



## Extra STR panels for dog parentage

Applied Genetics of Companion  
Animals Workshop

20 July 2017

## ISAG 22 markers

- AHT121, AHT<sub>h</sub>130, AHT137, AHT<sub>h</sub>171, AHT<sub>k</sub>211, AHT<sub>k</sub>253, AHT<sub>h</sub>260
- AMEL
- CXX279
- FH2054, FH2848
- INRA21
- INU005, INU030, INU055
- REN54P11, REN64E19, REN105LO3, REN162C04, REN169D01, REN169O18, REN247M23

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**Canine Genotypes Panel 1.1 (ThermoFisher/  
Finnzymes)**

## 19 other markers reported in ISAG CTs

- FH2001, FH2328
- LEI004
- RPE65
- VGL0760, VGL0910, VGL1063, VGL1165, VGL1541, VGL1606, VGL1828, VGL2009, VGL2136, VGL2409, VGL2918, VGL3008, VGL3112, VGL3235, VGL3438

## 19 other markers used in ISAG CTs

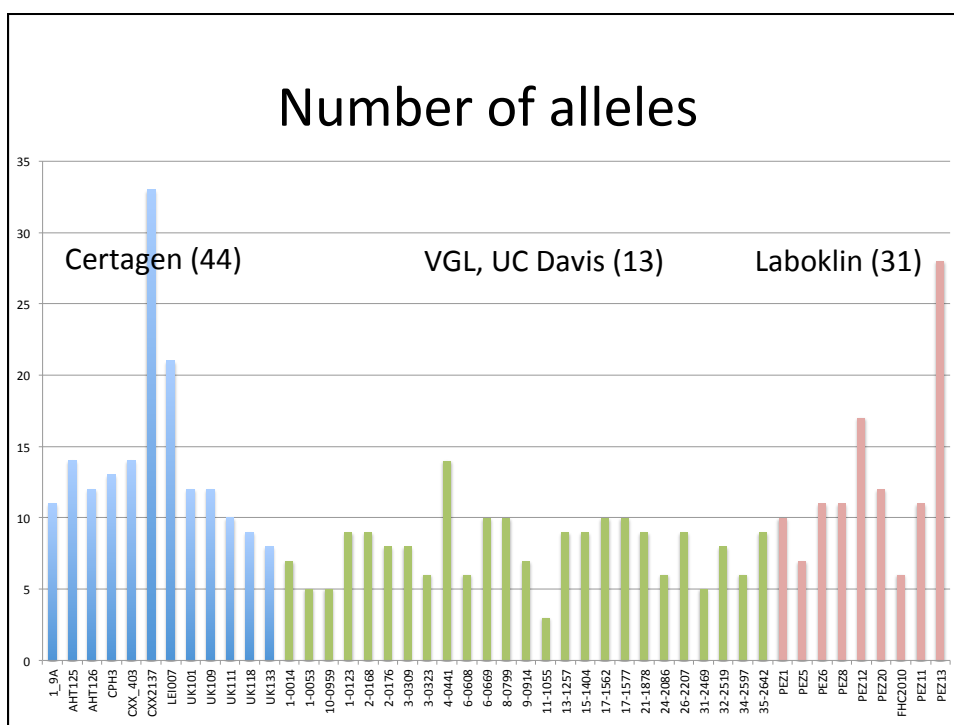
- **FH2001, FH2328 (Canine Panel 2.1)**
- LEI004
- RPE65
- VGL0760, VGL0910, VGL1063, VGL1165, VGL1541, VGL1606, VGL1828, VGL2009, VGL2136, VGL2409, VGL2918, VGL3008, VGL3112, VGL3235, VGL3438

