

## Equine Genetics and Thoroughbred Parentage Testing Standardization Workshop

**Organised by a Standing Committee:** YES

### Meeting information

Date: August 26<sup>th</sup>, 2026

Time: 4:00 – 5:00 pm CET

Number of participants: 39

### Chair

Name: Leanne van de Goor

Affiliation: VHLGenetics

Contact email: [Leanne.vandegoor@vhlgenetics.com](mailto:Leanne.vandegoor@vhlgenetics.com)

### Co-Chair

Name: Rebecca Bellone

Affiliation: VGL, UC Davis

Contact email: [rbellone@ucdavis.edu](mailto:rbellone@ucdavis.edu)

### Agenda

|         |                                                                                                 |
|---------|-------------------------------------------------------------------------------------------------|
| 4:00 PM | Welcoming Remarks                                                                               |
| 4:05 PM | SPECIAL ISAG 2026 Off Cycle Horse SNP Comparison Test Report – presented by Dr. Rebecca Bellone |
| 4:35 PM | Discussion Results ISAG 2026 Off Cycle Horse SNP Comparison Test                                |
| 4:55 PM | Closing                                                                                         |

### Summary of the meeting

This was the first official ranked CT for equine SNPs. Eighteen laboratories reported results with 89% receiving a score of rank 1 (16 labs). The updated shipping document requirement that was used appeared to help previous issues with only 1 lab reporting issues in receiving samples. For those using the Illumina 80V.2.1 some markers are on the array under AX nomenclature and some are under BIEC2 nomenclature. Labs using this array are encouraged to review the map file and the cluster file to ensure they are using data from the best probe. Data presented by the duty lab supported in most cases the BIEC2 had better clustering because there was a known SNP near the end of the AX probe for those that BIEC2 and AX genotypes did not match that were evaluated.

Four probes were identified to have known polymorphisms near the end of probes and it was voted to remove these four probes from the panel.

| Marker       | Panel  | Abs Acc |
|--------------|--------|---------|
| AX-103122994 | Core   | 93.33%  |
| AX-103051474 | Backup | 76.67%  |
| AX-105008630 | Backup | 91.39%  |
| AX-102953001 | rec X  | 78.33%  |

One additional probe on the Y chromosome amplified in females on the data from the Illumina 80V2.1 and it was also removed from the panel

| Marker            | Panel | Rel Acc | Abs Acc |
|-------------------|-------|---------|---------|
| sPZ-LipY764-39228 | rec Y | 93.55%  | 80.56%  |

For parentage questions in the next CT, to ensure the percentage for doubtful and exclusion criteria previously established continue to be appropriate in practice, it was decided that for parentage questions exclusion rate per lab would be captured in the next CT.

### New Committee chair

|                                                              |
|--------------------------------------------------------------|
| Chair: Leanne van de Goor                                    |
| Term of service: first term 2021-2025, second term 2025-2029 |
| Affiliation: VHLGenetics                                     |
| E-mail address: Leanne.vandegoer@vhlgenetics.com             |

### New Committee co-chair (optional)

|                                                              |
|--------------------------------------------------------------|
| Chair: Rebecca Bellone                                       |
| Term of service: first term 2019-2023, second term 2023-2027 |
| Affiliation: VGL, UC Davis                                   |
| E-mail address: rbellone@ucdavis.edu                         |

### New Committee members

| Other committee members  | First term of service (from year to year) | Second term of service (from year to year) | Email address                     |
|--------------------------|-------------------------------------------|--------------------------------------------|-----------------------------------|
| Paul Flynn               | 2021-2025                                 | 2025-2029                                  | pflynn@weatherbys.ie              |
| Amparo Martinez          | 2021-2025                                 | 2025-2029                                  | amparomartinezuco@gmail.com       |
| Teruaki Tozaki           | 2021-2025                                 | 2025-2029                                  | ttozaki@lrc.or.jp                 |
| Pedro J. Azor            | 2023-2027                                 | 2025-2029                                  | pedroazor@lgancce.com             |
| Guillermo Giovambattista | 2019-2023                                 | 2023-2027                                  | guillermogiovambattista@gmail.com |

**COMPARISON TEST (2025-2026)** YES

**Duty laboratory Equine SNP**

|                                      |
|--------------------------------------|
| Contact person: Rebecca Bellone      |
| Affiliation: VGL, UC Davis, USA      |
| E-mail address: rbellone@ucdavis.edu |

**List of recommended markers with primer information**

Horse STR Core Panel: VHL20, AHT4, AHT5, ASB2, HMS6, ASB23, HTG10, HMS3, HMS2, HTG4, HMS7, HTG10.

