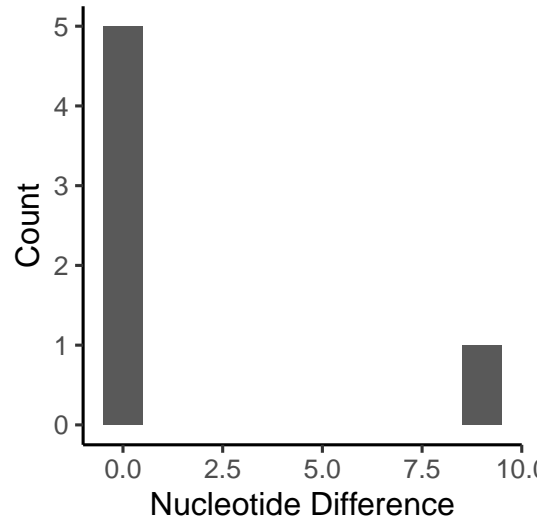


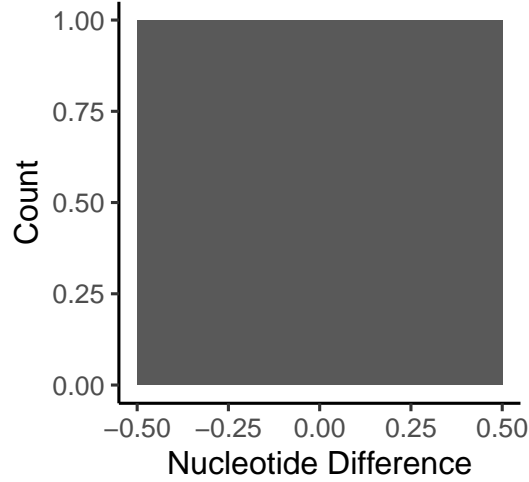
### IGHV1–2\*04

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
4 unique J



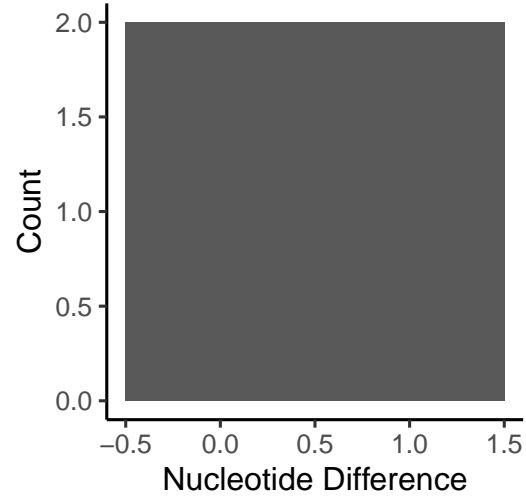
### IGHV1–24\*01

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



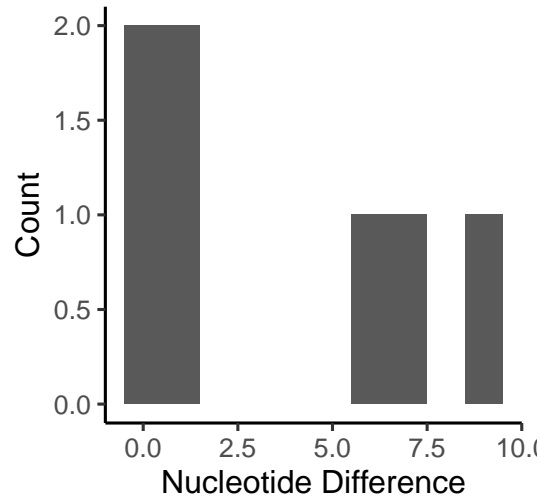
### IGHV1–69\*02

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



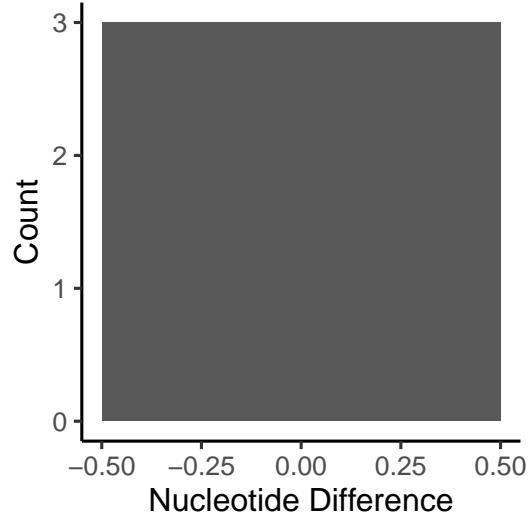
### IGHV1–3\*01

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
1 unique J



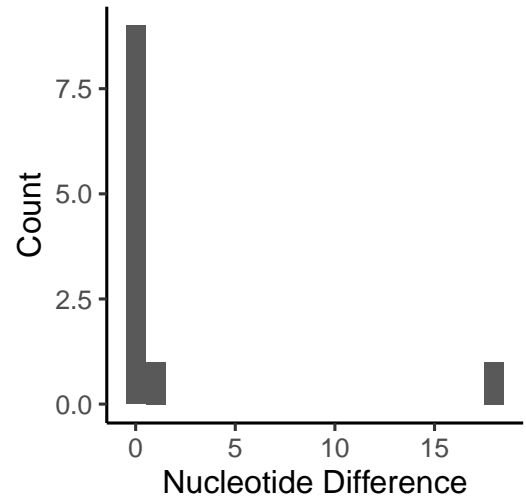
### IGHV1–46\*01

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



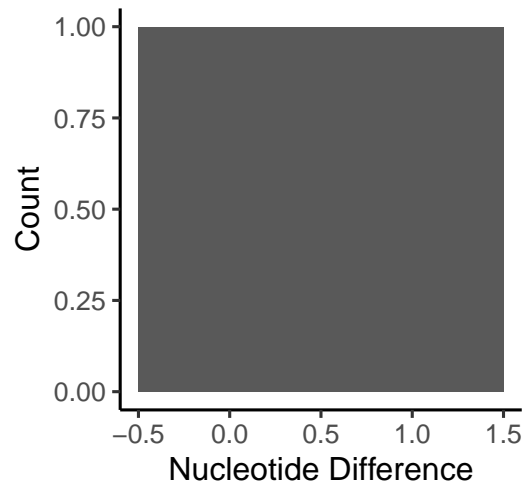
