

Agenda of IARC meeting 93, Feb 7th, 2022

In attendance: Ayelet Peres, Gur Yaari, Martin Corcoran, William Lees, Corey Watson, Mats Ohlin, James Heather (guest)

1. Approval of minutes of meeting 91

Approved

2. Approval of minutes of meeting 92

Approved

3. Update on the IG receptor germline gene discovery manuscript

WL presented status. Restructuring and additional sections are pending further action in the coming weeks.

4. AP's web interface for germline gene repertoire assessment of AIRR-seq data (Functional groups reference book) and integration of information with output of OGRDB

AP presented an update of new features

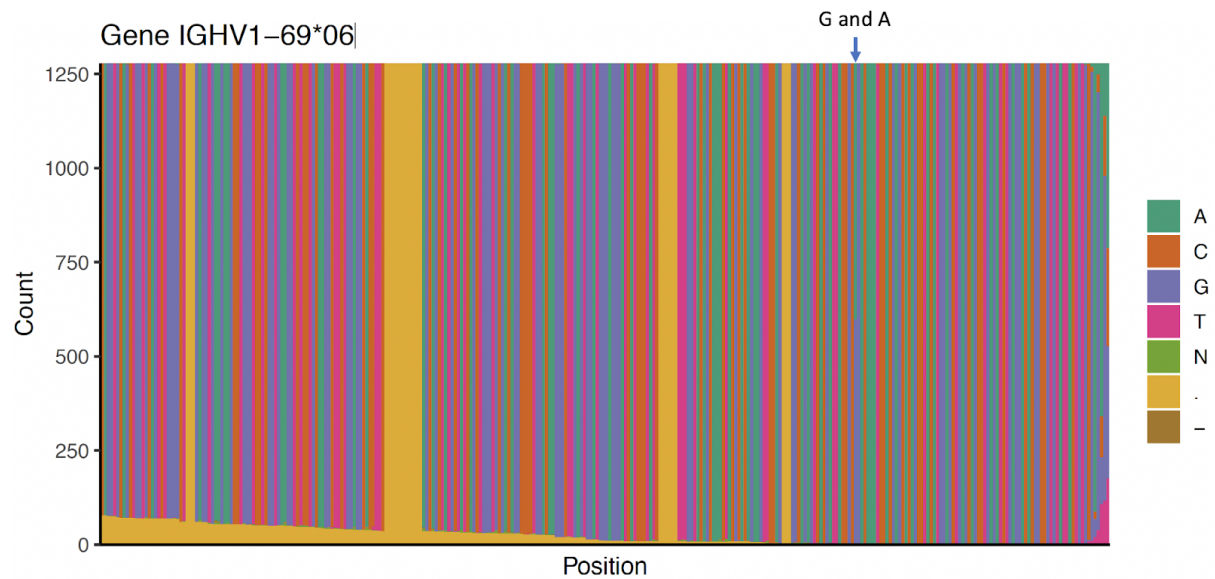
5. Update on assessment of spurious features of OGRDBstats plots summarizing the composition of sequences contributing to a particular inference

WL presented updates. Discussion.