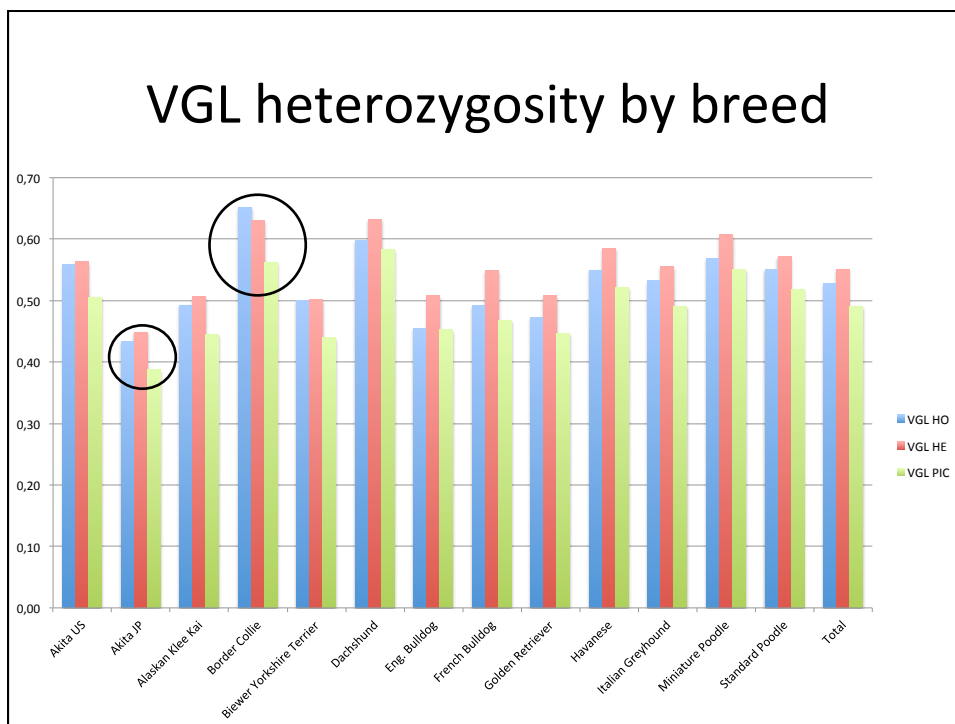
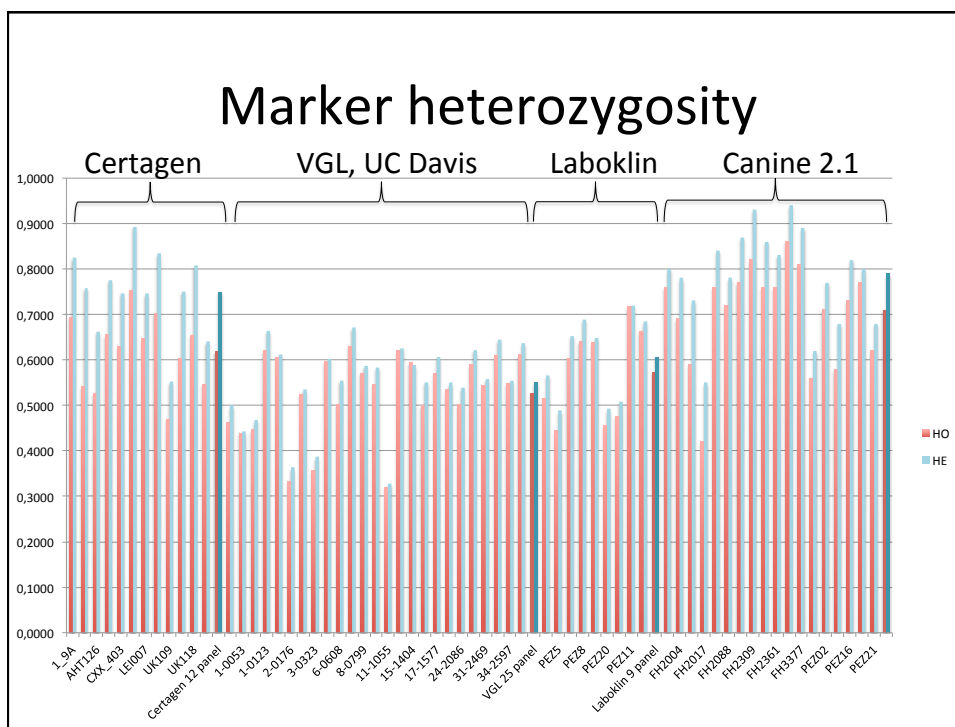
## Commercial kits

