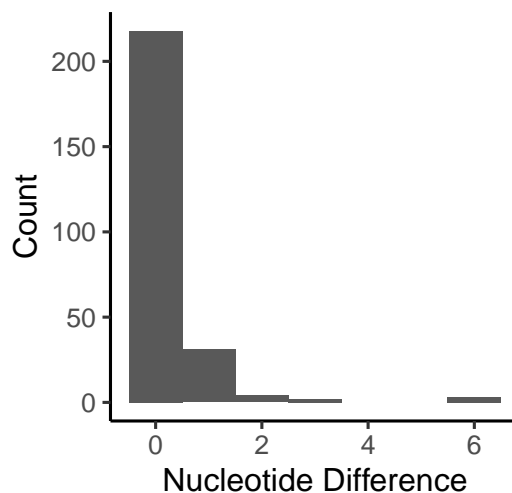
### IGHV3-72\*01

67 sequences assigned  
50 (74.6%) exact matches, in which:  
50 unique CDR3  
5 unique J



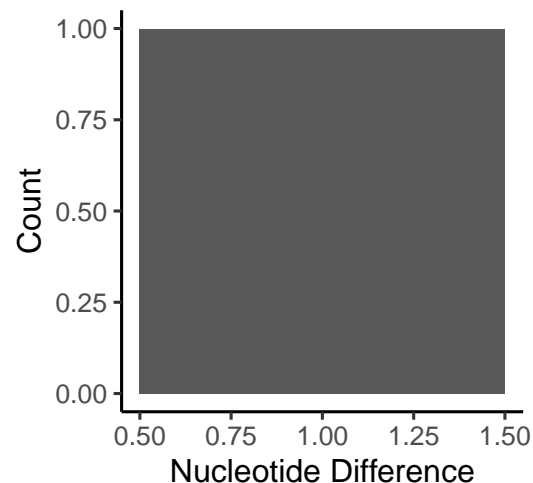
### IGHV3-43D\*03

258 sequences assigned  
218 (84.5%) exact matches, in which:  
207 unique CDR3  
6 unique J



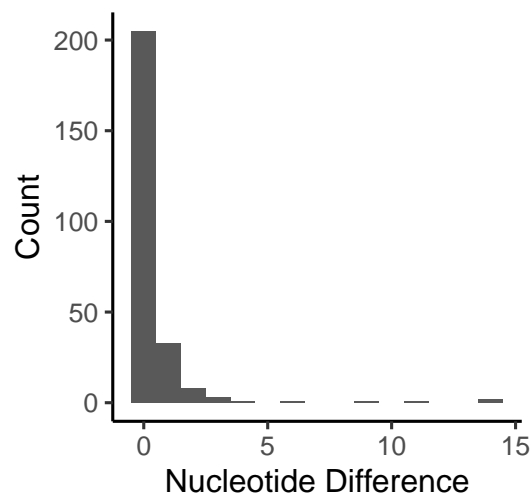
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



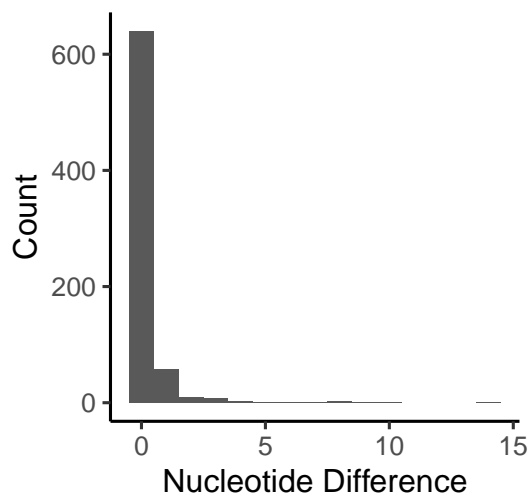
### IGHV3-73\*01

256 sequences assigned  
205 (80.1%) exact matches, in which:  
194 unique CDR3  
5 unique J