### IGHV1–69\*06

11 sequences assigned  
9 (81.8%) exact matches, in which:  
9 unique CDR3  
4 unique J



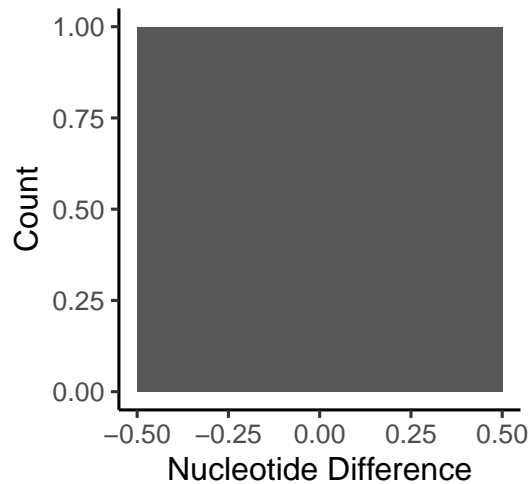
### IGHV1–18\*04

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



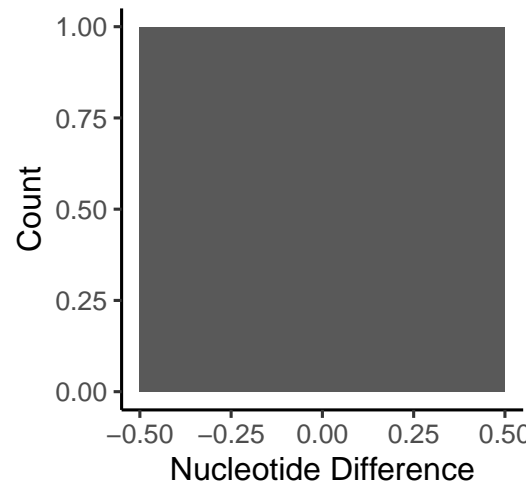
### IGHV1–58\*02

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



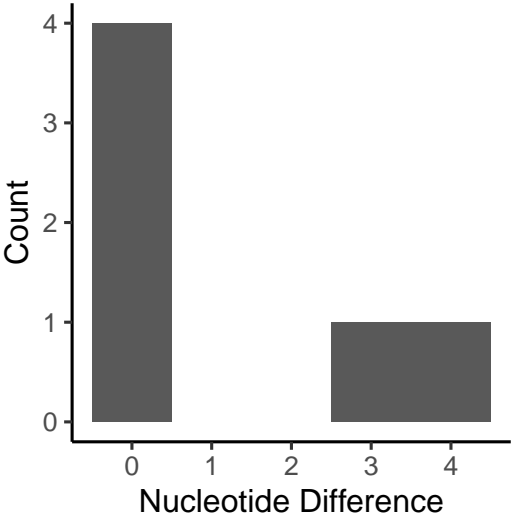
### IGHV2–5\*02

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



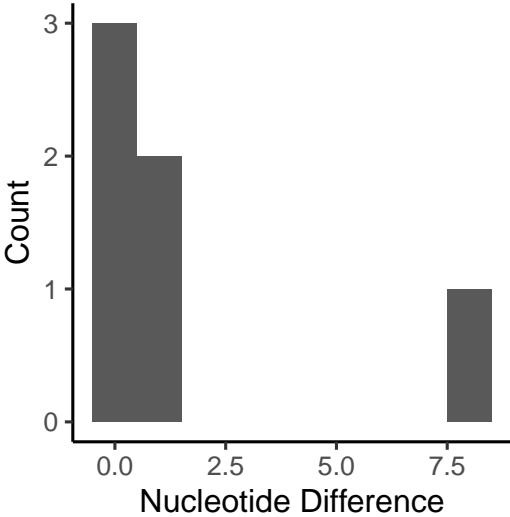
IGHV3-7\*03

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



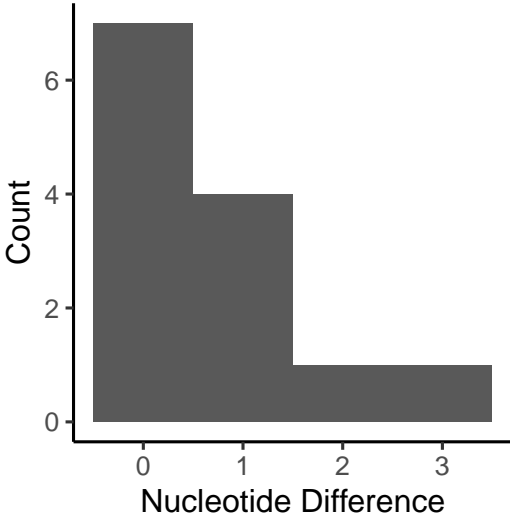
IGHV3-15\*01

6 sequences assigned  
3 (50%) exact matches, in which:  
3 unique CDR3  
2 unique J