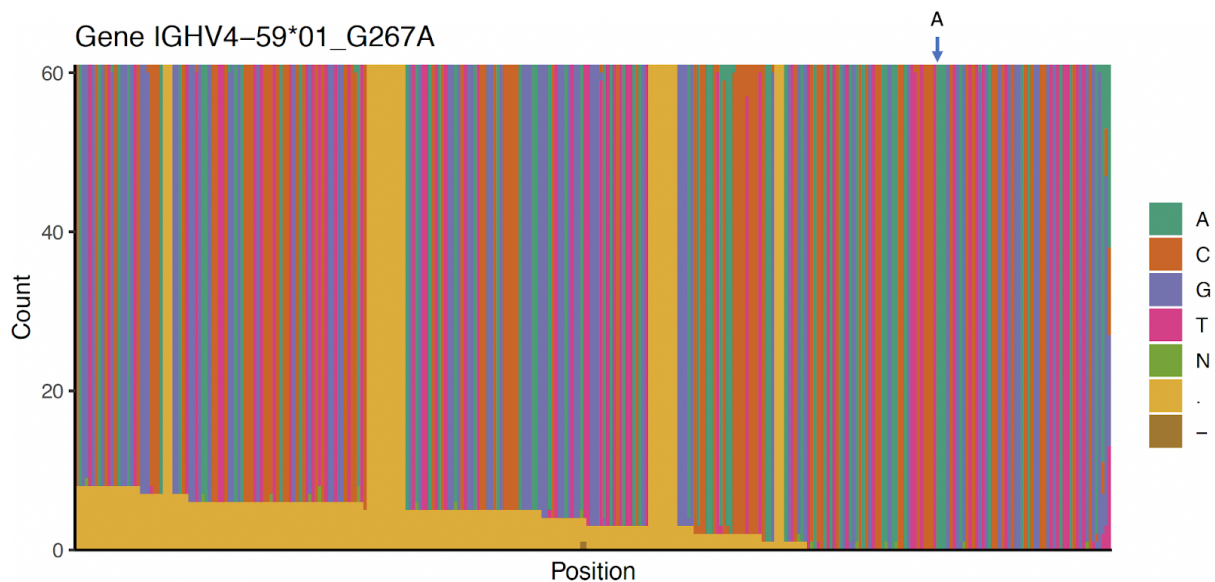
6. Additional novel alleles in VDJbase, study P1 (contd.)

Proposed immediate path for alleles assessed at Meeting 91-92:

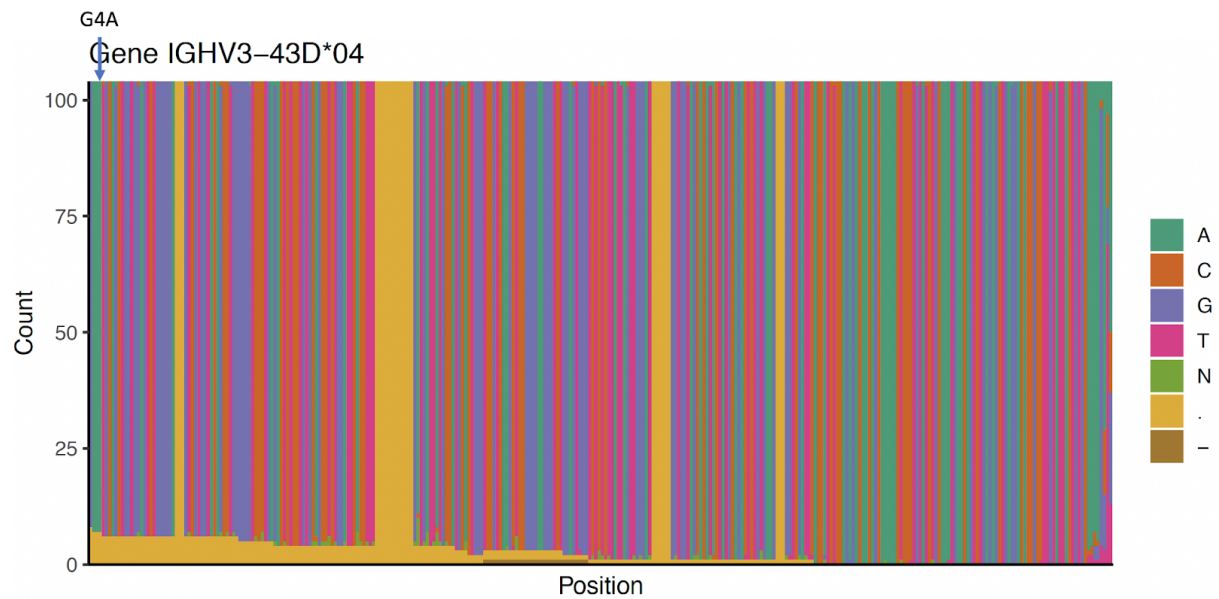
- **IGHV1-69*06_g240a** (P1_I48): Move forward with submission to OGRDB if annotated by VDJbase. Update VDJbase to annotate IGHV1-69*01/IGHV1-69D*01 in haplotype.