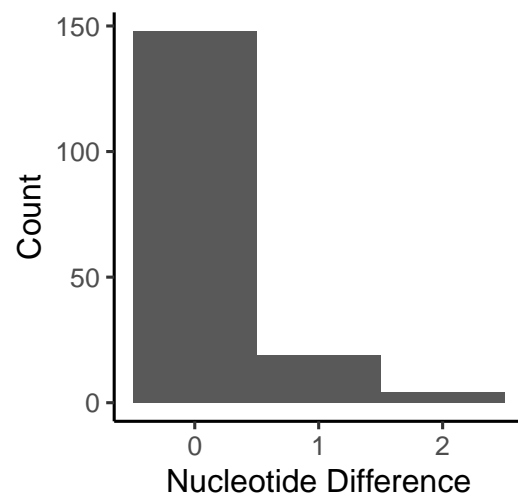
### IGHV4-4\*02

725 sequences assigned  
640 (88.3%) exact matches, in which:  
630 unique CDR3  
6 unique J



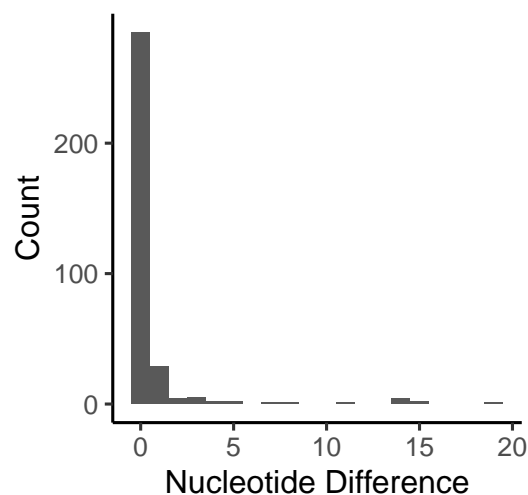
### IGHV4-30-4\*01

172 sequences assigned  
148 (86%) exact matches, in which:  
147 unique CDR3  
5 unique J



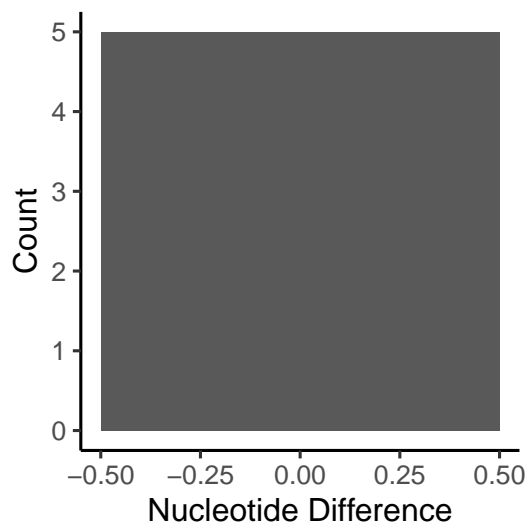
### IGHV3-74\*01

343 sequences assigned  
285 (83.1%) exact matches, in which:  
277 unique CDR3  
6 unique J



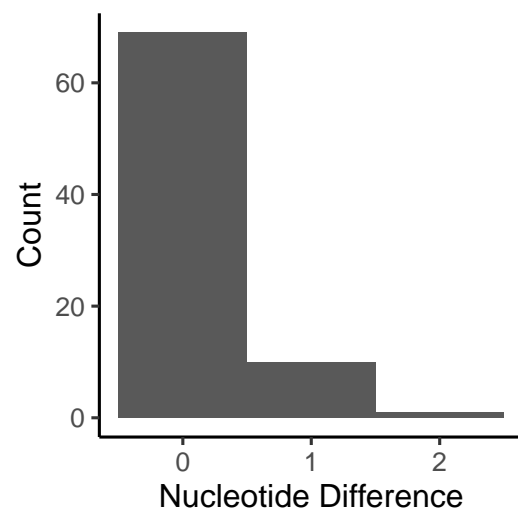
### IGHV4-28\*01

5 sequences assigned  
5 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



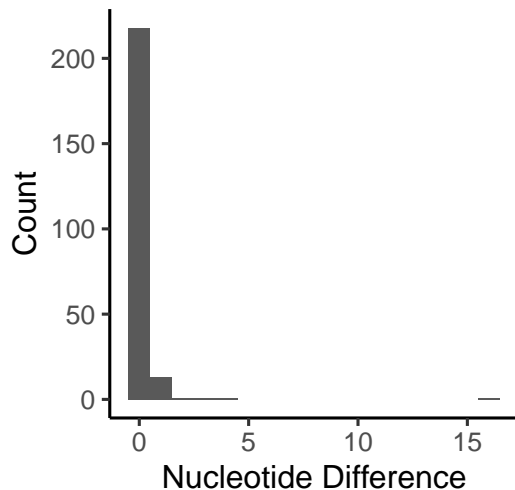
### IGHV4-30-2\*01

80 sequences assigned  
69 (86.2%) exact matches, in which:  
69 unique CDR3  
6 unique J



