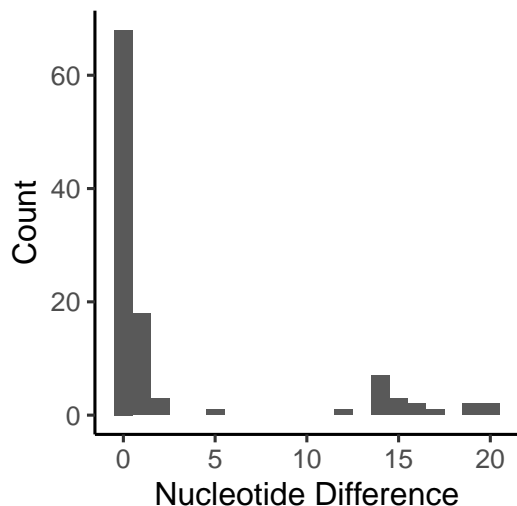


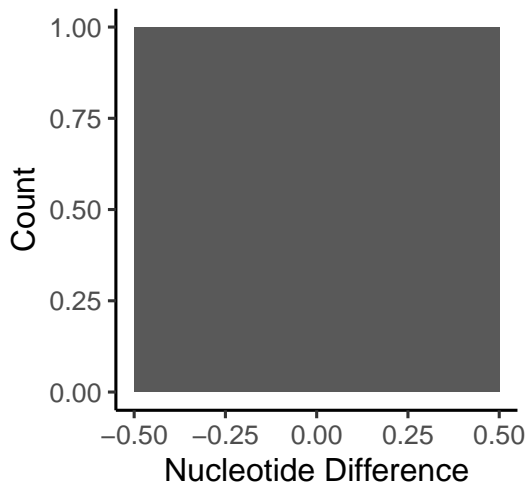
## IGHV1-2\*04

122 sequences assigned  
68 (55.7%) exact matches, in which:  
68 unique CDR3  
6 unique J



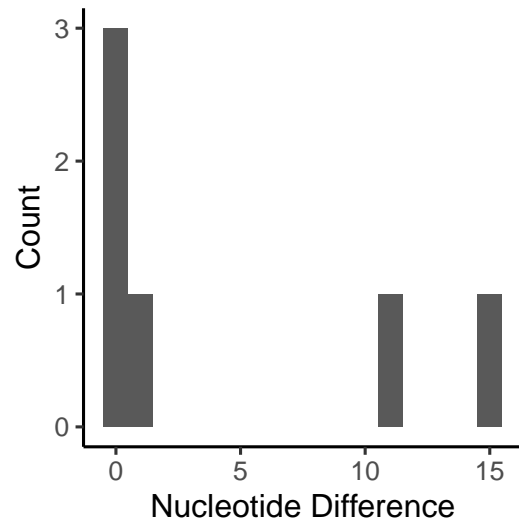
## IGHV1-8\*01

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



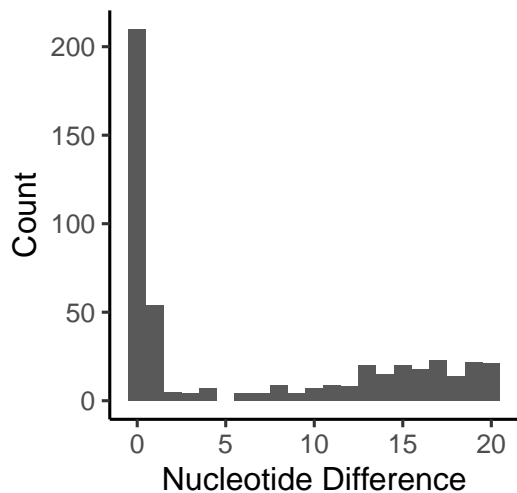
## IGHV1-45\*02

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



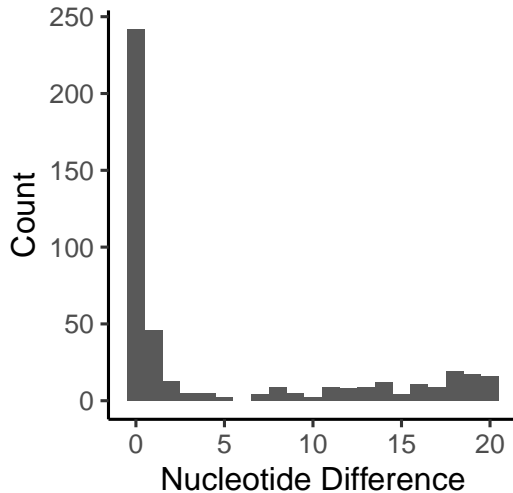
## IGHV1-2\*06

839 sequences assigned  
210 (25%) exact matches, in which:  
209 unique CDR3  
6 unique J



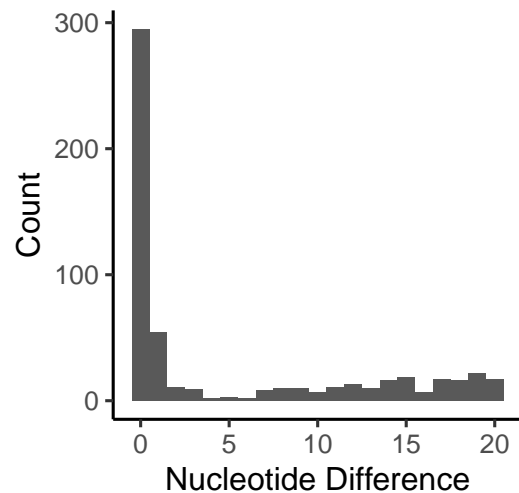
## IGHV1-18\*01

766 sequences assigned  
242 (31.6%) exact matches, in which:  
242 unique CDR3  
7 unique J



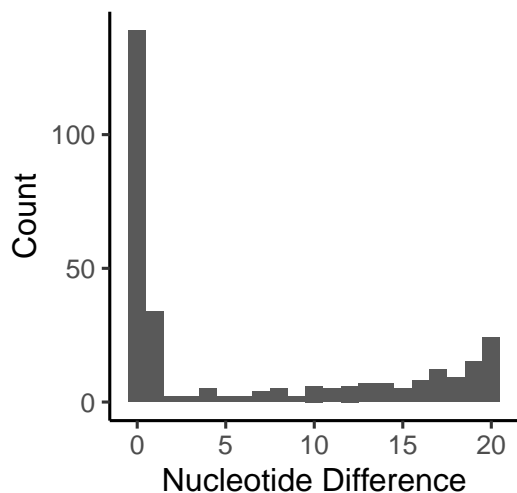
## IGHV1-46\*01

959 sequences assigned  
295 (30.8%) exact matches, in which:  
294 unique CDR3  
7 unique J