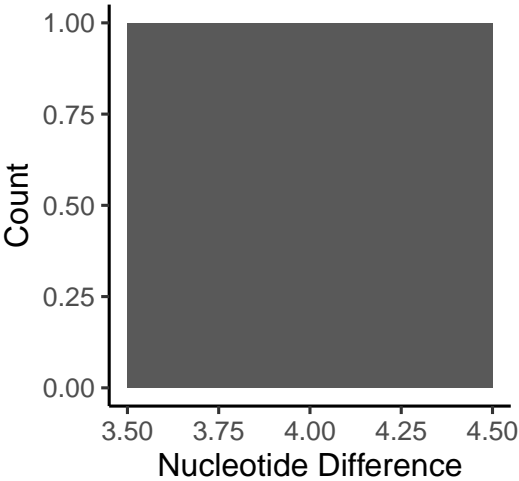
IGHV3-33\*01

13 sequences assigned  
7 (53.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



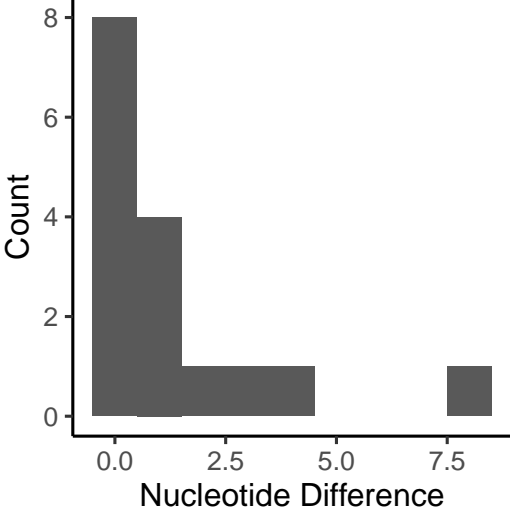
IGHV3-7\*04

1 sequences assigned  
No exact matches.



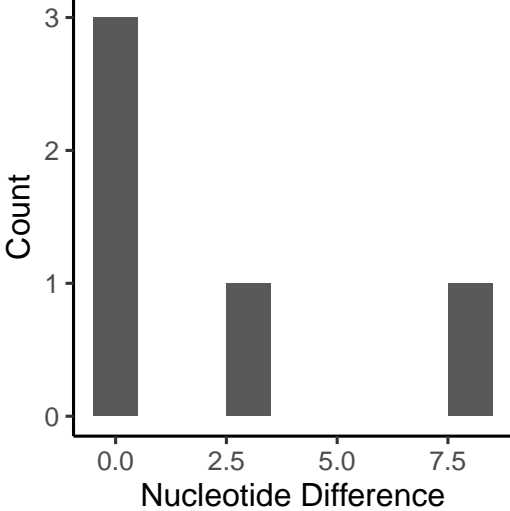
IGHV3-21\*01

16 sequences assigned  
8 (50%) exact matches, in which:  
8 unique CDR3  
3 unique J



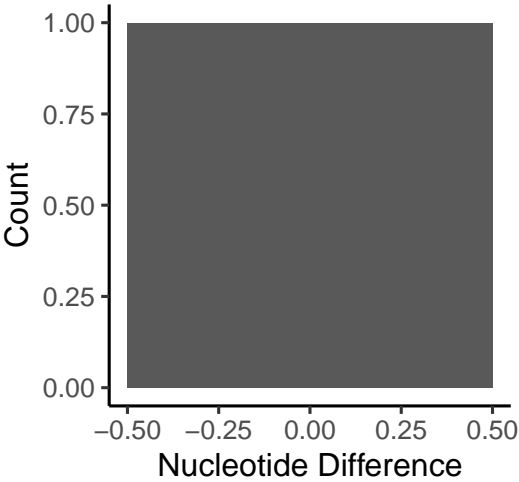
IGHV3-48\*02

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



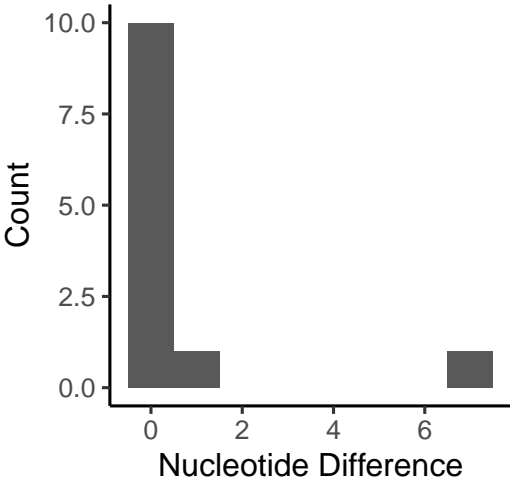
IGHV3-11\*06

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



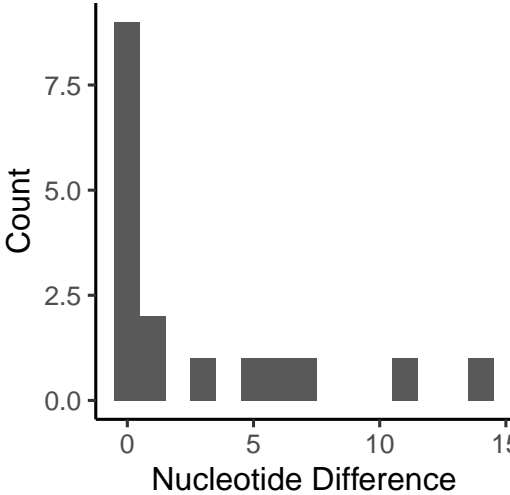
IGHV3-30-3\*01

12 sequences assigned  
10 (83.3%) exact matches, in which:  
10 unique CDR3  
2 unique J



