

Head and Neck

Deepa Nayar

Staff Scientist

UK NEQAS ICC&ISH

- Updates and Data:

- P16

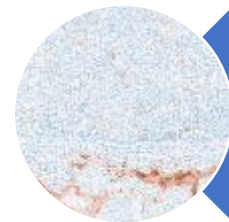
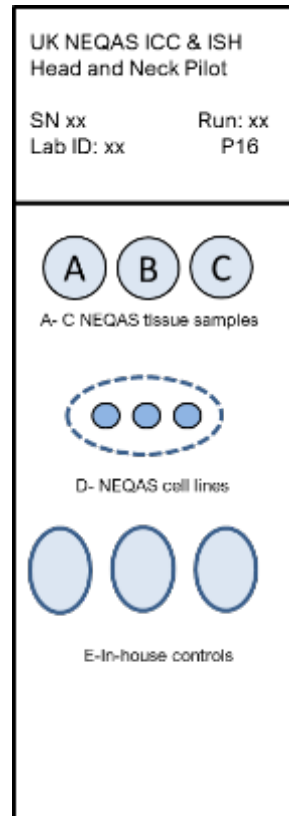
- HPV

- PD-L1:

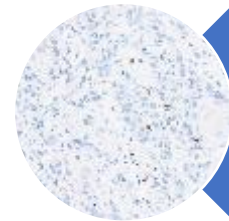
- Pre-pilot

P16 Module

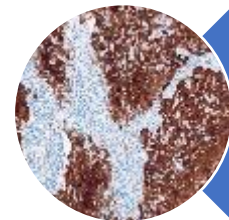
- TMA of positive and negative H&N SCC tumour alongside tonsil is sent to participants
- C/L are included for validation but not currently assessed
- Assessment process
- Score criteria