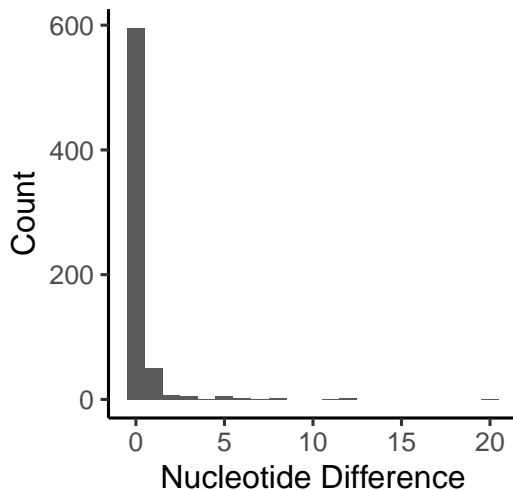
### IGHV4–31\*03

235 sequences assigned  
218 (92.8%) exact matches, in which:  
214 unique CDR3  
6 unique J



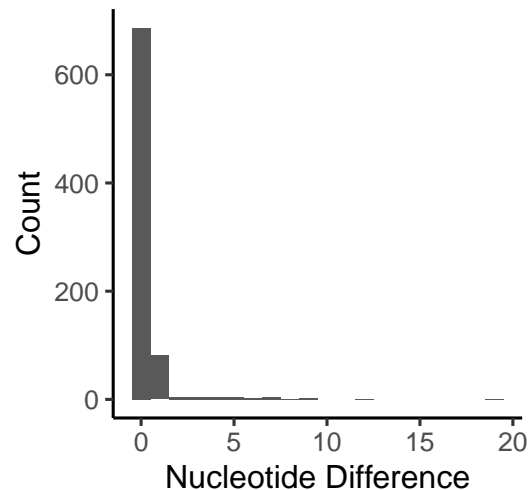
### IGHV4–39\*01

675 sequences assigned  
596 (88.3%) exact matches, in which:  
570 unique CDR3  
6 unique J



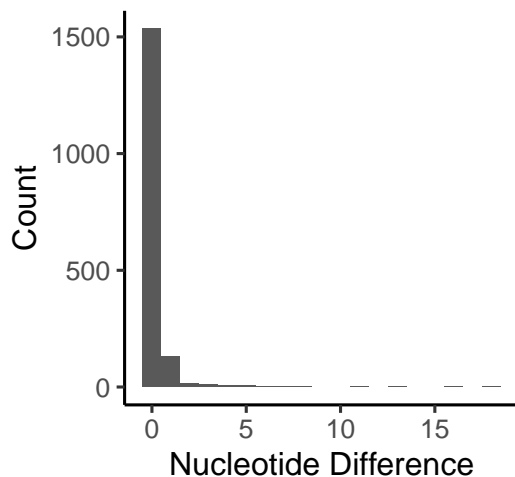
### IGHV4–59\*08

799 sequences assigned  
687 (86%) exact matches, in which:  
676 unique CDR3  
6 unique J



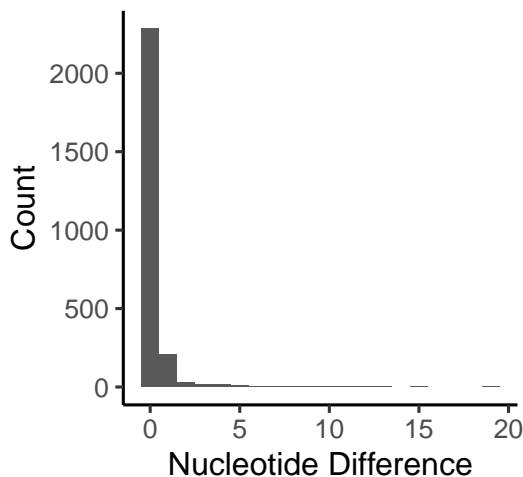
### IGHV4–34\*01

1719 sequences assigned  
1535 (89.3%) exact matches, in which:  
1480 unique CDR3  
6 unique J