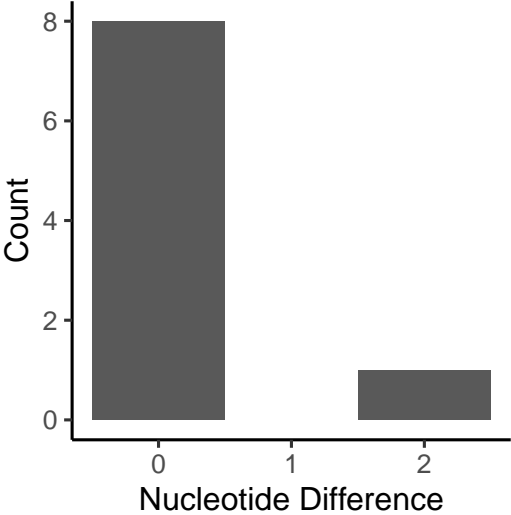
IGHV3-48\*03

17 sequences assigned  
9 (52.9%) exact matches, in which:  
9 unique CDR3  
4 unique J



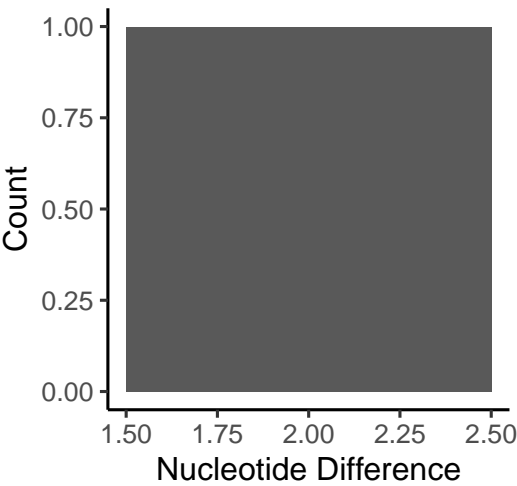
IGHV3-49\*04

9 sequences assigned  
8 (88.9%) exact matches, in which:  
8 unique CDR3  
3 unique J



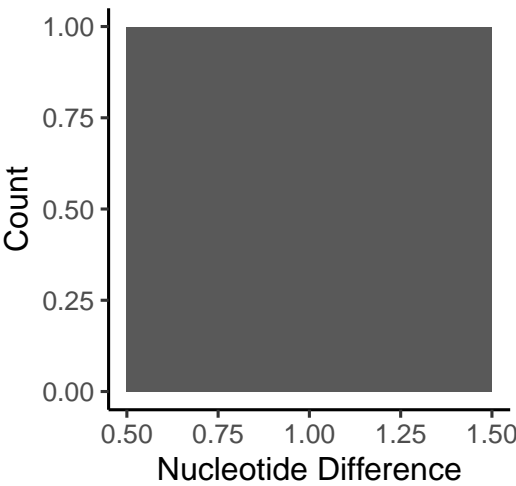
IGHV3-53\*02

1 sequences assigned  
No exact matches.



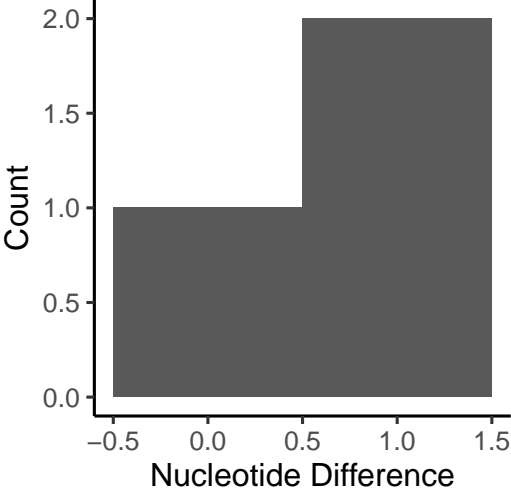
IGHV3-66\*02

1 sequences assigned  
No exact matches.