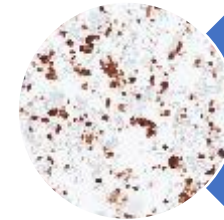
A: Tonsil



B: Negative
tumour



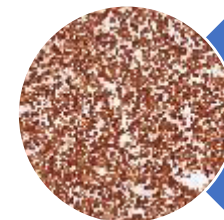
C: Positive
tumour



C/L 1

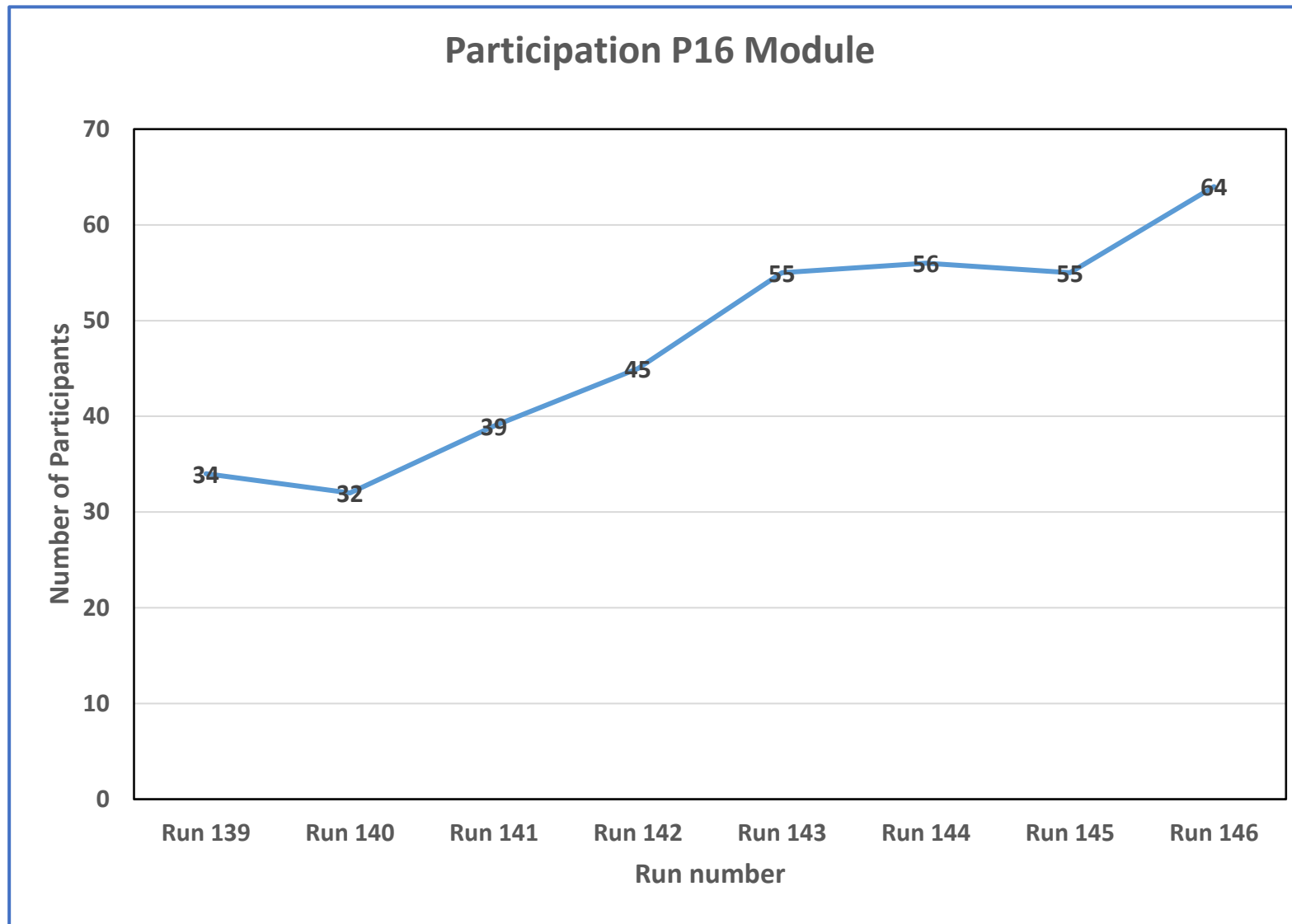


C/L 2



C/L 3

Participants P16 Module

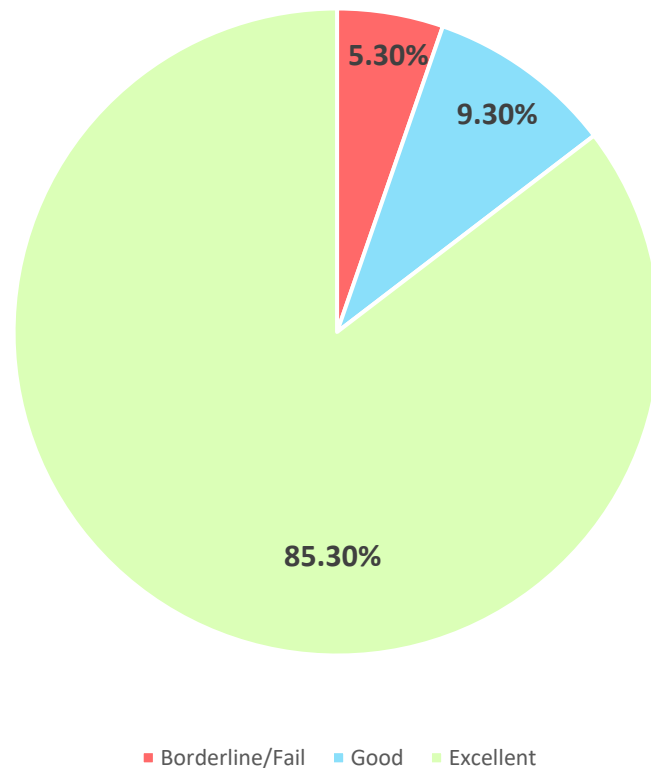


Over 2 years there has been an increase in the number of participants by 88%