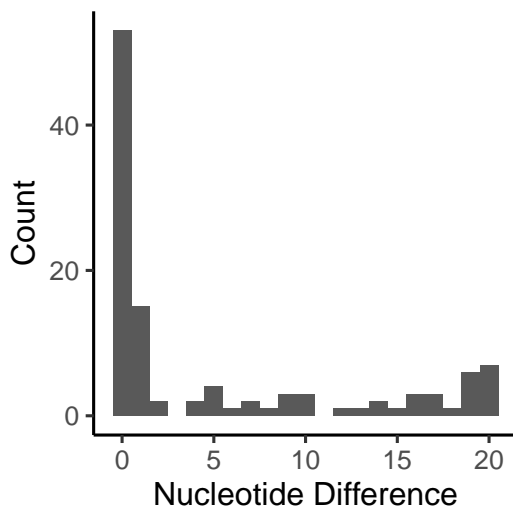
## IGHV1-3\*01

567 sequences assigned  
139 (24.5%) exact matches, in which:  
139 unique CDR3  
6 unique J



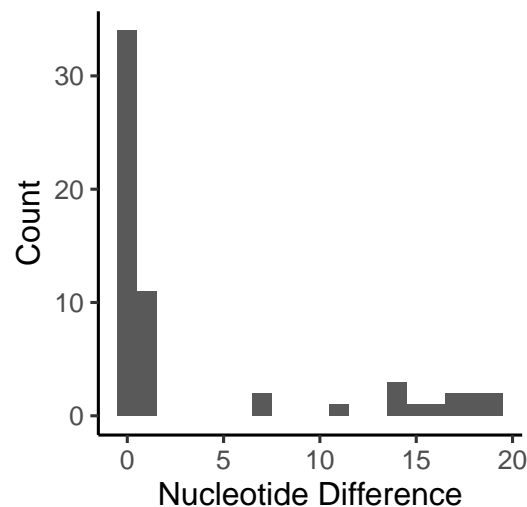
## IGHV1-24\*01

141 sequences assigned  
53 (37.6%) exact matches, in which:  
53 unique CDR3  
7 unique J



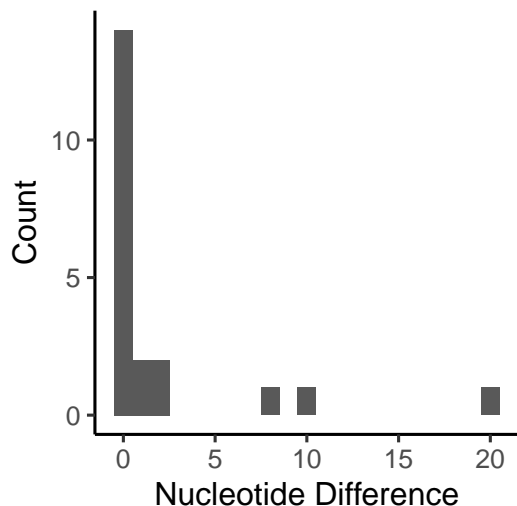
## IGHV1-58\*01

86 sequences assigned  
34 (39.5%) exact matches, in which:  
34 unique CDR3  
5 unique J



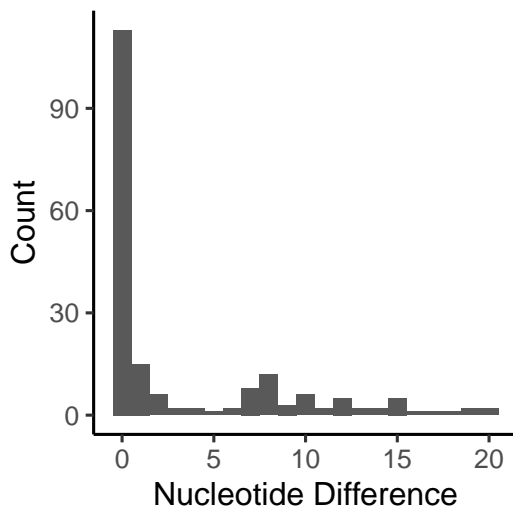
### IGHV1-69-2\*01

31 sequences assigned  
14 (45.2%) exact matches, in which:  
14 unique CDR3  
4 unique J



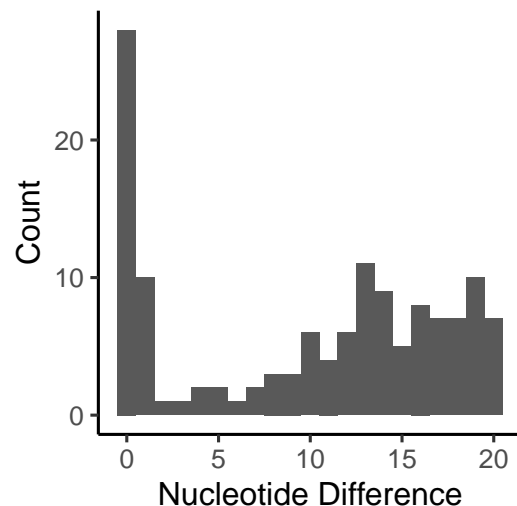
### IGHV2-26\*01

211 sequences assigned  
113 (53.6%) exact matches, in which:  
113 unique CDR3  
7 unique J



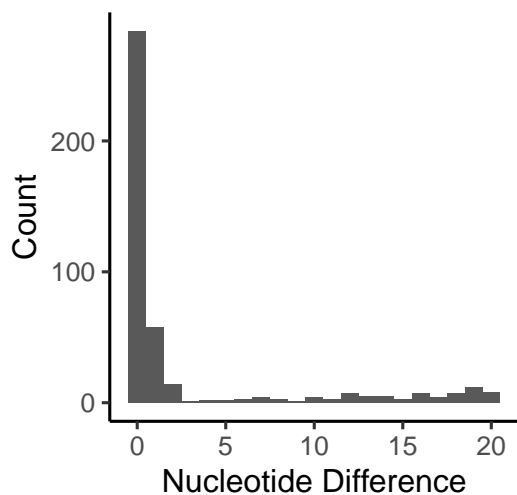
### IGHV3-7\*04

215 sequences assigned  
28 (13%) exact matches, in which:  
28 unique CDR3  
4 unique J