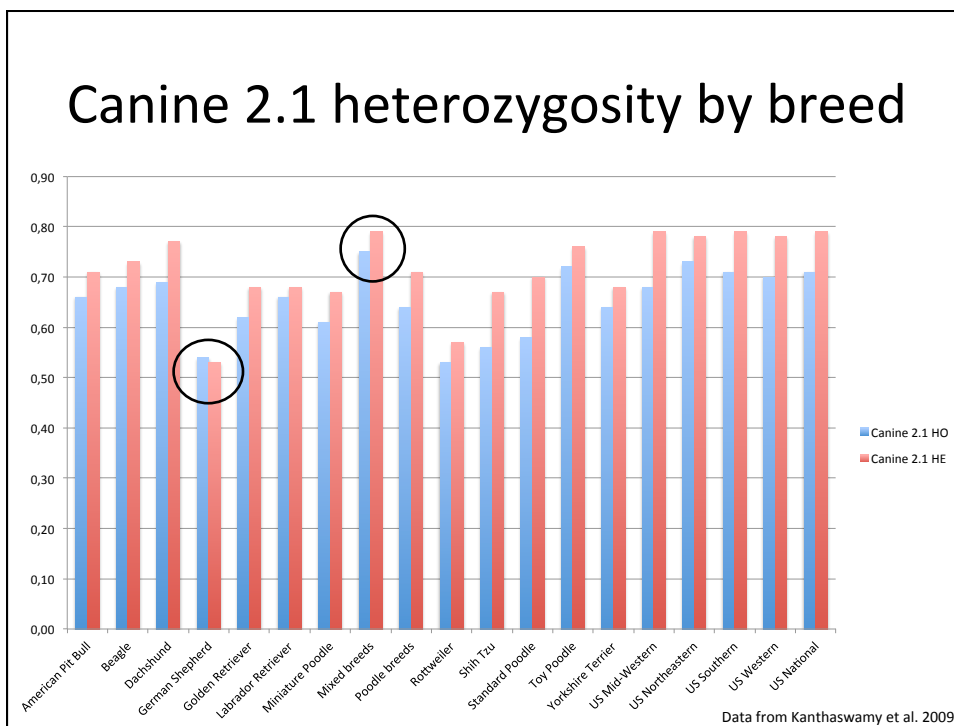
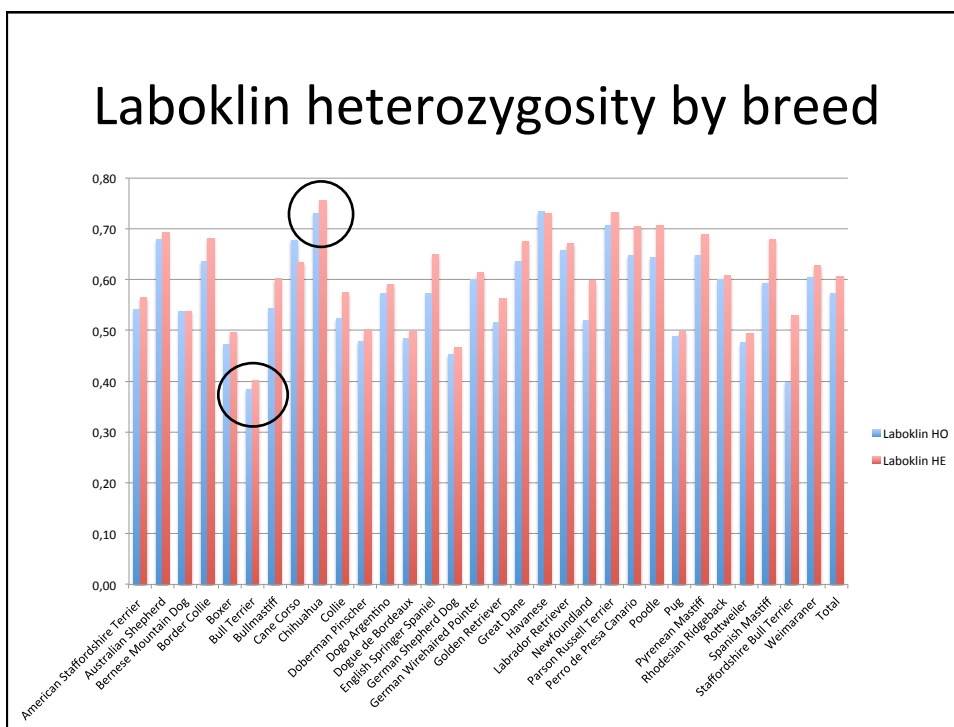
- Canine Genotypes Panel 1.1 (ThermoFisher/Finnzymes)
  - 19 markers:
  - **AHT121, AHT137, AHTh171, AHTk211, AHTk253, AHTh260**
  - **AMEL**
  - **CXX279**
  - **FH2054, FH2848**
  - **INRA21**
  - **INU005, INU055, INU030**
  - **REN54P11, REN162C04, REN169D01, REN169O18, REN247M23**
- Canine Genotypes Panel 2.1 (ThermoFisher), data from 14 breeds
  - 19 markers:
  - FH2001, FH2004, **FH2010**, FH2017, **FH2054**, FH2088, FH2107, FH2309, FH2328, FH2361, FH3313, FH3377
  - PEZ02, **PEZ05**, PEZ16, PEZ17, PEZ21
  - vWF.X, and ZFX/Y
- StockMarks Kit for Dogs (ThermoFisher)
  - 10 markers:
  - **FHC2010, FHC2054**, FHC2079
  - **PEZ01**, PEZ3, **PEZ5**, **PEZ6**, **PEZ8**, **PEZ12**, **PEZ20**,