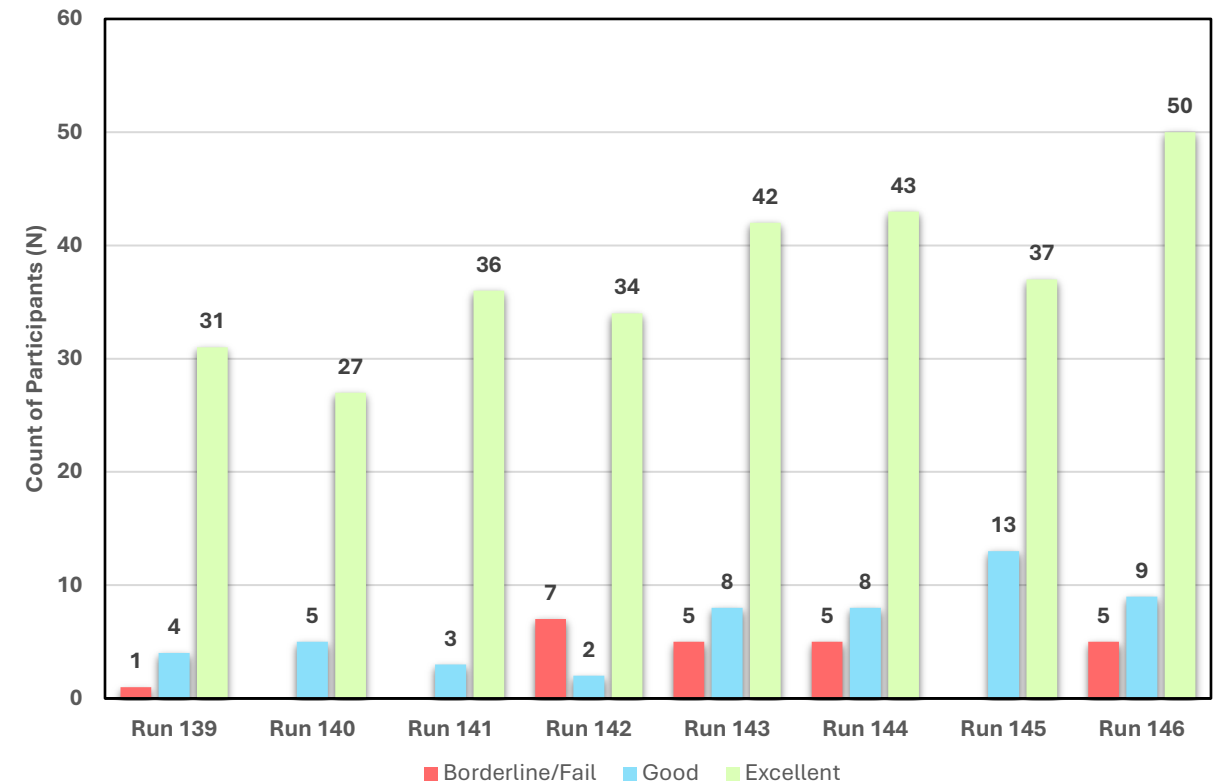
P16 Results: Runs 139 to 146

Overall excellent staining results with 94.6% of participants passing and 85.3 % achieving excellent (16-20)

Percentage scores over 2 years



Results over 2 years

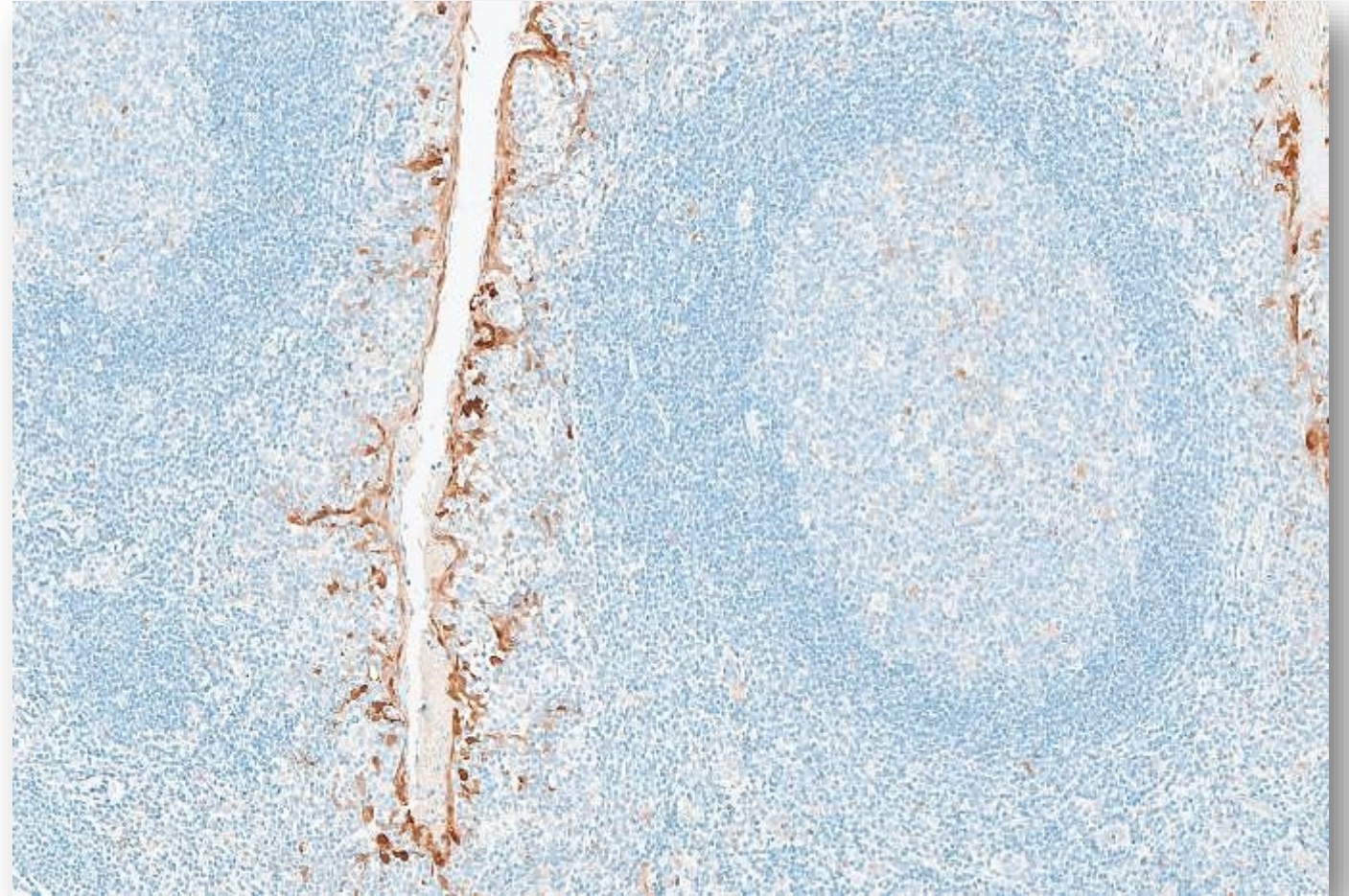
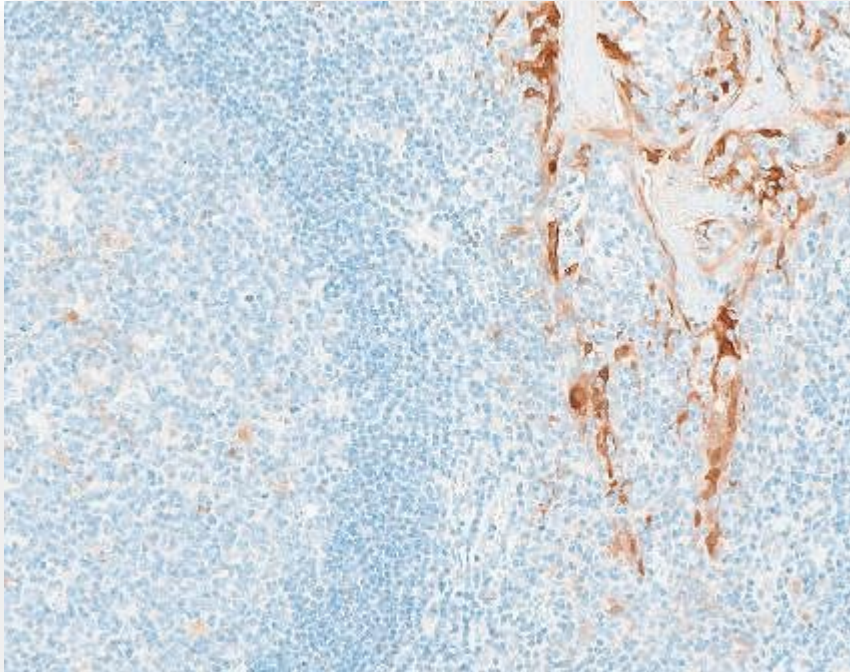