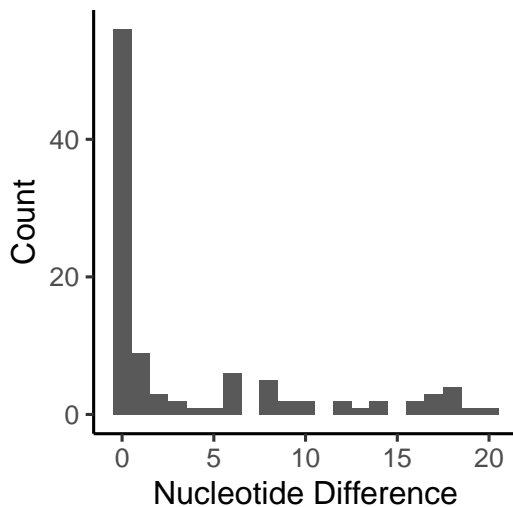
### IGHV1-69\*06

632 sequences assigned  
284 (44.9%) exact matches, in which:  
284 unique CDR3  
6 unique J



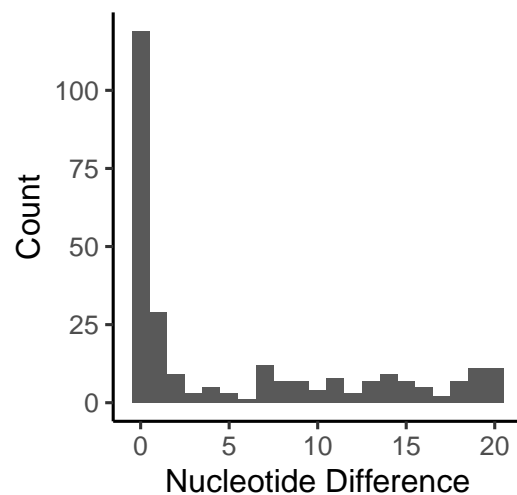
### IGHV2-70\*01

161 sequences assigned  
56 (34.8%) exact matches, in which:  
56 unique CDR3  
6 unique J



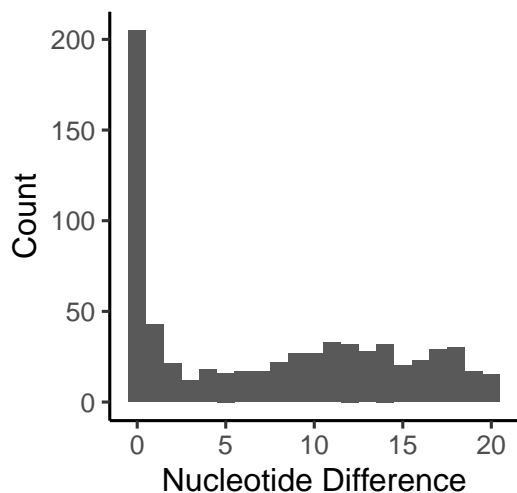
### IGHV3-11\*05

444 sequences assigned  
119 (26.8%) exact matches, in which:  
119 unique CDR3  
5 unique J



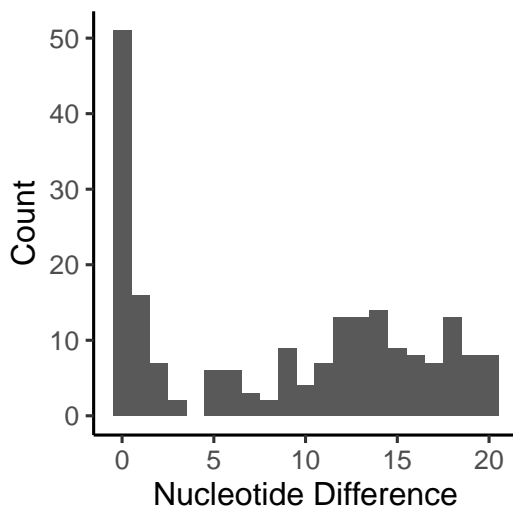
### IGHV2-5\*02

1022 sequences assigned  
205 (20.1%) exact matches, in which:  
205 unique CDR3  
7 unique J



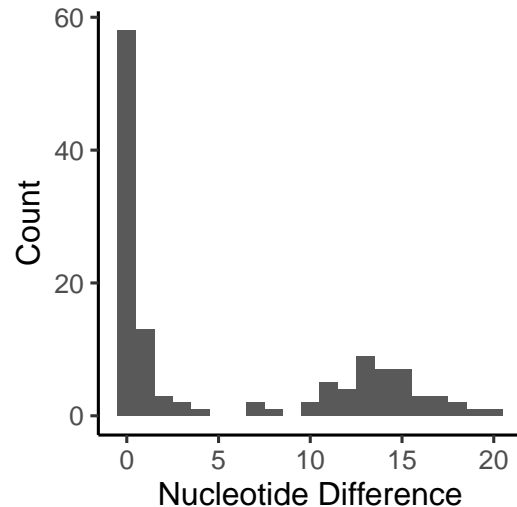
### IGHV3-7\*01

302 sequences assigned  
51 (16.9%) exact matches, in which:  
50 unique CDR3  
6 unique J



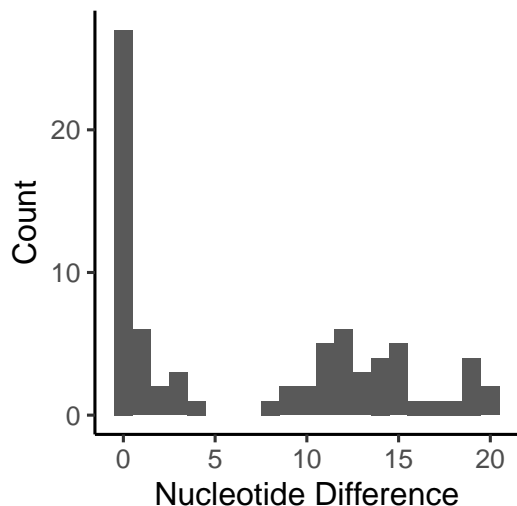
### IGHV3-11\*06

238 sequences assigned  
58 (24.4%) exact matches, in which:  
58 unique CDR3  
5 unique J



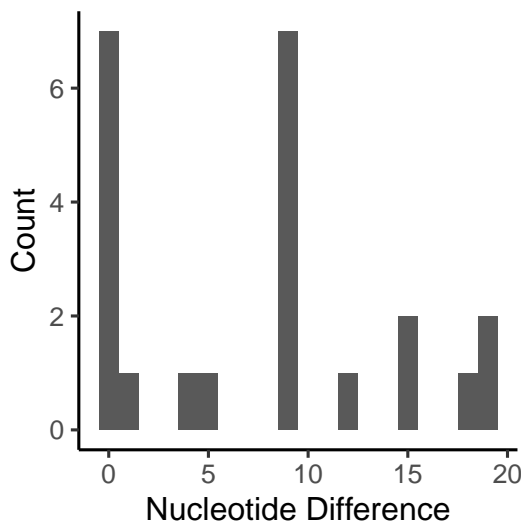
### IGHV3-13\*04

91 sequences assigned  
27 (29.7%) exact matches, in which:  
27 unique CDR3  
5 unique J