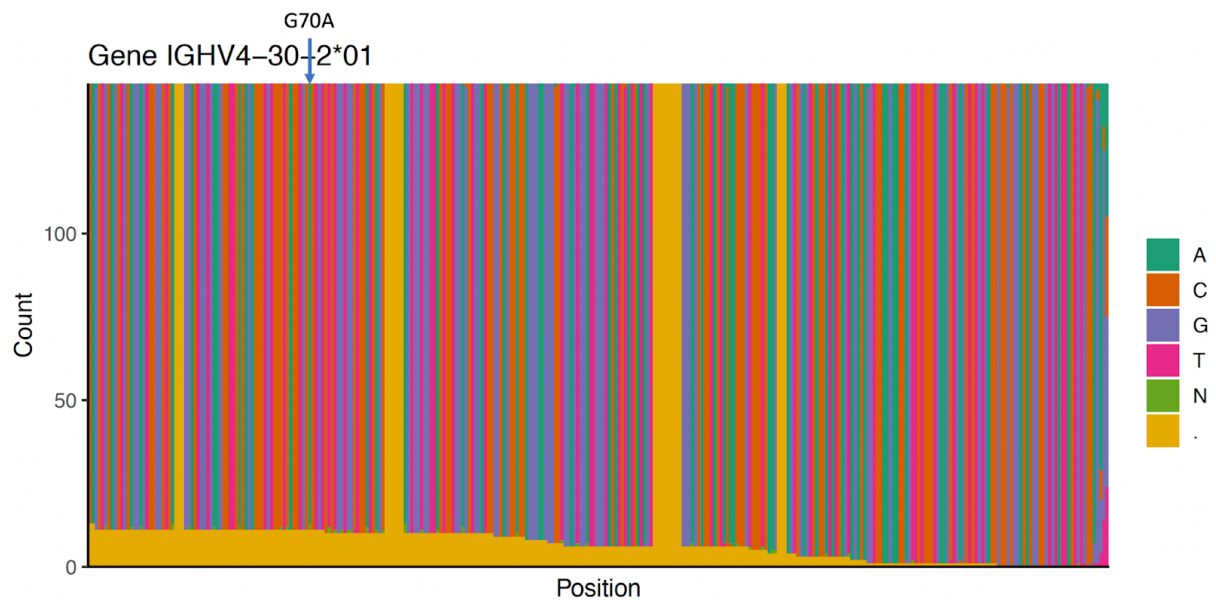
- **IGHV4-30-4*01_a70g_a107g** (P1_I41): Move forward with submission to OGRDB.
- **IGHV3-15*01_a313t_c317g** (P1_I64): Move forward with submission to OGRDB as the analysis of base 317 is made available in VDJbase.
- **IGHV4-59*01_g267a** (P1_I39): Move forward with submission to OGRDB.



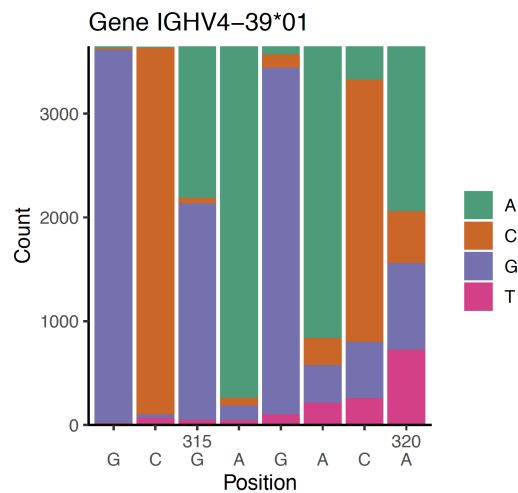
- **IGHV3-43D*04 G4A** (P1_10): Move forward with submission to OGRDB if annotated by VDJbase.