P16 Antibodies and Platforms



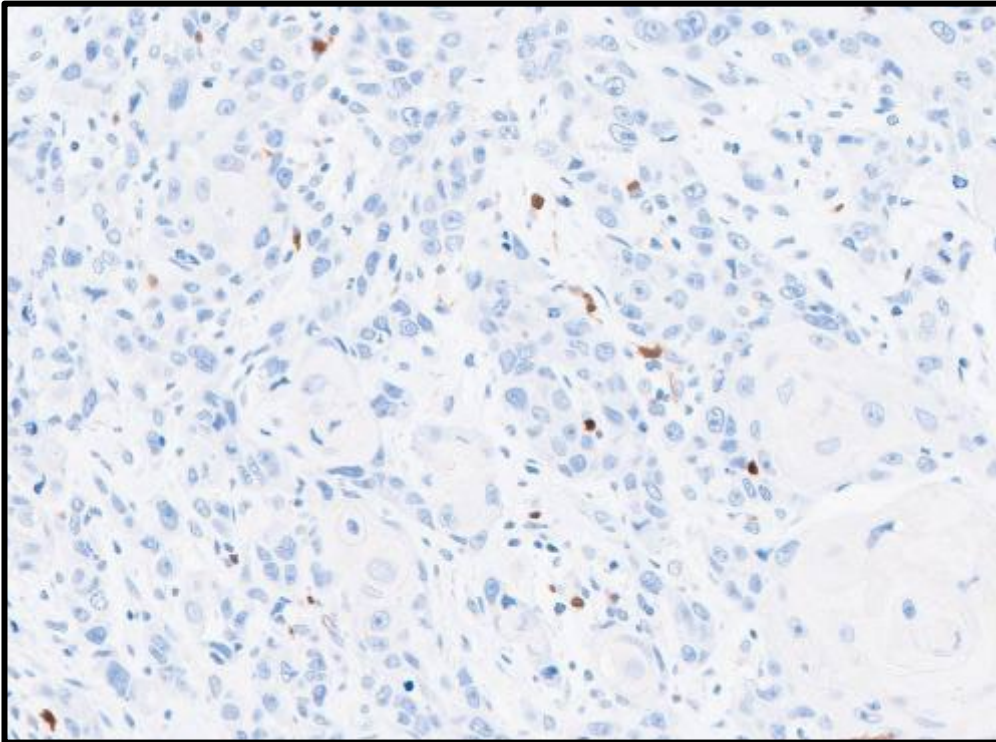
- Majority of participants using the E6H4 clone. Achieving excellent scores on both Ventana and Leica platforms

P16 Expected Staining of Tonsil

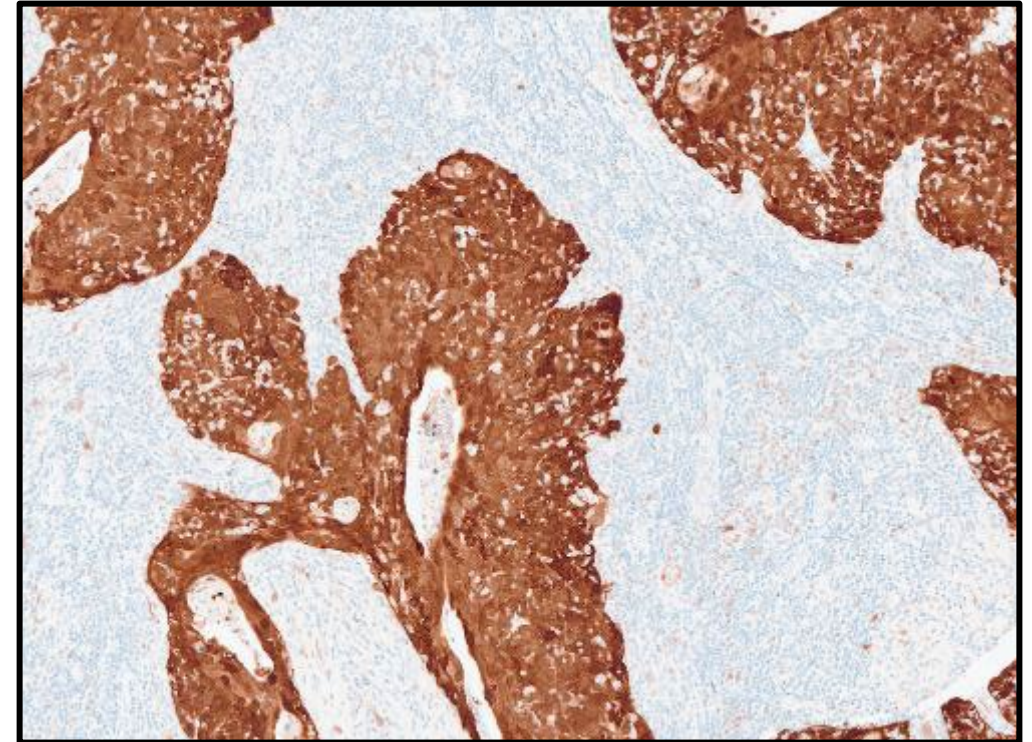


Excellent staining with demonstration of P16 in the crypt epithelium and scattered lymphoid cells. Using the E6H4 (RTU) antibody, CC1 standard, UltraView, on the BenchMark Ultra (all Ventana). Score 19/20.