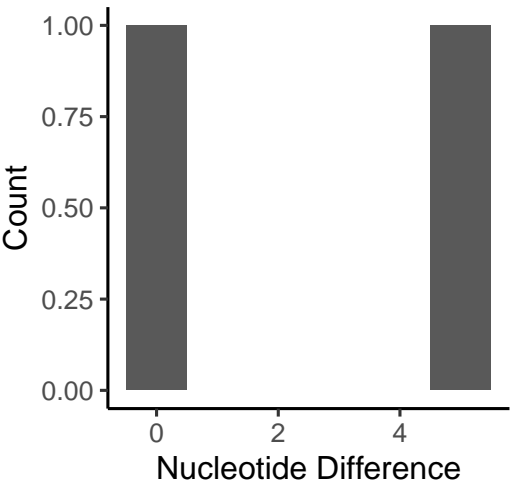
IGHV3-49\*05

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



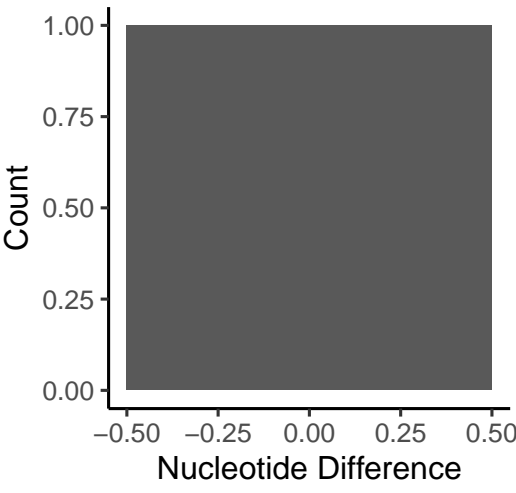
IGHV3-64\*01

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



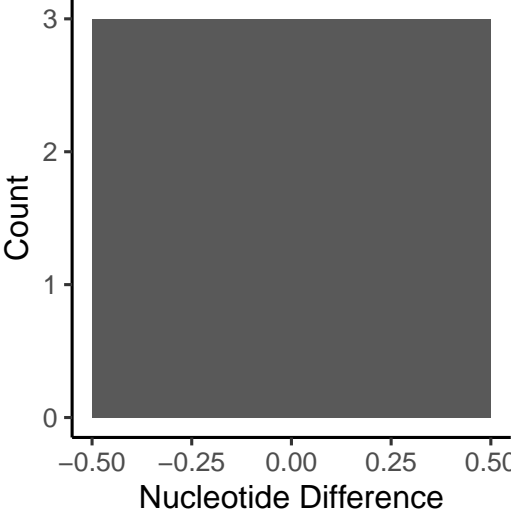
IGHV3-72\*01

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



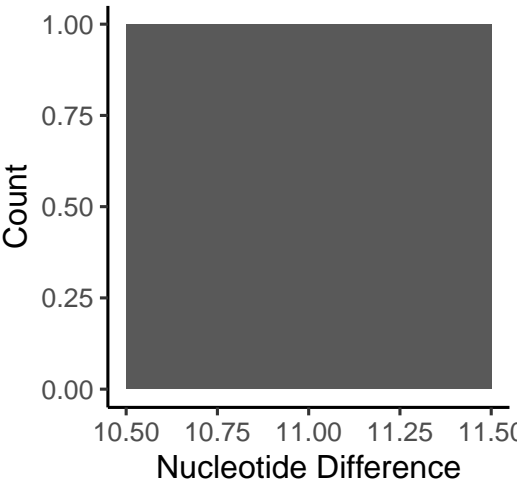
IGHV3-53\*01

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



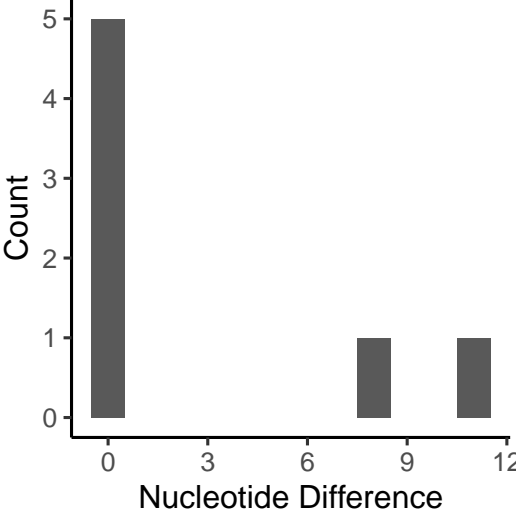
IGHV3-64\*07

1 sequences assigned  
No exact matches.



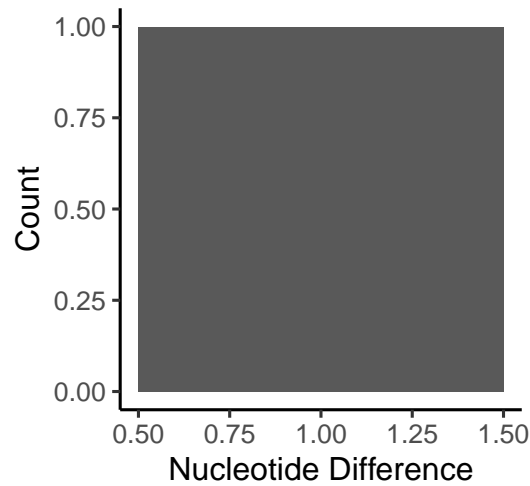
IGHV3-74\*01

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
4 unique J



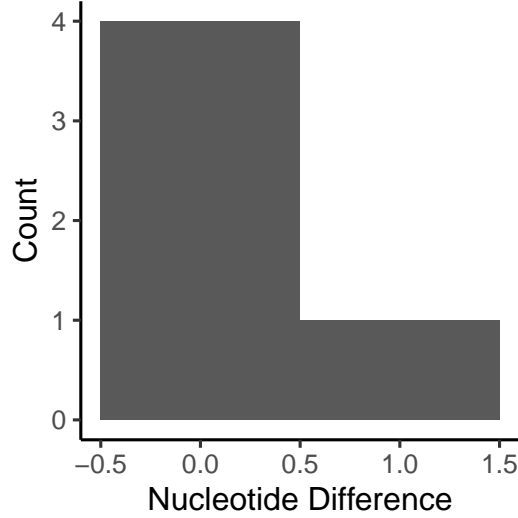
### IGHV3-43D\*04

1 sequences assigned  
No exact matches.