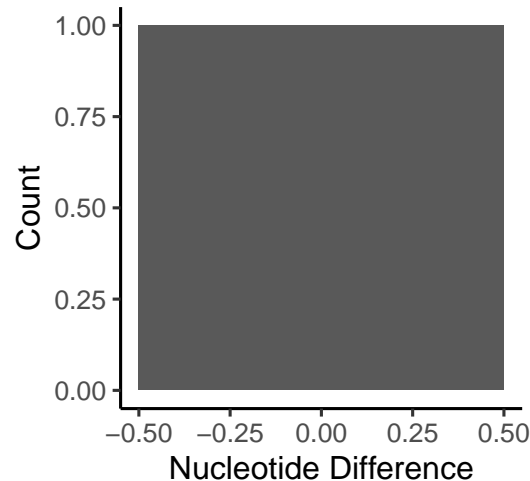
### IGHV4–39\*07

2592 sequences assigned  
2284 (88.1%) exact matches, in which:  
2210 unique CDR3  
6 unique J



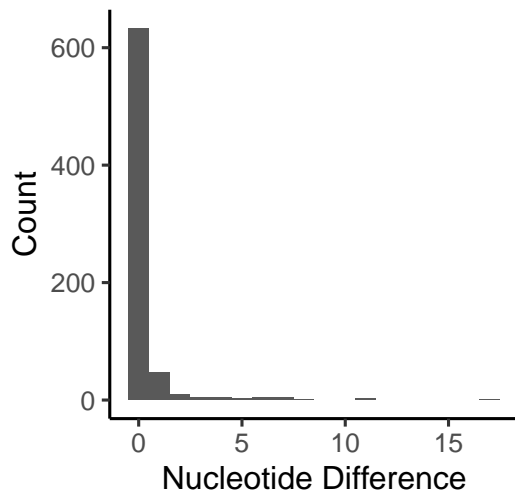
### IGHV4–61\*02

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



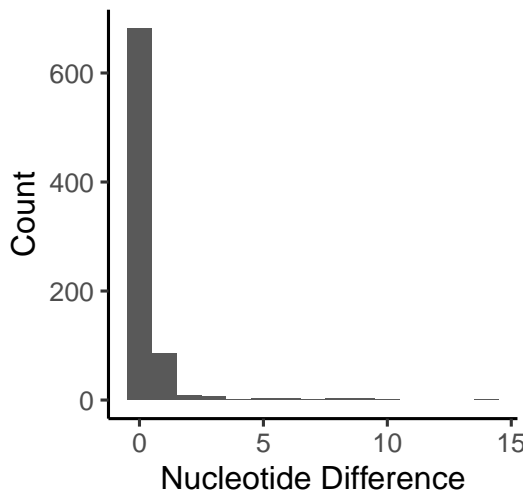
### IGHV4–38–2\*02

719 sequences assigned  
633 (88%) exact matches, in which:  
607 unique CDR3  
6 unique J



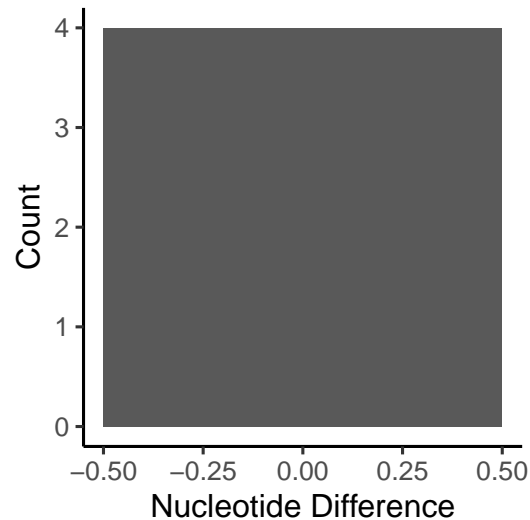
### IGHV4–59\*01

794 sequences assigned  
682 (85.9%) exact matches, in which:  
670 unique CDR3  
6 unique J