P16 Expected Staining

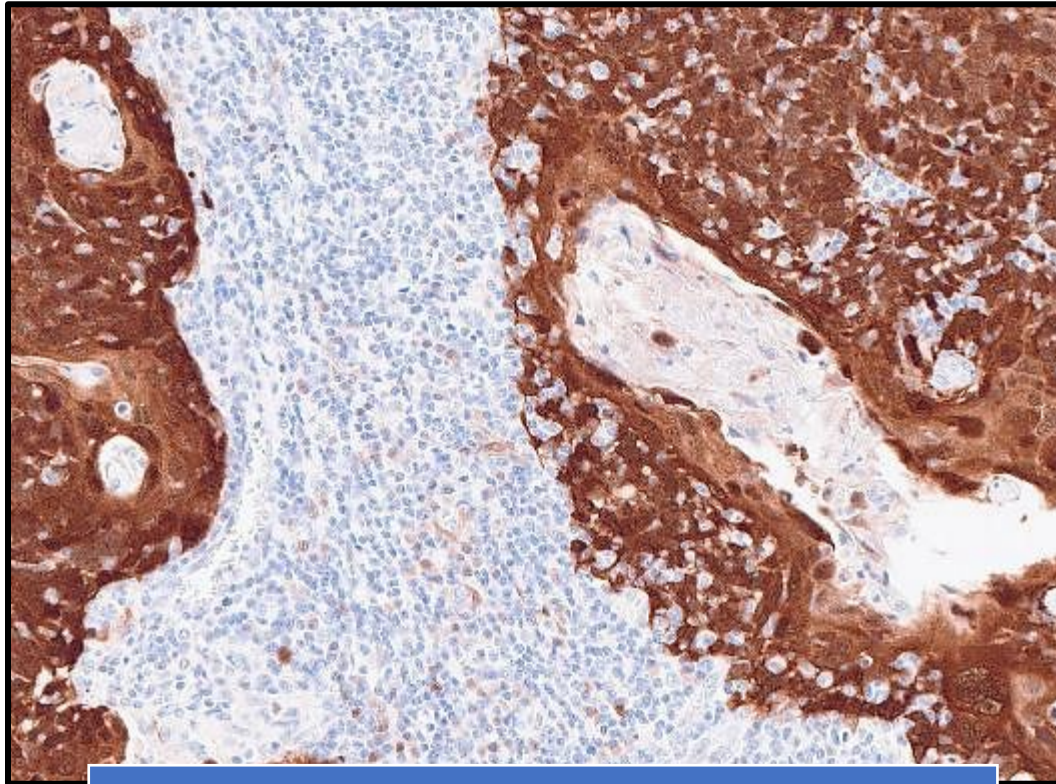


Negative Tumour

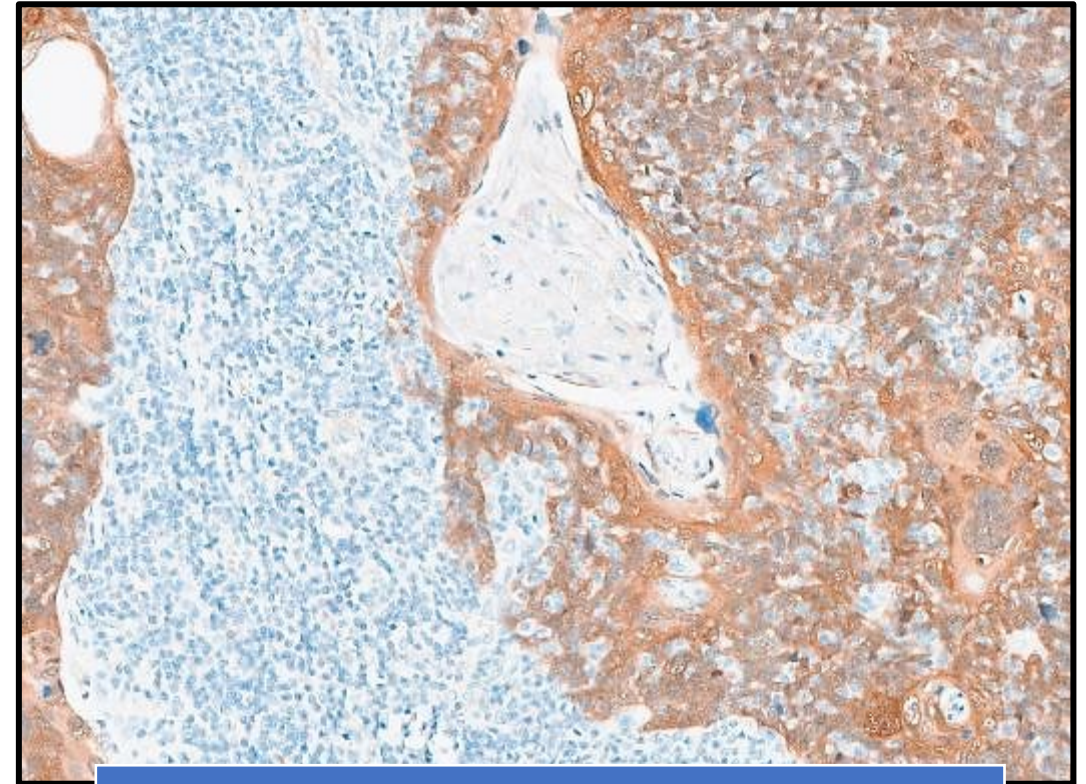


Positive Tumour

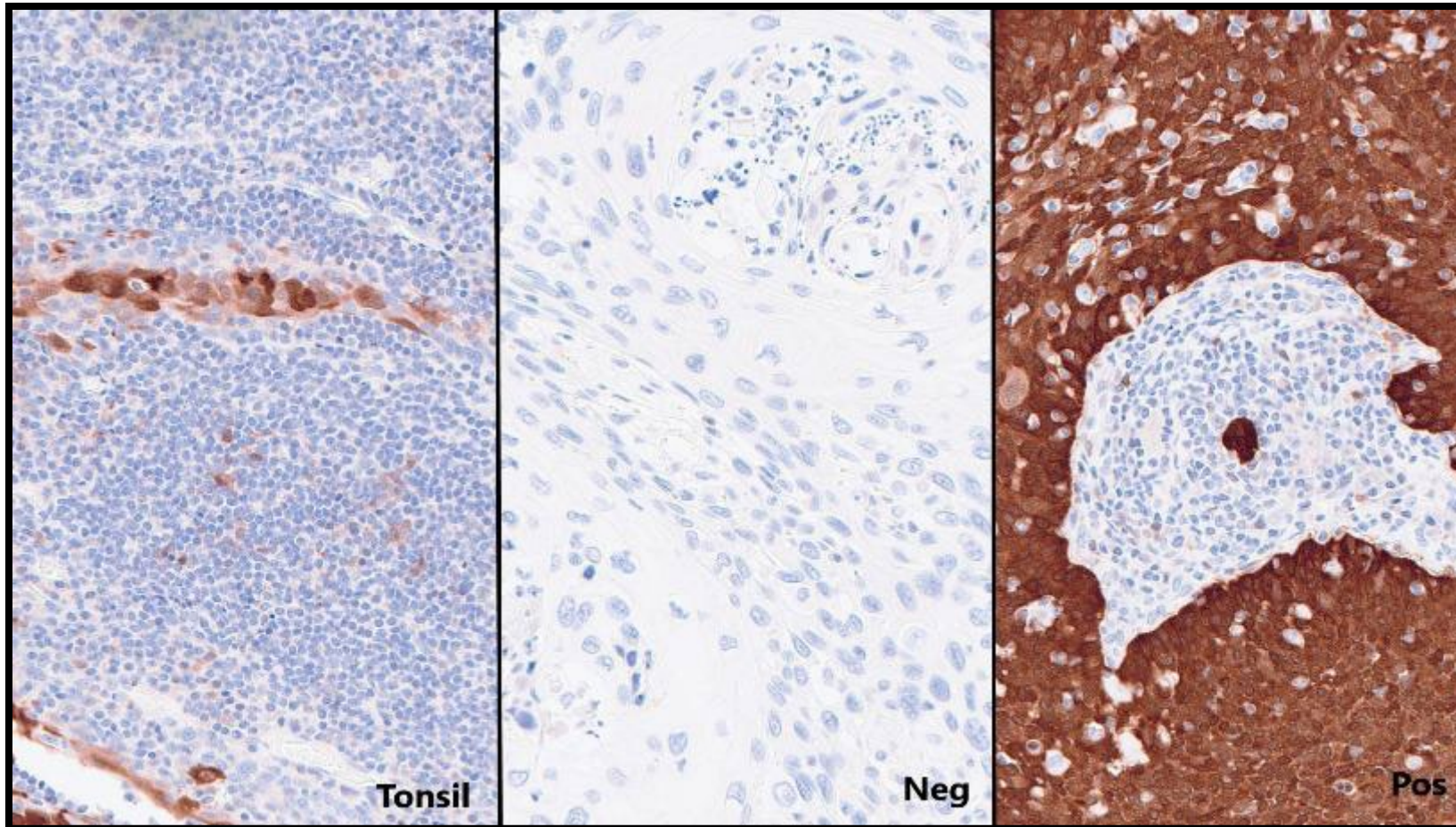
P16 Optimal and Sub-Optimal Staining



Excellent demonstration of P16 in UK NEQAS provided tumour with strong diffuse nuclear and cytoplasmic staining