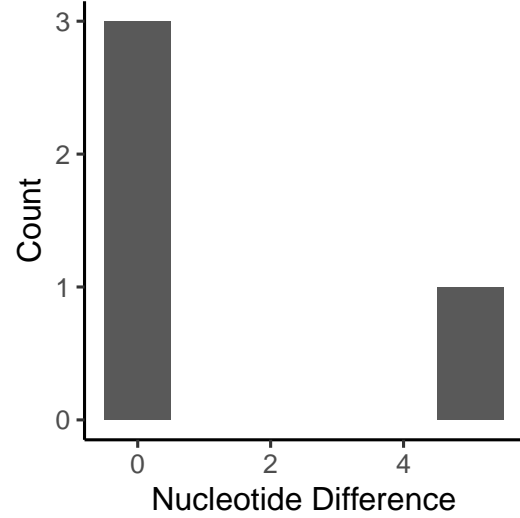
### IGHV4-30-4\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
3 unique J



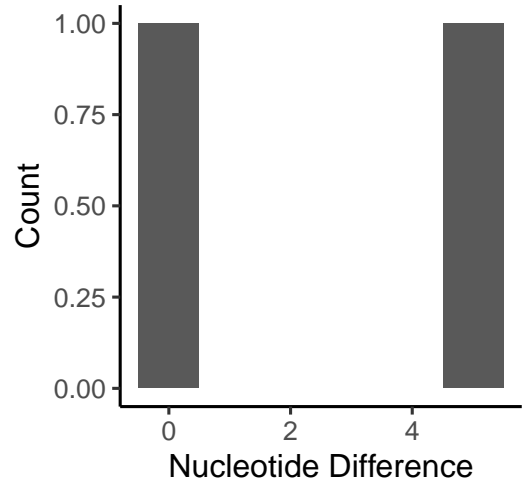
### IGHV4-38-2\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
3 unique J



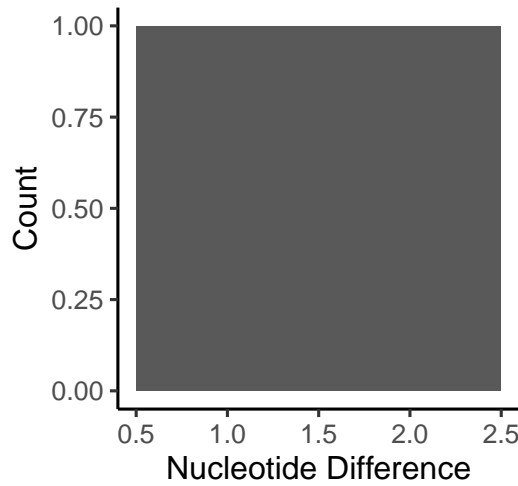
### IGHV3-64D\*09

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



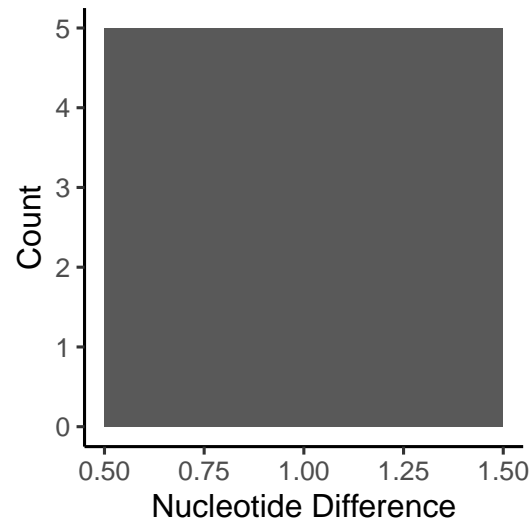
### IGHV4-31\*03

2 sequences assigned  
No exact matches.



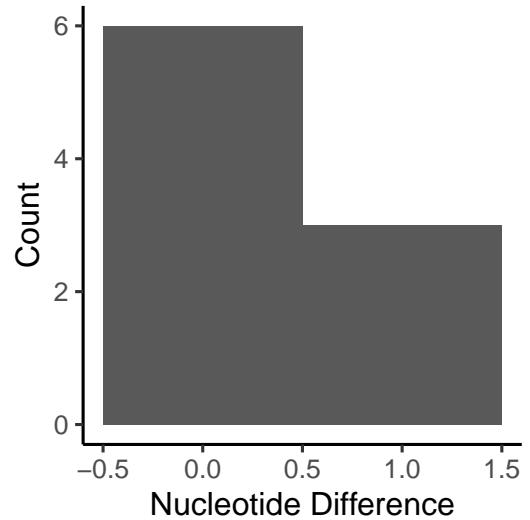
### IGHV4-38-2\*02

5 sequences assigned  
No exact matches.