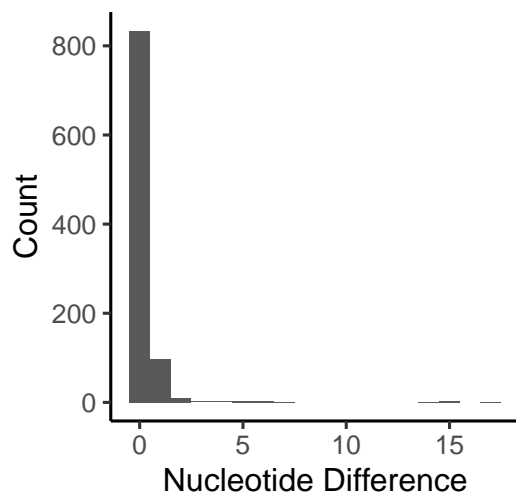
### IGHV4–61\*07

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



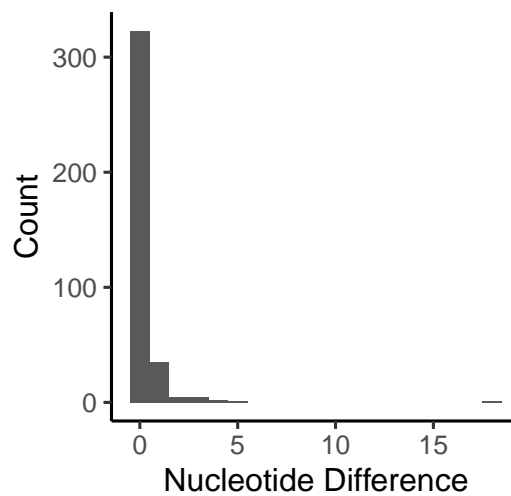
## IGHV5–51\*01

960 sequences assigned  
834 (86.9%) exact matches, in which:  
811 unique CDR3  
6 unique J



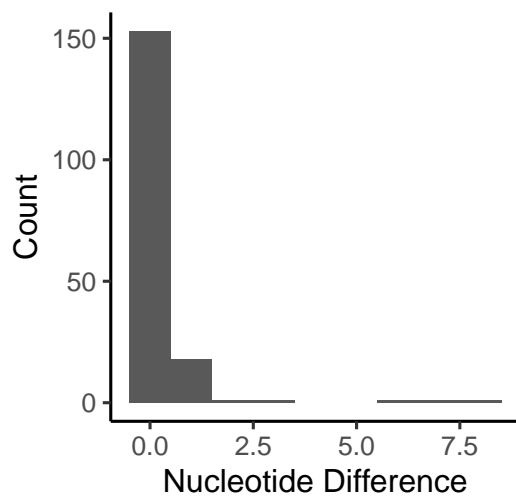
## IGHV7–4–1\*02

372 sequences assigned  
323 (86.8%) exact matches, in which:  
317 unique CDR3  
6 unique J



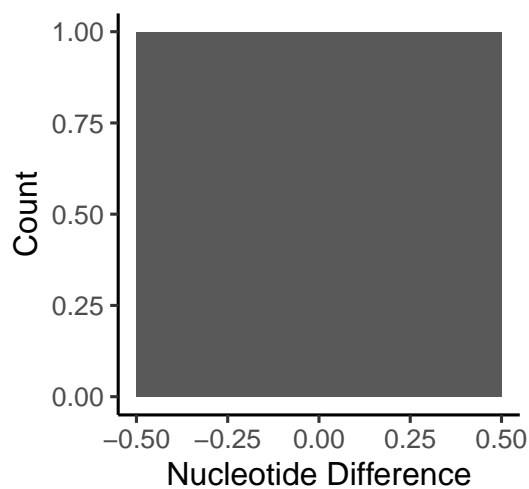
## IGHV6–1\*01

176 sequences assigned  
153 (86.9%) exact matches, in which:  
151 unique CDR3  
5 unique J



## IGHV3/OR16–12\*01

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







Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.