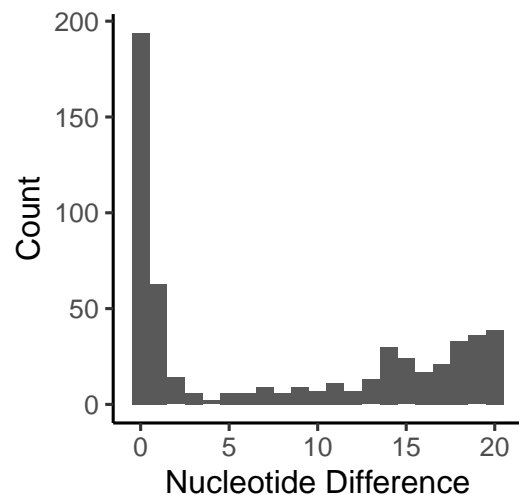
### IGHV3-20\*01

25 sequences assigned  
7 (28%) exact matches, in which:  
7 unique CDR3  
3 unique J



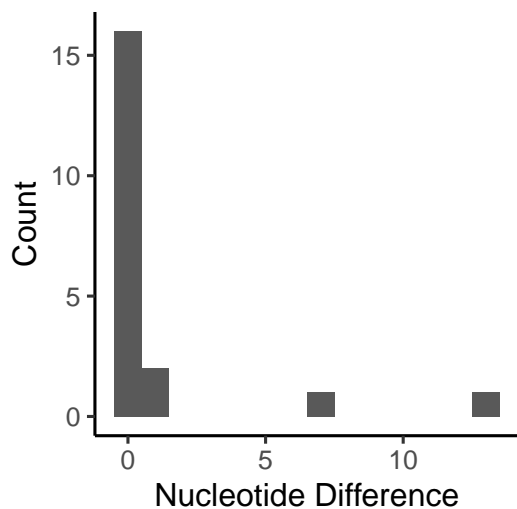
### IGHV3-30-3\*01

965 sequences assigned  
194 (20.1%) exact matches, in which:  
193 unique CDR3  
6 unique J



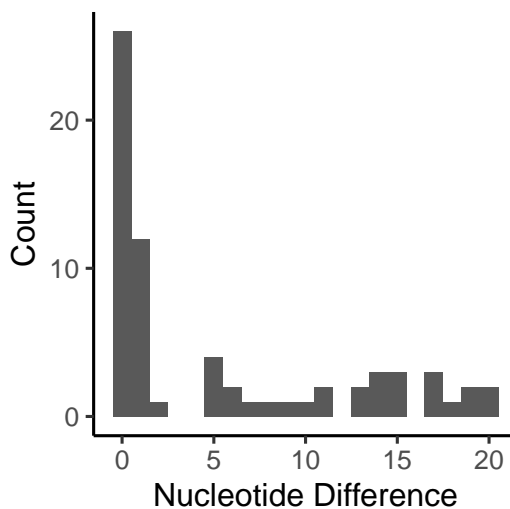
### IGHV3-13\*05

21 sequences assigned  
16 (76.2%) exact matches, in which:  
16 unique CDR3  
5 unique J



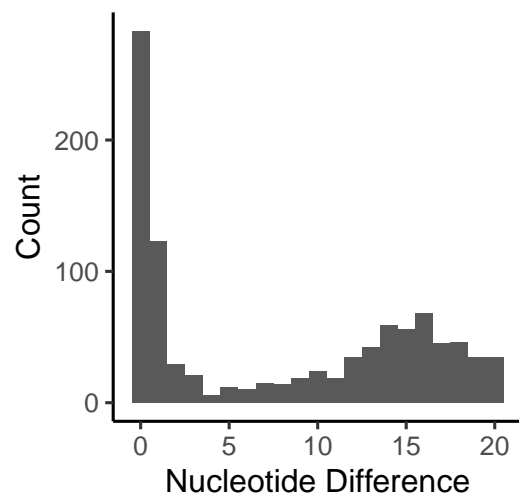
### IGHV3-20\*04

147 sequences assigned  
26 (17.7%) exact matches, in which:  
26 unique CDR3  
5 unique J



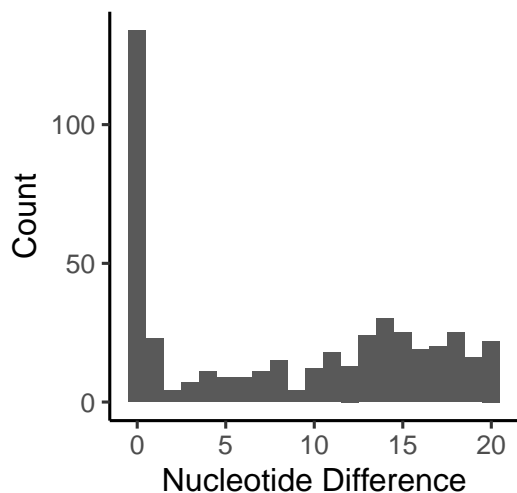
### IGHV3-33\*01

1665 sequences assigned  
283 (17%) exact matches, in which:  
277 unique CDR3  
7 unique J



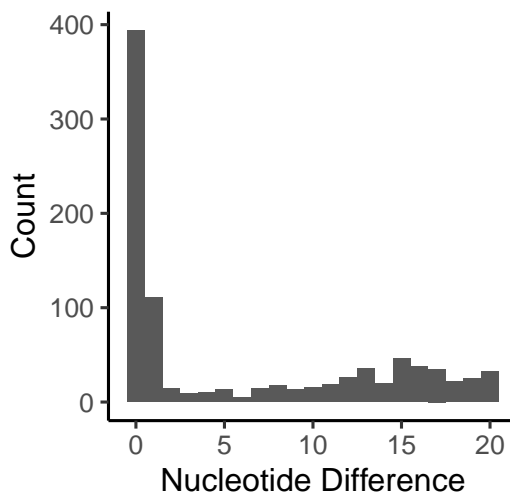
### IGHV3-15\*01

713 sequences assigned  
134 (18.8%) exact matches, in which:  
132 unique CDR3  
7 unique J