## Other extra panels used

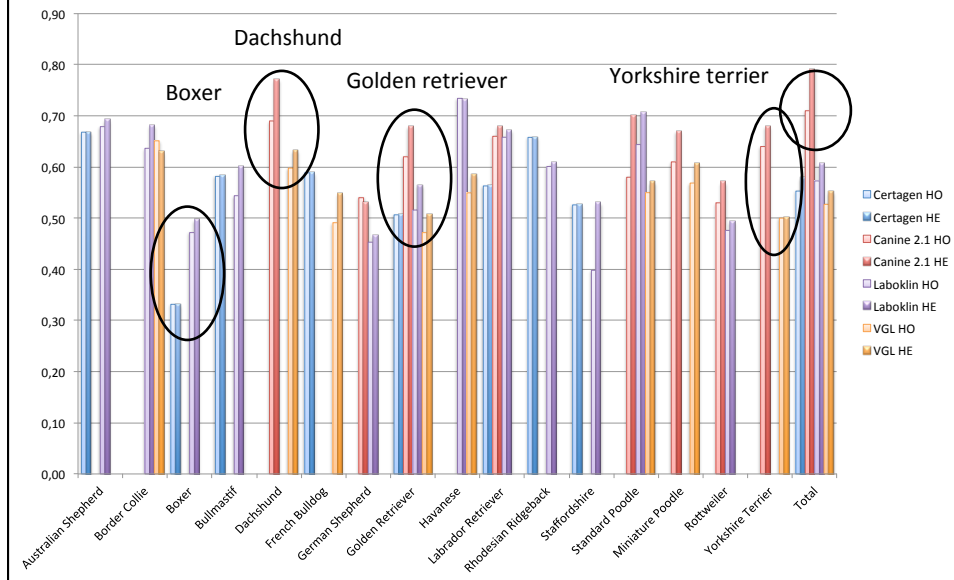
- Certagen (44 breeds)
  - 12 markers:
  - 1\_9A, AHT125, AHT126, CPH3, CXX\_403, CXX2137, LEI007, UK101, UK109, UK111, UK118, UK133
- Veterinary Genetics Laboratory, UC Davis (13 breeds)
  - 25 markers:
  - 1-0014, 1-0053, 10-0959, 1-0123, 2-0168, 2-0176, 3-0309, 3-0323, 4-0441, 6-0608, 6-0669, 8-0799, 9-0914, 11-1055, 13-1257, 15-1404, 17-1562, 17-1577, 21-1878, 24-2086, 26-2207, 31-2469, 32-2519, 34-2597, 35-2642
- Laboklin (31 breeds)
  - 9 markers:
  - FHC2010, PEZ1, PEZ5, PEZ6, PEZ8, PEZ11, PEZ12, PEZ13, PEZ20







## Heterozygosity of breeds across panels



## Conclusions

- Most of the Laboklin markers are included in the Canine Stockmarks kit
- Canine Genotyping Panel 2.1 performs well
- Differences between panels may reflect population stratification
- What extra panel would we go for?