- **IGHV3-30*04_c201t_g317a/IGHV3-30*18_g113c_c114t (P1_I70):** Move forward with submission to OGRDB and update VDJbase to annotate IGHV3-30*18/IGHV3-30-5*01 in haplotype.
- **IGHV4-30-2*01_g70a (P1_I74):** Possible candidate for submission to OGRDB but must feature as inferred in VDJbase.



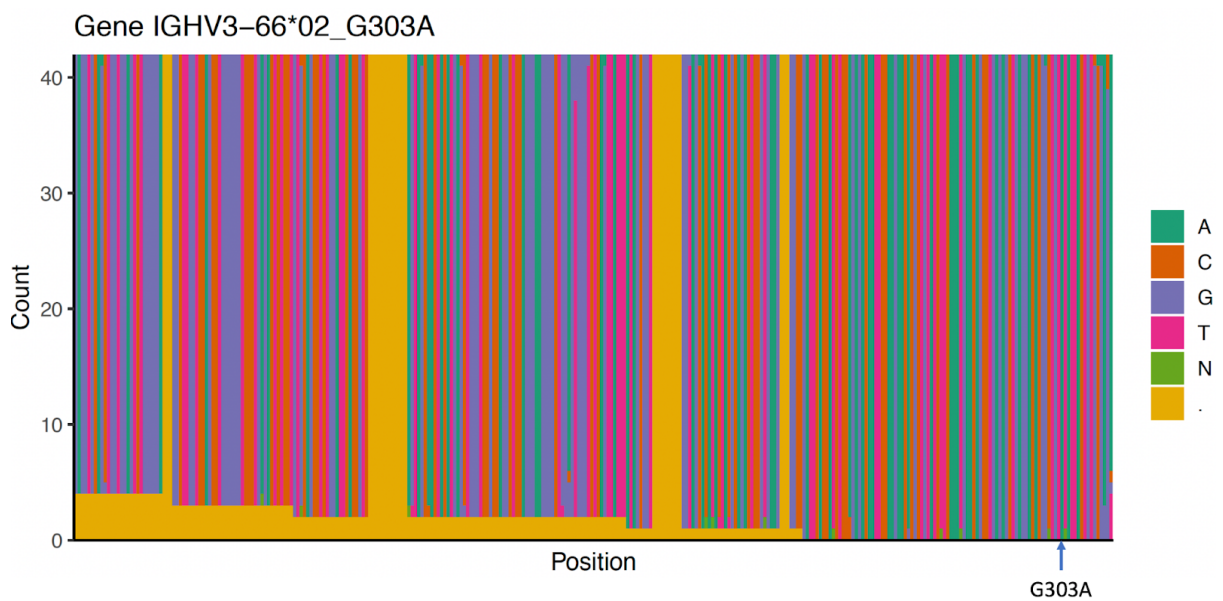
- **IGHV4-39*01_g315a (P1_I60):** Possible candidate for submission but must feature in VDJbase



- **IGHV2-70*04 A14G** (P1_I5): Possible candidate for submission but must feature in VDJbase. IGHV2-70*04/IGHV2-70D*04 must feature in VDJbase.
- IGHV4-61*01_a41g (P1_I23): May certainly progress to submission to OGRDB but it is not a top candidate for straightforward affirmation.