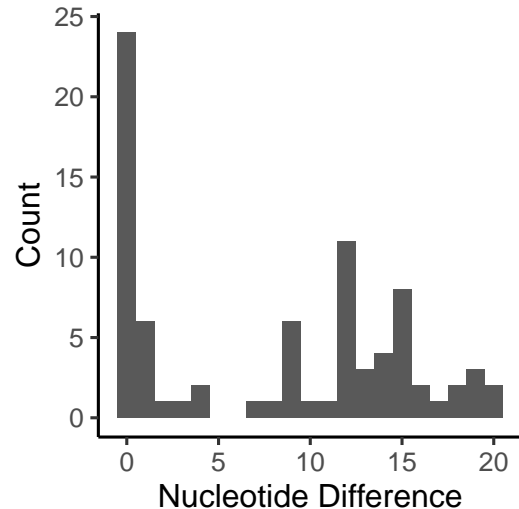
### IGHV3-21\*01

1350 sequences assigned  
394 (29.2%) exact matches, in which:  
391 unique CDR3  
7 unique J



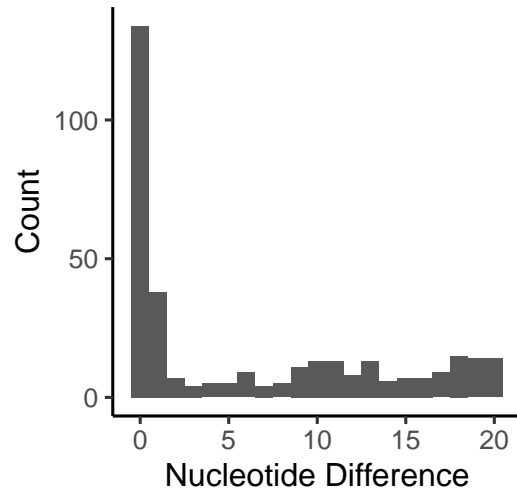
### IGHV3-43\*01

143 sequences assigned  
24 (16.8%) exact matches, in which:  
24 unique CDR3  
6 unique J



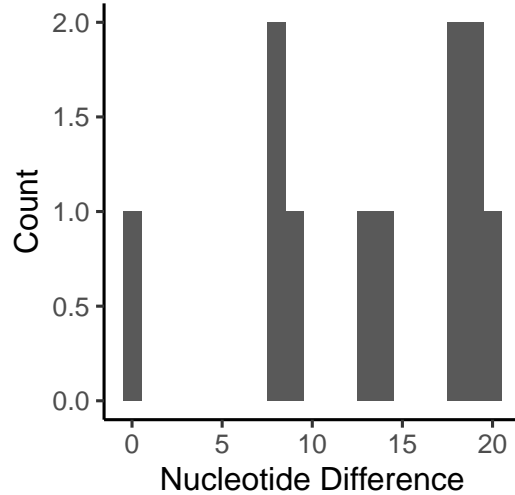
### IGHV3-48\*02

510 sequences assigned  
134 (26.3%) exact matches, in which:  
134 unique CDR3  
7 unique J



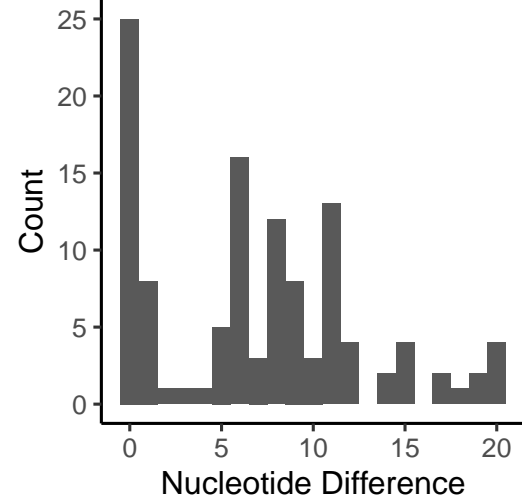
### IGHV3-64\*02

16 sequences assigned  
1 (6.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



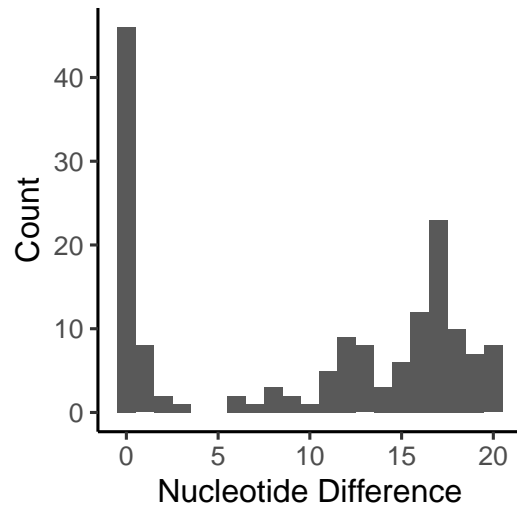
### IGHV3-73\*02

184 sequences assigned  
25 (13.6%) exact matches, in which:  
25 unique CDR3  
5 unique J



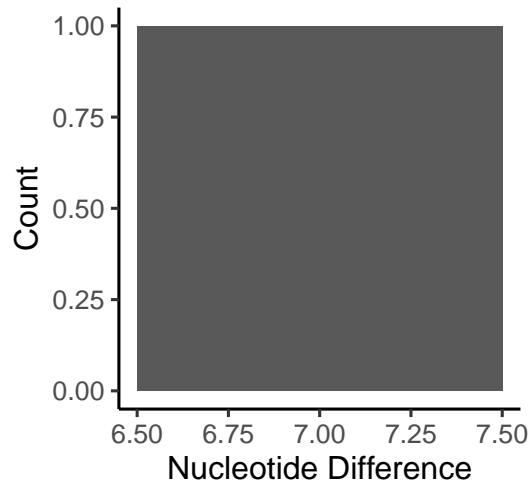
### IGHV3-49\*05

328 sequences assigned  
46 (14%) exact matches, in which:  
46 unique CDR3  
7 unique J



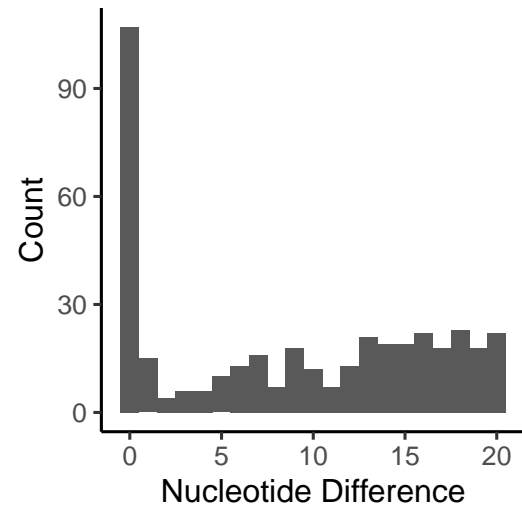
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