Sub-optimal demonstration of P16 in the UK NEQAS provided tumour. The staining is very weak with only a few tumour cells showing positive staining in the nuclei. >70% staining required to be positive

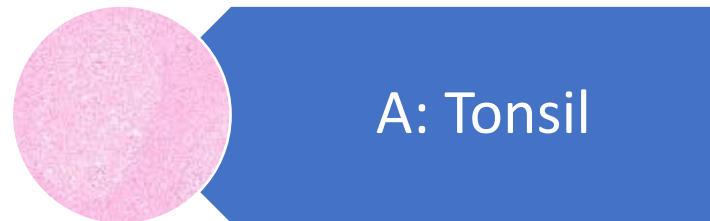
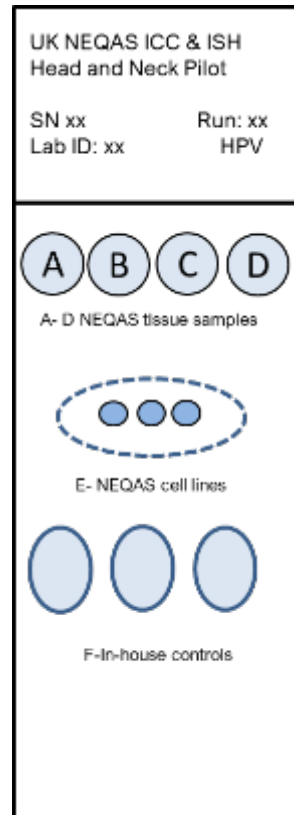


Ideal in-house control set comprising of a tonsil, HNSCC positive and negative tumours. Participant scored 17/20.

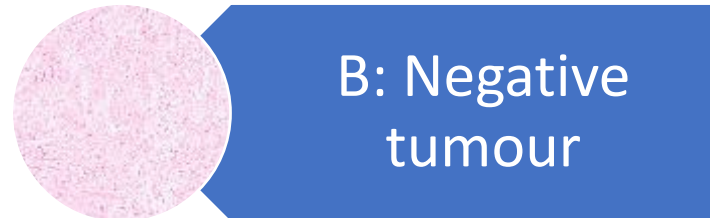
HPV Module

HPV Module

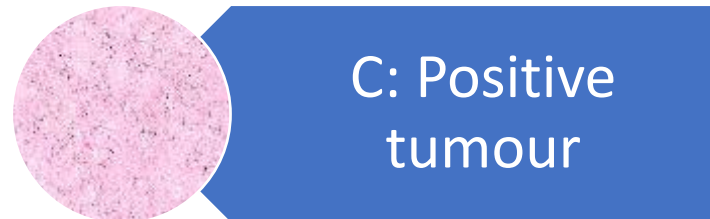
- TMA of Tonsil, Negative tumour and 2 positive tumours with varying expression is sent to participants
- C/L are included for validation but not currently assessed
- Assessment process
- Score criteria



A: Tonsil



B: Negative tumour

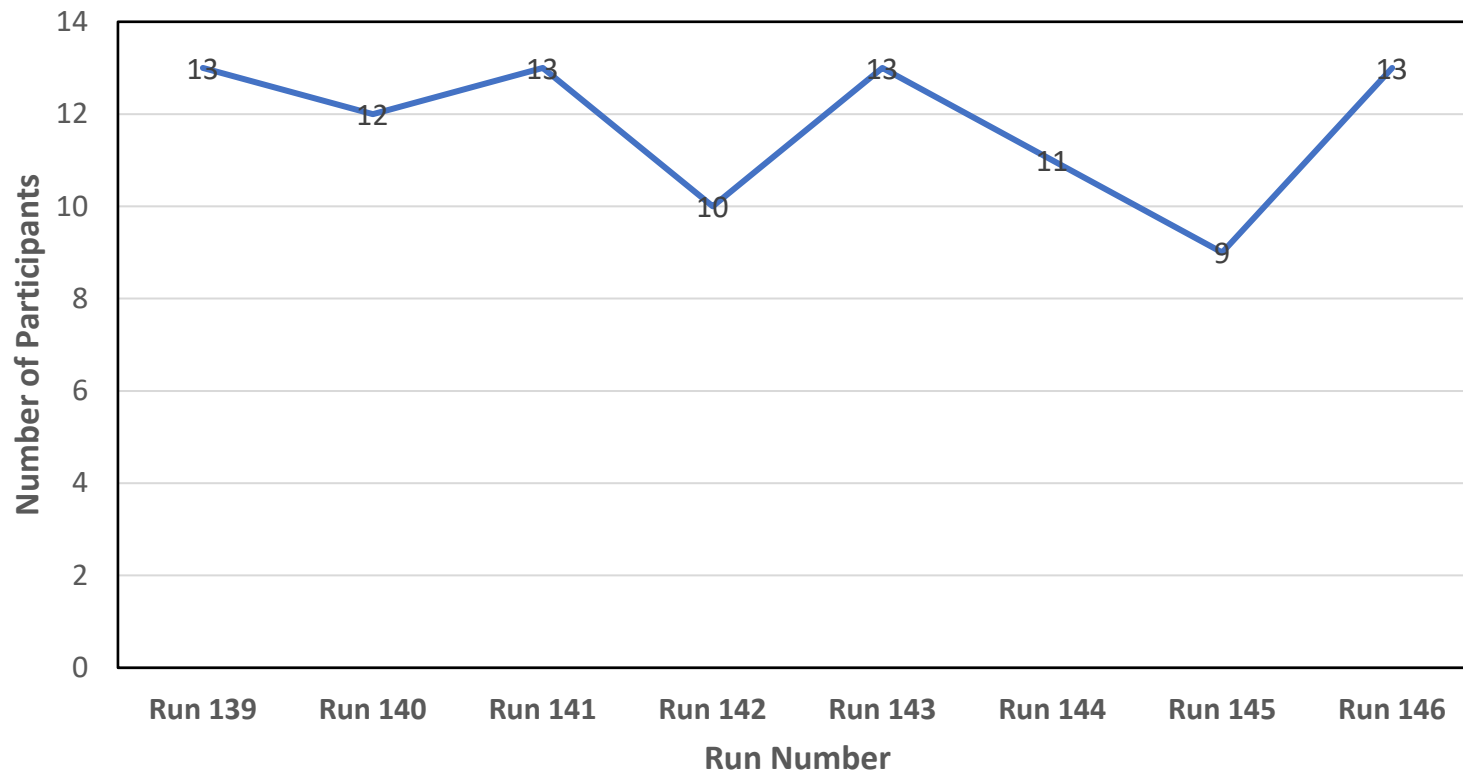


C: Positive tumour



D: Positive tumour

Number of participants HPVish

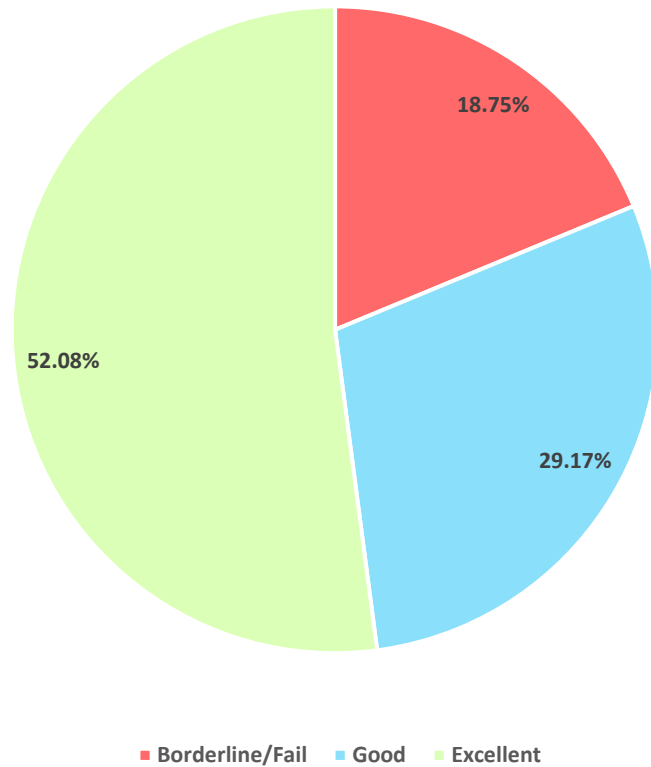


- Drop off in participants due to many labs validating new methods following discontinuation of the Ventana probe.
- Last run number of participants was back to when we started the module.