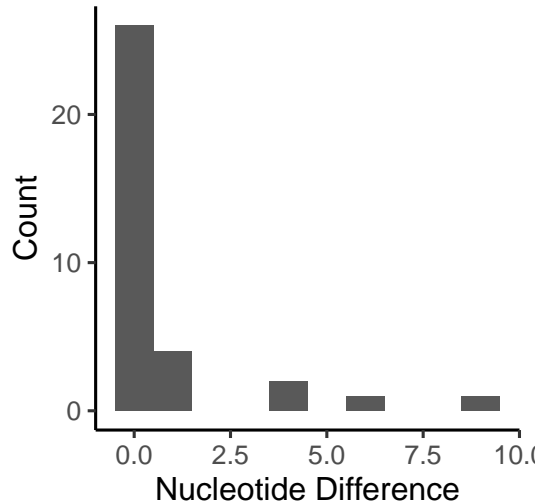
### IGHV4-4\*02

9 sequences assigned  
6 (66.7%) exact matches, in which:  
6 unique CDR3  
4 unique J



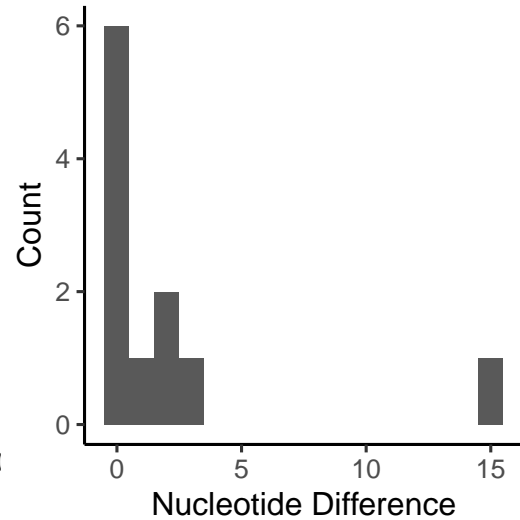
### IGHV4-34\*01

34 sequences assigned  
26 (76.5%) exact matches, in which:  
26 unique CDR3  
6 unique J



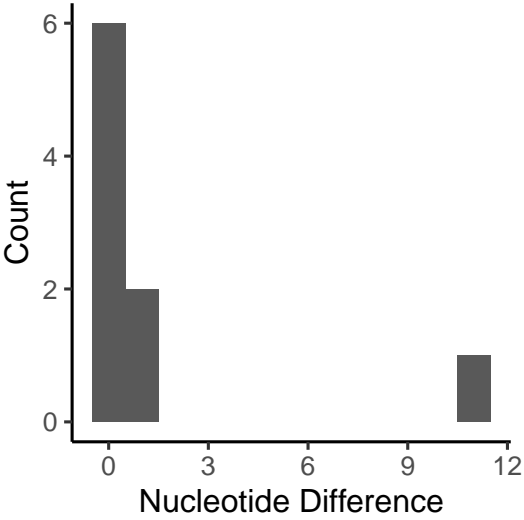
### IGHV4-39\*07

11 sequences assigned  
6 (54.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



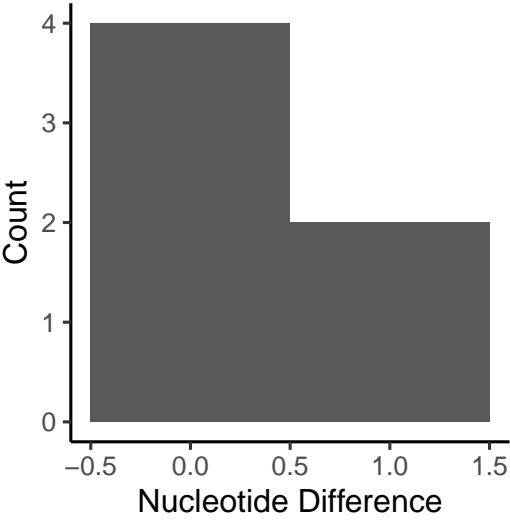
IGHV4-59\*01

9 sequences assigned  
6 (66.7%) exact matches, in which:  
6 unique CDR3  
3 unique J



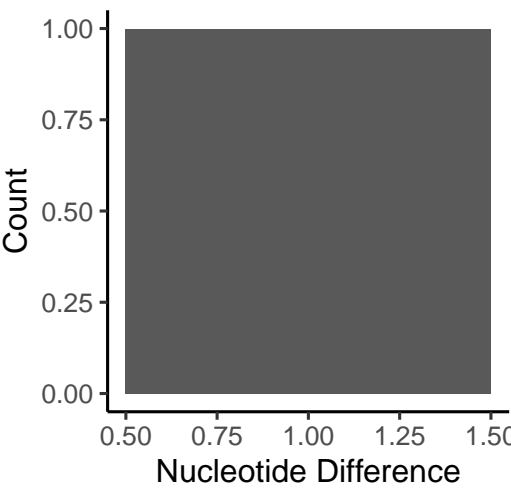
IGHV5-10-1\*03

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



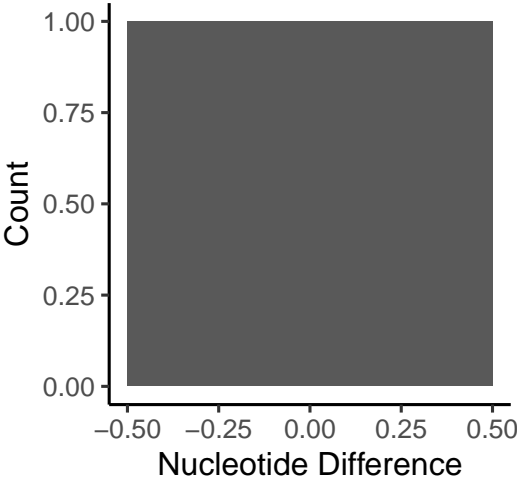
IGHV7-4-1\*01

1 sequences assigned  
No exact matches.