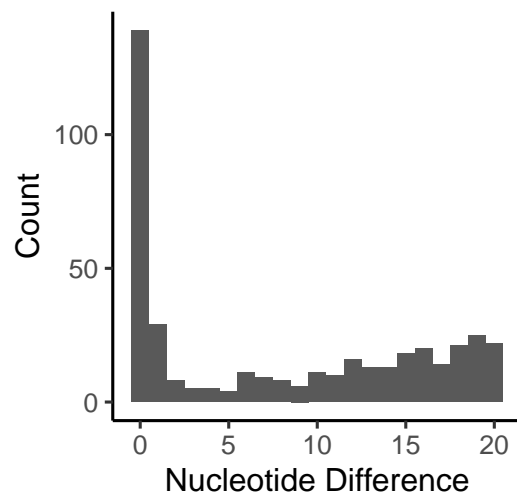
### IGHV3-74\*01

724 sequences assigned  
107 (14.8%) exact matches, in which:  
107 unique CDR3  
7 unique J



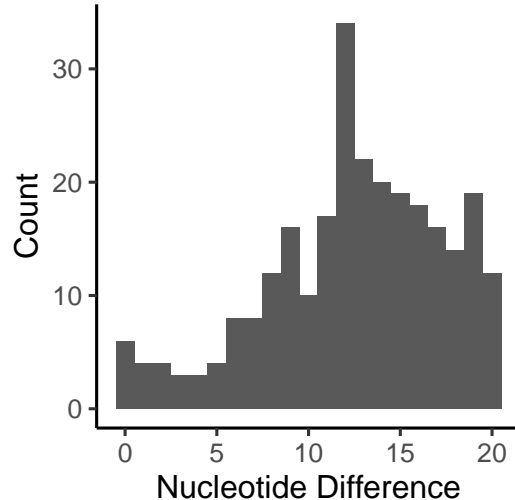
### IGHV3-53\*01

666 sequences assigned  
139 (20.9%) exact matches, in which:  
139 unique CDR3  
7 unique J



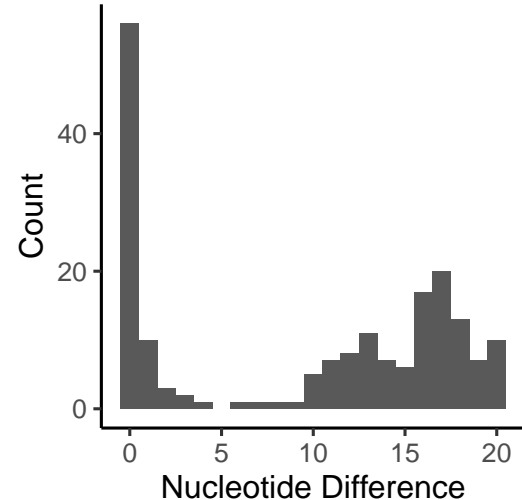
### IGHV3-72\*01

364 sequences assigned  
6 (1.6%) exact matches, in which:  
6 unique CDR3  
3 unique J



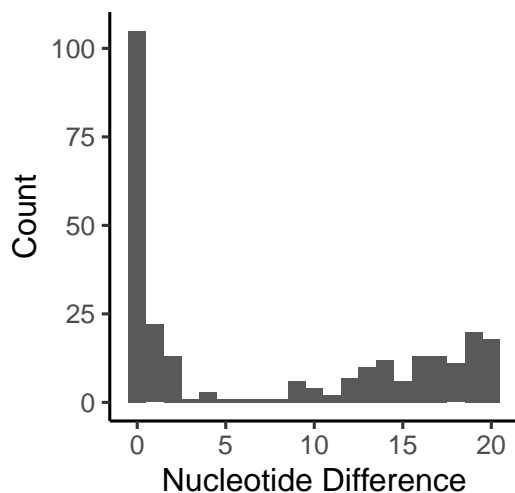
### IGHV3-64D\*06

323 sequences assigned  
56 (17.3%) exact matches, in which:  
55 unique CDR3  
7 unique J



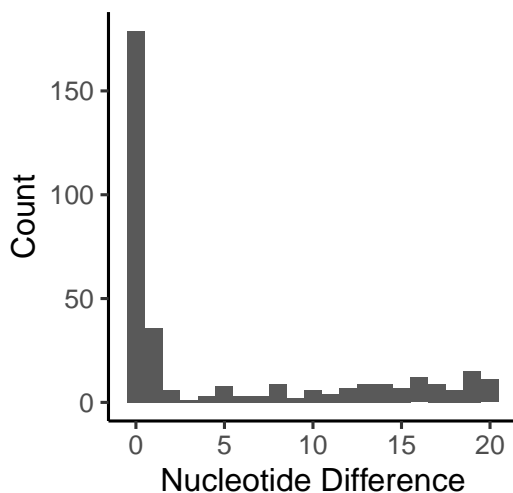
### IGHV4-4\*02

481 sequences assigned  
105 (21.8%) exact matches, in which:  
104 unique CDR3  
7 unique J



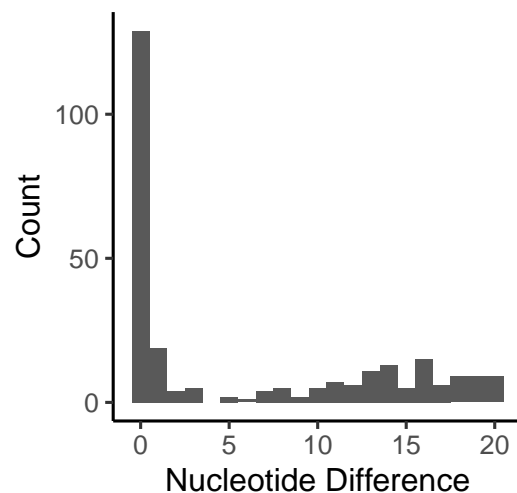
### IGHV4-31\*03

600 sequences assigned  
179 (29.8%) exact matches, in which:  
179 unique CDR3  
7 unique J



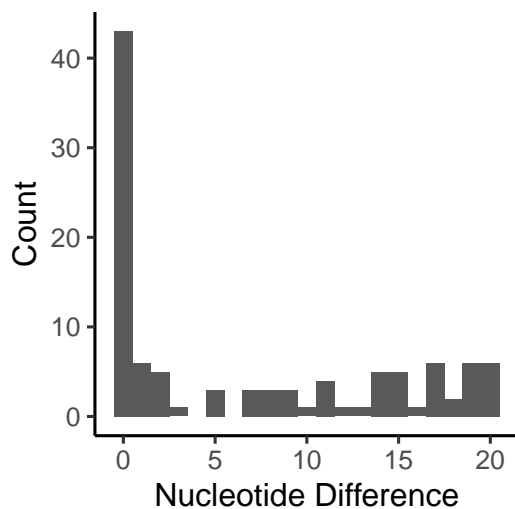
### IGHV4-59\*01

525 sequences assigned  
129 (24.6%) exact matches, in which:  
129 unique CDR3  
7 unique J