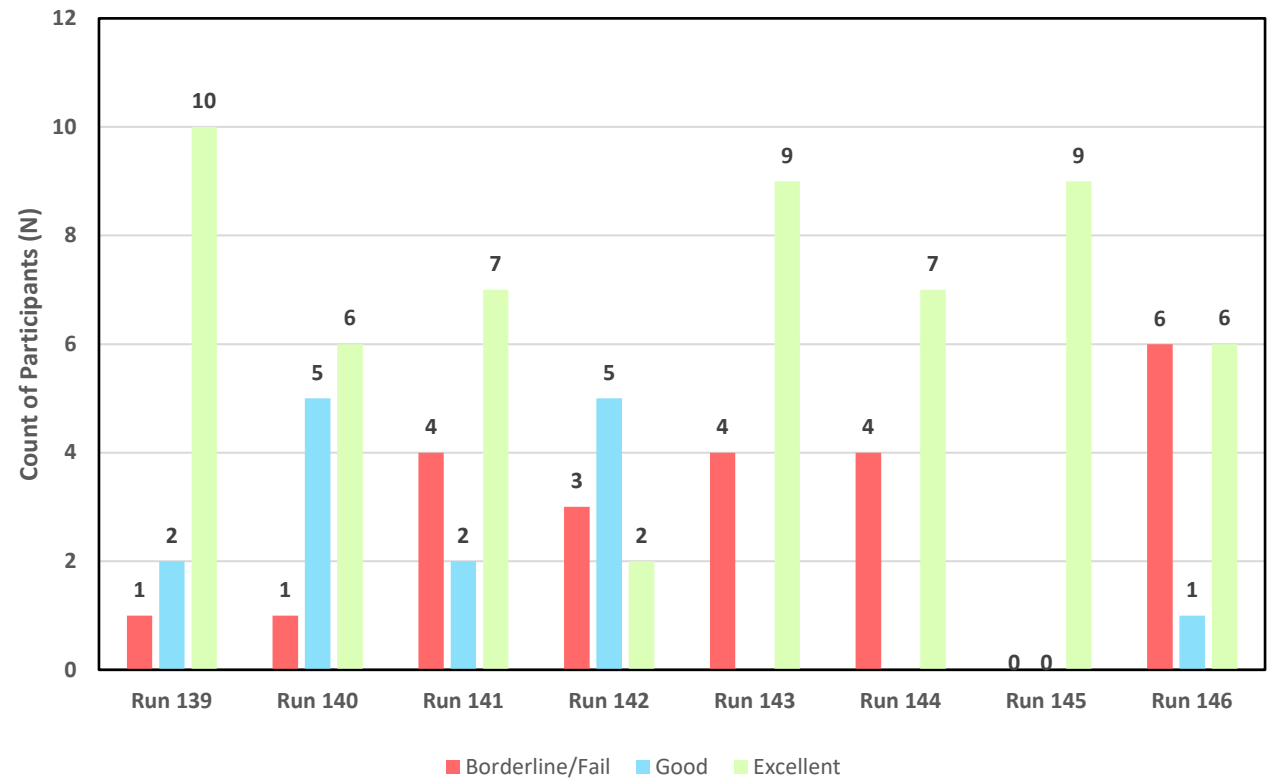
HPV Results Runs 139 to 146

Overall good staining results with 81.25 % of participants passing

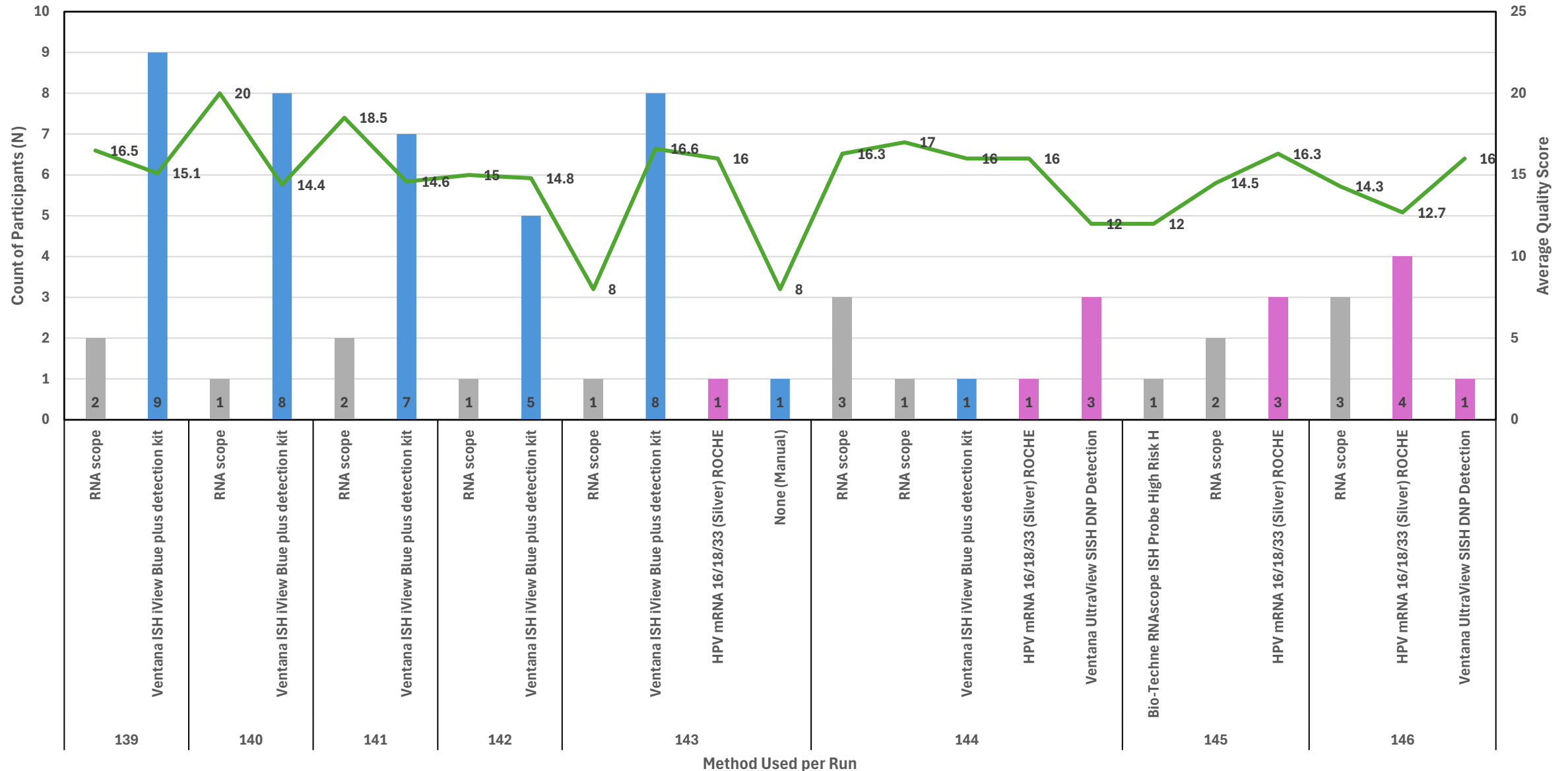
Percentage Scores over 2 years



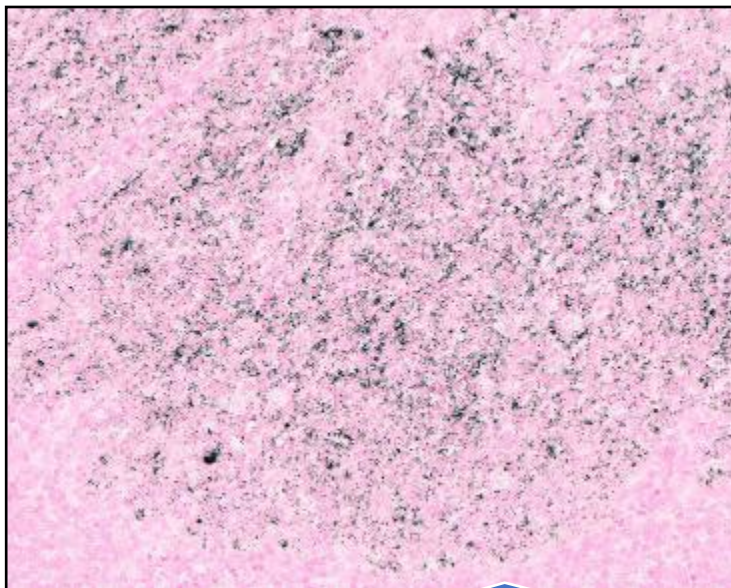
Results over 2 years



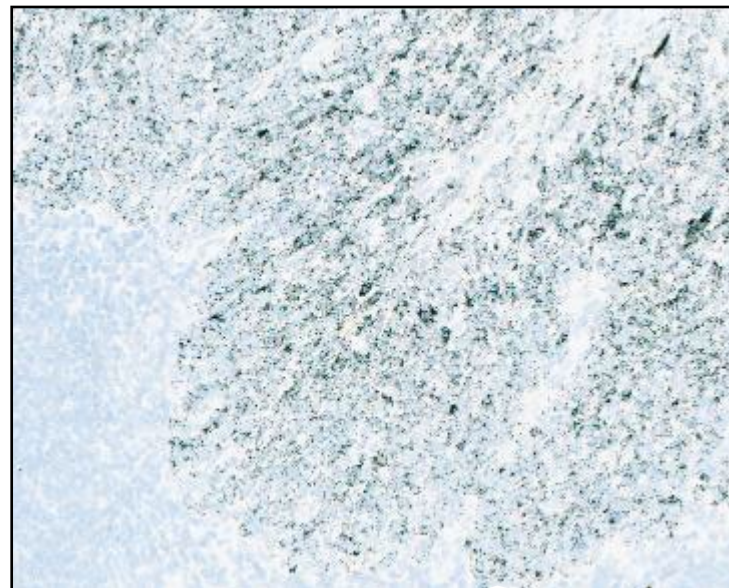
HPV Methods and Platforms



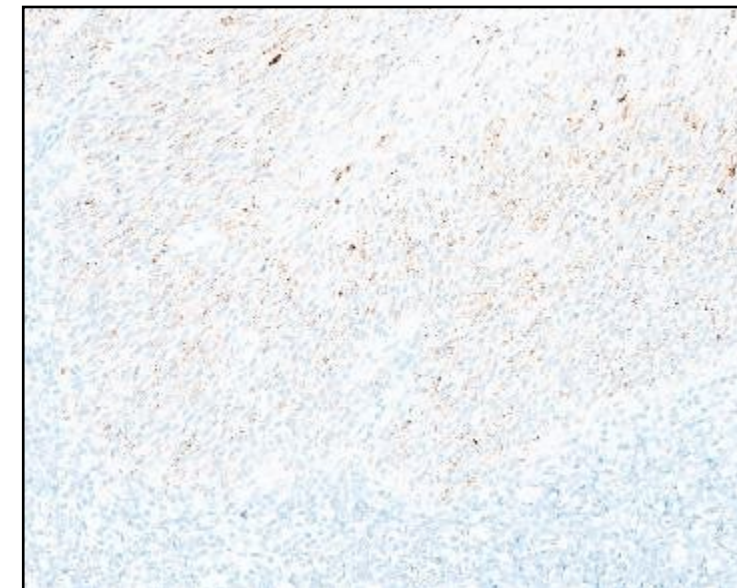
HPV Expected staining



Stained using the UltraView
SISH DNP with CC1 on
Ventana Benchmark Ultra

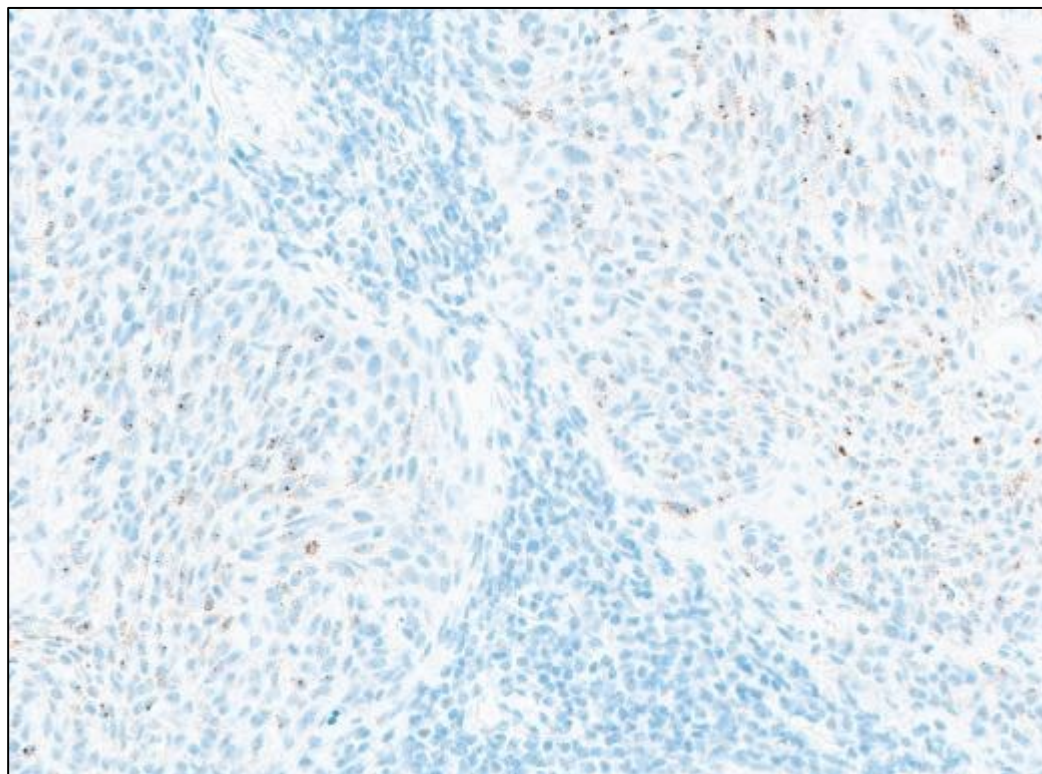


Stained using the HPV mRNA
(silver) with CC1 for 24 minutes
and Protease 3 for 12 minutes
on Benchmark Ultra