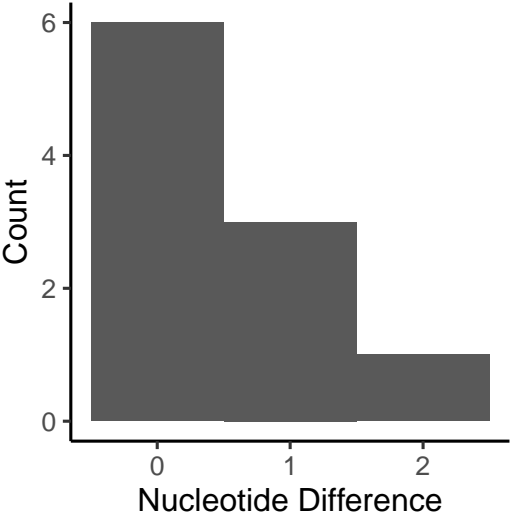
IGHV4-61\*01

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



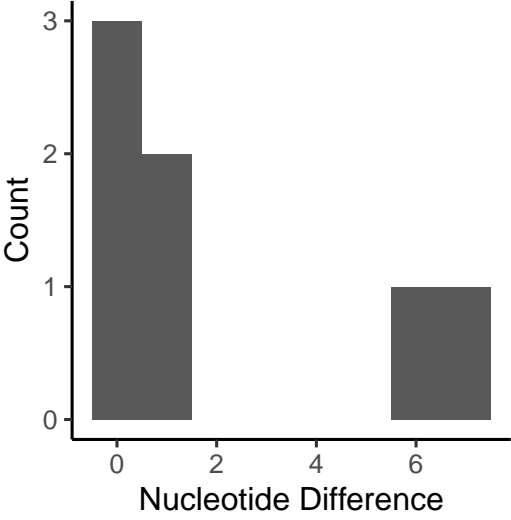
IGHV5-51\*01

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
3 unique J



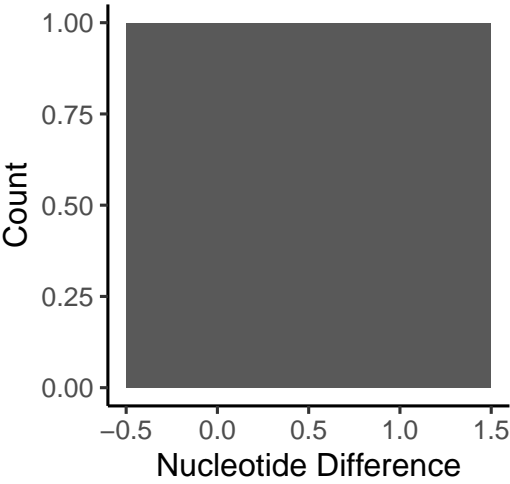
IGHV4-61\*02

7 sequences assigned  
3 (42.9%) exact matches, in which:  
3 unique CDR3  
2 unique J

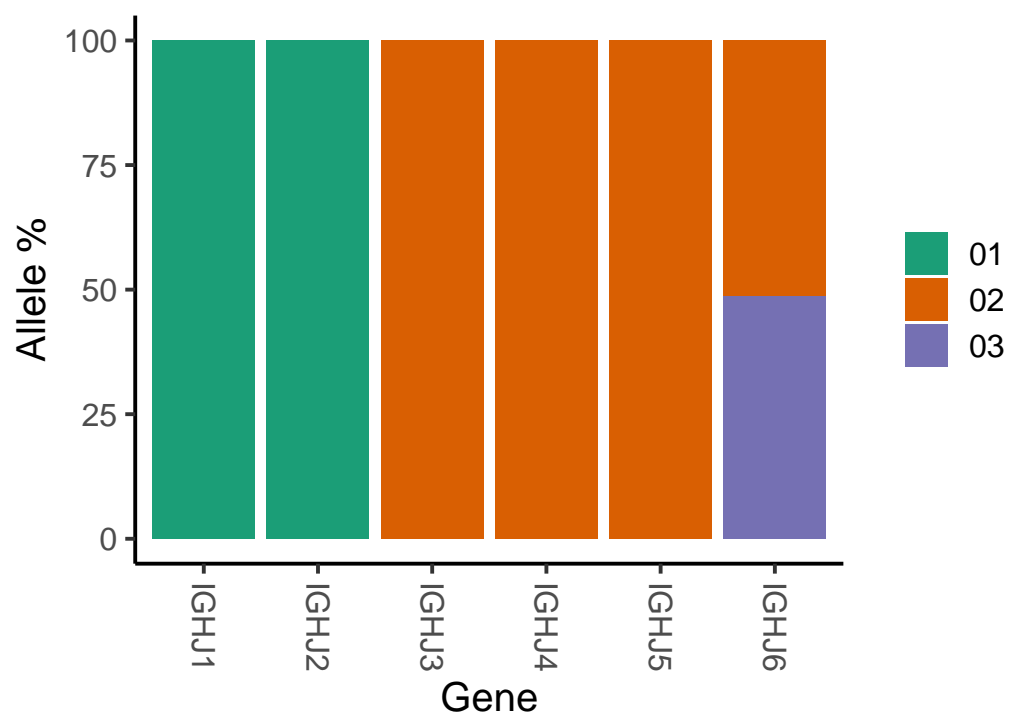


IGHV6-1\*01

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



Allele Usage



Sequence Count by IGHJ6 allele usage