AHT4 F: AACCGCCTGAGCAAGGAAGT /AHT4 R: CCCAGAGAGTTTACCCT

AHT5 F: ACGGACACATCCCTGCCTGC /AHT5 R: GCAGGCTAAGGAGGCTCAGC

ASB2 F: CCACTAAGTGTCGTTTCAGAAGG /ASB2 R: CACAAGTGAAGTCTCTGATAGG

ASB17 F: ACCATTCAGGATCTCCACCG /ASB17 R: GAGGGCGGTACCTTTGTACC

ASB23 F: GAGGGCAGCAGGTTGGGAAGG /ASB23 R: ACATCCTGGTCAAATCACAGTCC

HMS2 F: CTTGCAGTCGAATGTGTATTAAATG /HMS2 R: ACGGTGGCAACTGCCAAGGAAG

HMS6 F: GAAGCTGCCAGTATTCAACCATG /HMS6 R: CTCCATCTTGTGAAGTGTAATCA

HTG4 F: CTATCTCAGTCTTGATTGCAGGAC /HTG4 R: CTCCCTCCCTCCCTCTGTTCTC

VHL20 F: CAAGTCCTCTTACTTGAAGACTAG /VHL20 R: AACTCAGGGAGAATCTTCCTCAG

HTG10 F CCAATGTCATATGGAAAGCCTTG /HTG10 R TGGGCTTTTTATTCTGATCTGTACATTT

HMS3 F ACATCAGTCAGAAGCTGCGAAC /HMS3 R CCCCTCTTGCTCTAAAGCCCCA

HMS7 F: TGTGTTGAAACATACCTTGACTGT \*\* /HMS7 R: CAGGAAACTCATGTTGATACCATC

\*\* original sequence; can produce null allele. Alternate sequence for consideration:

TGTTSTTGAAACATACATTGACTGT.

Horse SNP Core Panel: See ISAG website for more information

Donkey STR Core Panel: AHT4, HMS6, ASB23, HTG10, HMS3, HMS2, HTG7, HMS7, HMS18, TKY297, TKY312, TKY337, TKY343.

Primer sequences are the same of those used for Horses (AHT4, HMS6, ASB23, HTG10, HMS3, HMS2, HMS7)

Primers specific for Donkeys:

HTG7-F: CCTGAAGCAGAACATCCCTCCTTG /HTG7-R: ATAAAGTGTCTGGGCAGAGCTGCT

HMS18-F: CAACAATGAAAATTTGTCCTGTGC /HMS18-R: GTAAATGAGTAGACAATCATGAGG

TKY297-F: GTCTTTTGTGCCTCTGGTG /TKY297-R: TCAGGGGACAGTGGCAGCAG

TKY312-F: AACCTGGGTTTCTGTTGTTG /TKY312-R: GATCCTTCTTTTATGGCTG

TKY337-F: TTTTGAGCAGAGCAGGGTTT /TKY337-R: CTTGTGCCCTCATGTCTTT

TKY343-F: TAGTCCCTATTCTCCTGAG /TKY343-R: AAACCCACAGATACTCTAGA

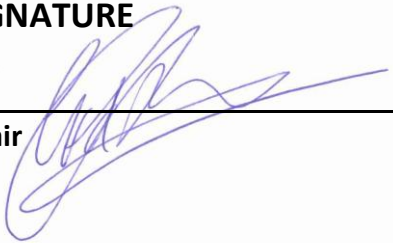
**Duty laboratory for the next Equine STR and SNP comparison test**

|                                      |
|--------------------------------------|
| Contact person: Rebecca Bellone      |
| Affiliation: VGL, UC Davis. USA      |
| E-mail address: rbellone@ucdavis.edu |

**Duty laboratory for the next Donkey STR comparison test**

|                                      |
|--------------------------------------|
| Contact person: Rebecca Bellone      |
| Affiliation: VGL, UC Davis. USA      |
| E-mail address: rbellone@ucdavis.edu |

**SIGNATURE**

  
Chair

  
Duty laboratory