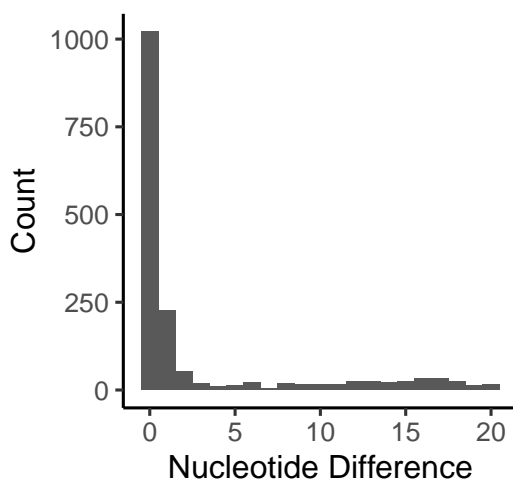
### IGHV4-30-4\*01

184 sequences assigned  
43 (23.4%) exact matches, in which:  
43 unique CDR3  
6 unique J



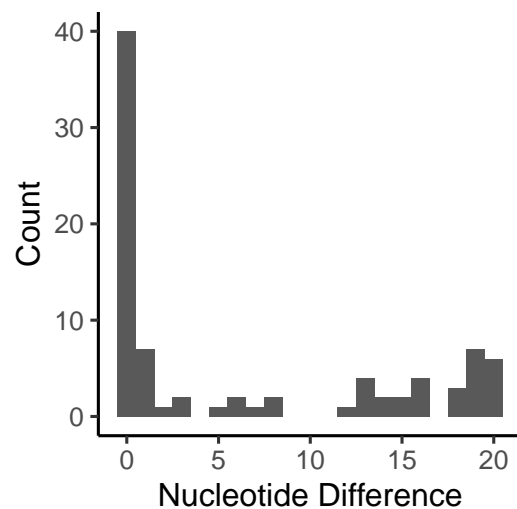
### IGHV4-34\*01

2172 sequences assigned  
1021 (47%) exact matches, in which:  
1008 unique CDR3  
7 unique J



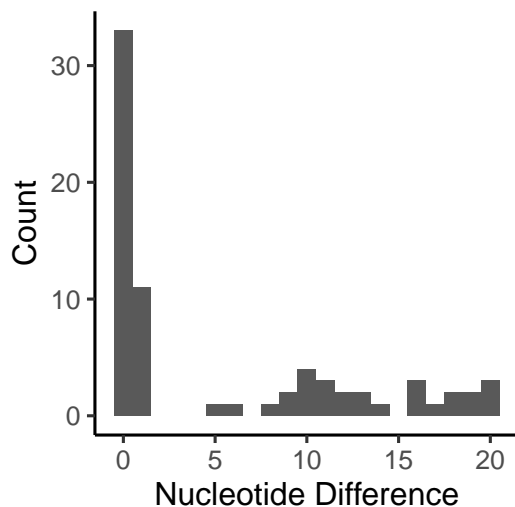
### IGHV4-61\*01

141 sequences assigned  
40 (28.4%) exact matches, in which:  
40 unique CDR3  
6 unique J



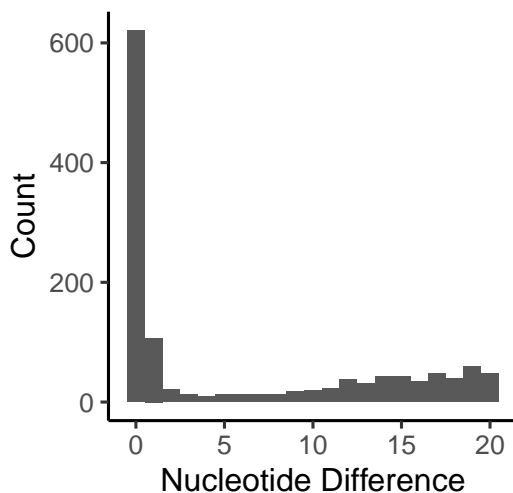
### IGHV4-30-2\*01

123 sequences assigned  
33 (26.8%) exact matches, in which:  
33 unique CDR3  
7 unique J



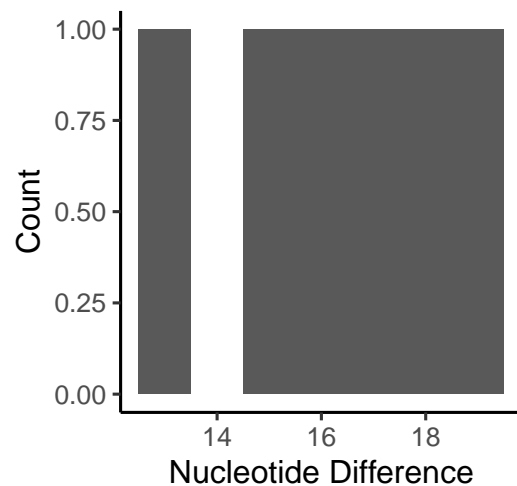
### IGHV4-39\*01

2257 sequences assigned  
621 (27.5%) exact matches, in which:  
616 unique CDR3  
7 unique J



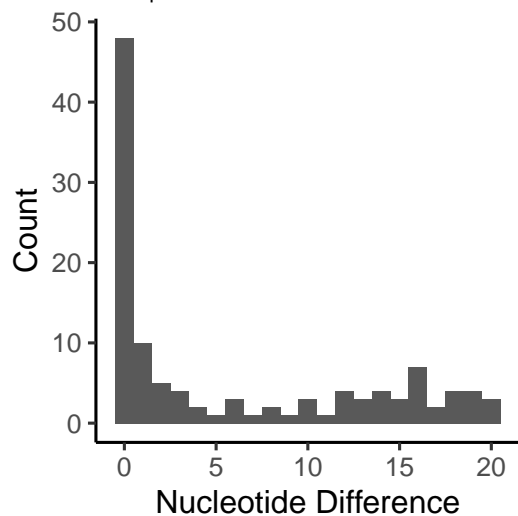
### IGHV4-61\*08

35 sequences assigned  
No exact matches.