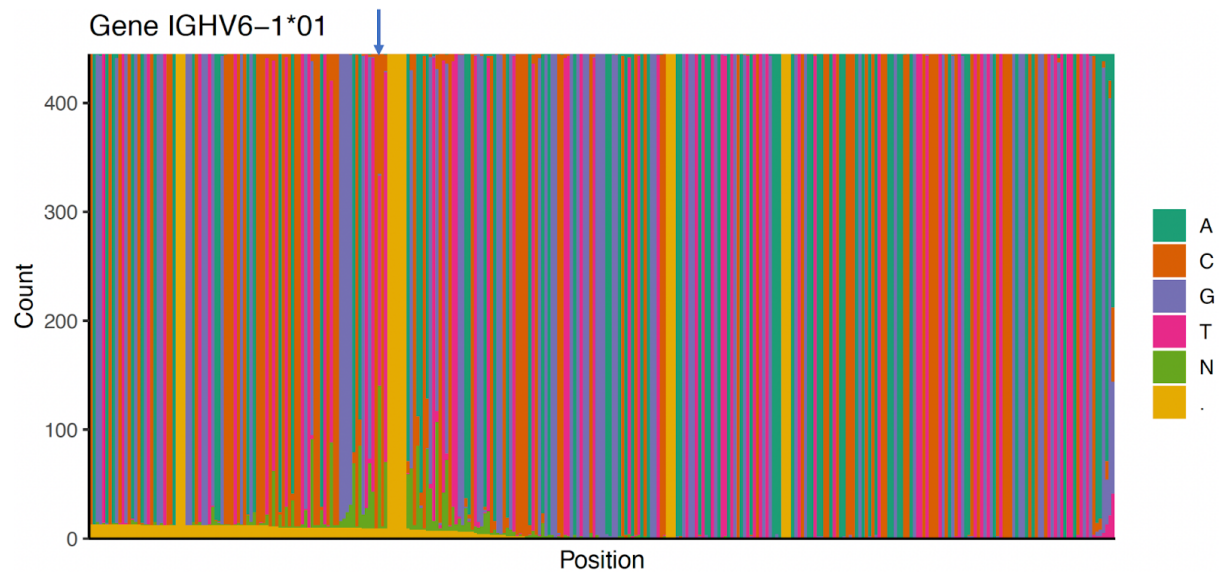
- IGHV3-66*02_g303a (P1_I28): May certainly progress to submission to OGRDB but it is not a top candidate for straightforward affirmation.



- IGHV3-30*02_g49a (P1_I47): May certainly progress to submission to OGRDB but it is not a top candidate for straightforward affirmation.



- IGHV3-53*02 C259T (P1_I22): Likely candidate but very few reads are associated with the inferred allele.
- IGHV4-39*02_c258g (IGHV4-39*01_c319g): Questionable. It is represented by much fewer sequences than the highly similar allele IGHV4-39*01 that is present in the genotype and from which it differs by only a single base at the penultimate base (position 319). Haplotyping (VDJbase) suggests that this variant is present in the same haplotypes as IGHV4-39*01. This allelic variant might just be inferred based on rearrangements that have been trimmed at the 3'-end. Do not move forward with submission to OGRDB.
- IGHV6-1*01_t91c: Questionable. Identified in samples in an area with quite substantial diversity in sequence. Do not move forward with submission to OGRDB.



7. Upcoming Executive subcommittee meeting

- Nine novel human IGHV alleles reported to and accepted by IUIS. Incorporated into the IMGT reference directory.
- Additional novel human IGHV alleles decisions are in process.
- Commentary on short read sequencing for allele discovery accepted and published.
- Initiated process to establish TCR IARC.
- Establishment of Functional Groups Reference Book (AP) to support analysis of repertoires and inferences.
- Update of VDJbase.
- Update of OGRDB
 - Gene set feature being added
 - Better support for submission
 - Improved OGRDBstats plot functionality.
- In collaboration with other Working Groups
 - Balb/c germline gene set have been generated - manuscript in process
 - Early stage discussion on macaque germline set
 - Provisional labels of alleles - manuscript in process and implemented for Balb/c alleles. To progress as an AIRR manuscript in collaboration with Germline Database, Standards, and Software working groups.

8. TCR inferences

AP will submit supporting data showcasing novel TCR alleles for consideration by IARC

9. Upcoming AIRR conference - status and IARC strategy

Discussion

10. Next meeting

February 28th, 2022 at 11.00 UTC