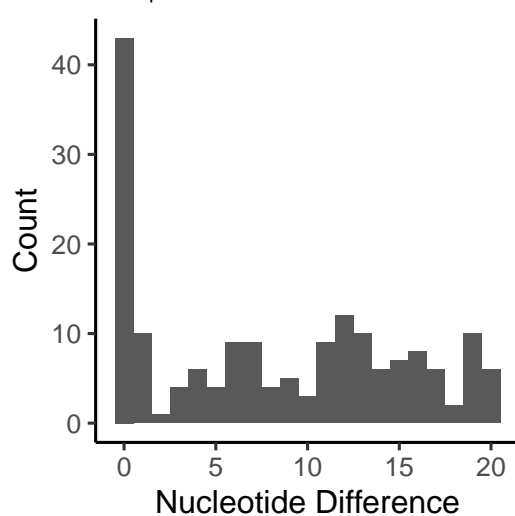
## IGHV5-10-1\*01

164 sequences assigned  
48 (29.3%) exact matches, in which:  
47 unique CDR3  
6 unique J



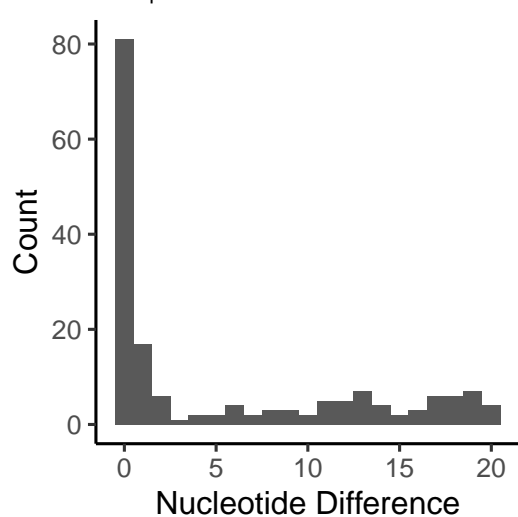
## IGHV6-1\*01

238 sequences assigned  
43 (18.1%) exact matches, in which:  
43 unique CDR3  
6 unique J



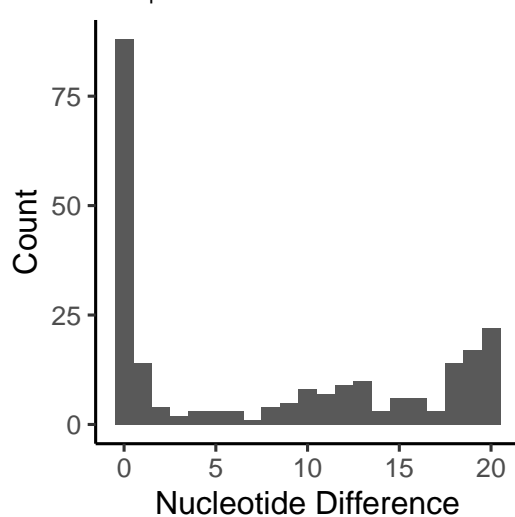
## IGHV5-10-1\*03

279 sequences assigned  
81 (29%) exact matches, in which:  
81 unique CDR3  
6 unique J



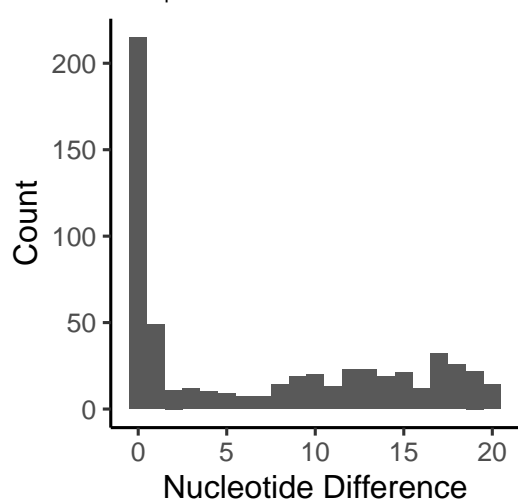
## IGHV7-4-1\*02

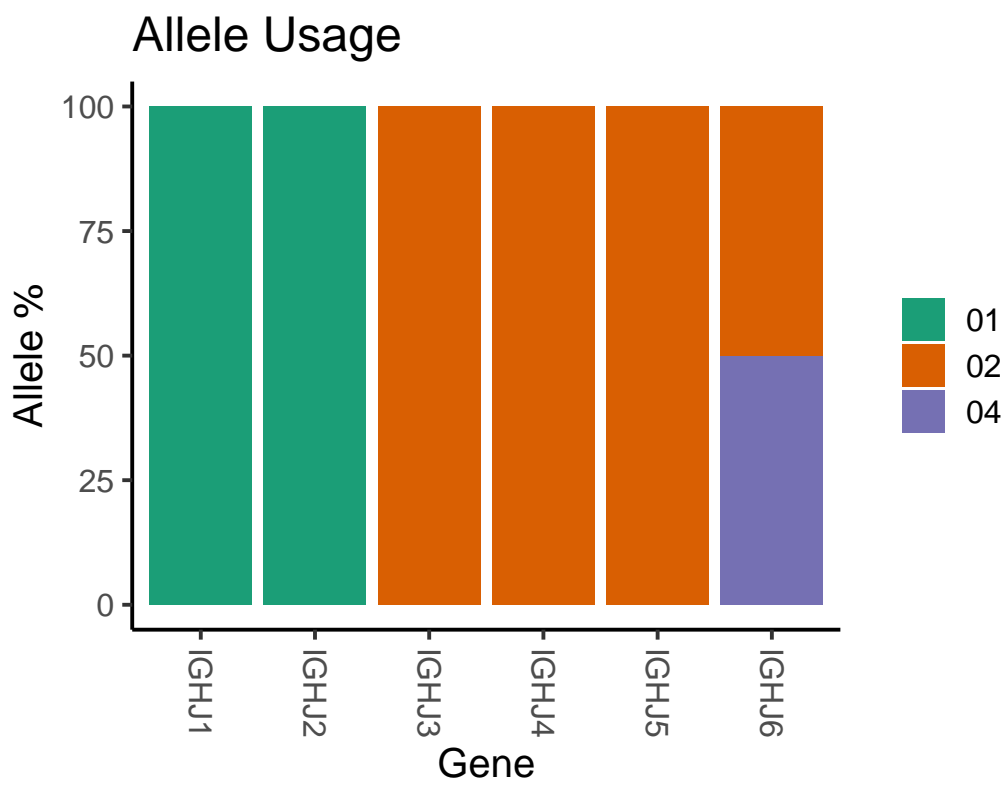
323 sequences assigned  
88 (27.2%) exact matches, in which:  
88 unique CDR3  
6 unique J



## IGHV5-51\*01

831 sequences assigned  
215 (25.9%) exact matches, in which:  
215 unique CDR3  
7 unique J





Sequence Count by IGHJ6 allele usage





[illegible]