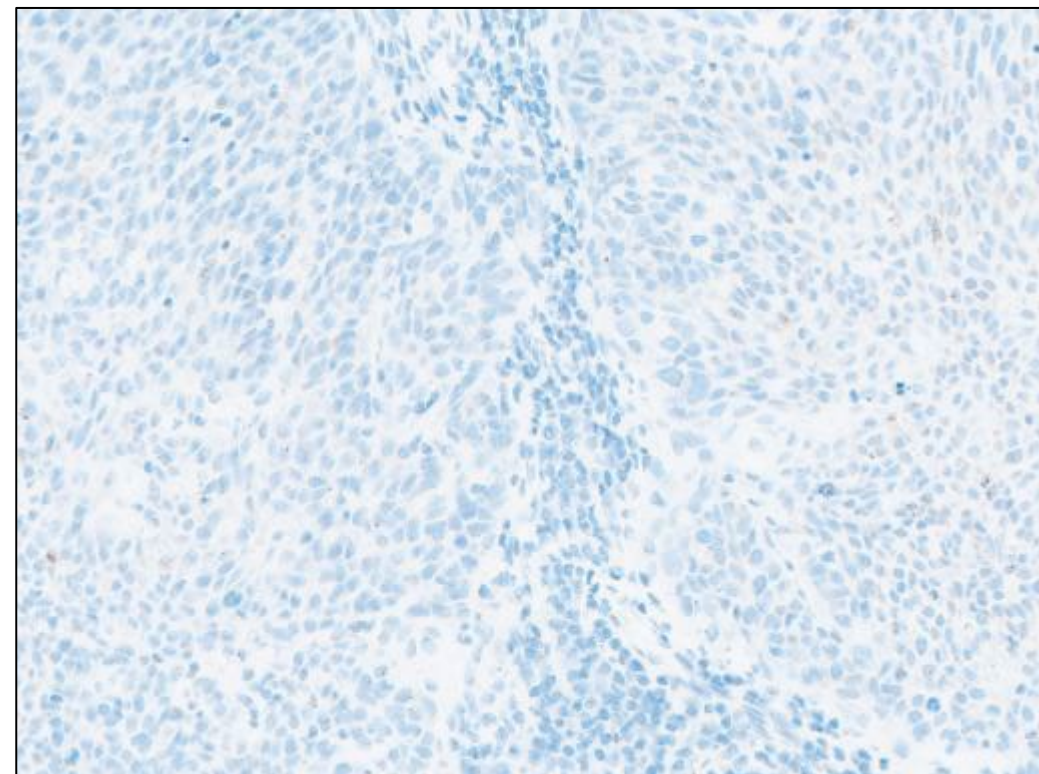


Stained using the RNAscope
ISH probe with brown
detection on the Leica Bond
III

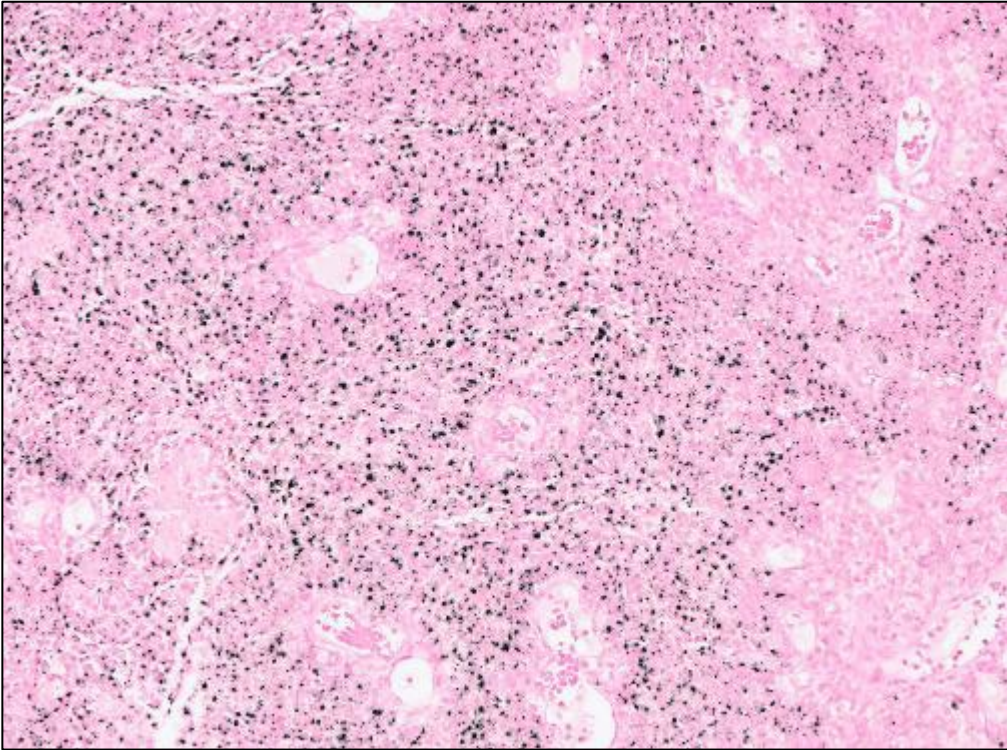
HPV Optimal and Sub-Optimal staining



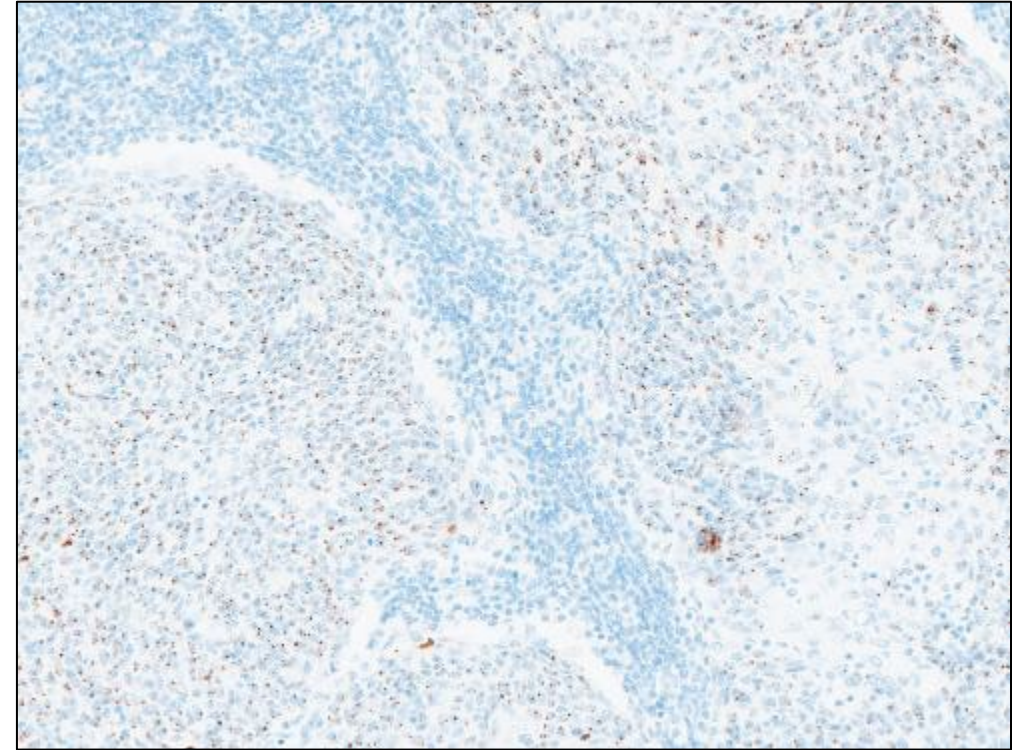
Optimal demonstration stained using the RNAscope on the Leica Bond III



Sub-optimal demonstration with weaker staining in the known positive areas. Stained using the BioTechne RNAscope on the Leica Bond III



Excellent demonstration of HPV on participants in-house control, stained using HPV mRNA (silver) on Ventana Benchmark Ultra. 16/20



Excellent demonstration of HPV on participants in-house control, stained using RNA Scope on Leica Bond III. 18/20

PD-L1 Pilot

Survey conducted
to gauge
participant interest

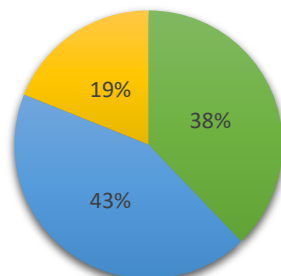


35 labs would like
to participate



Pre-Pilot run
established in
2024

Labs currently carrying out PDL-1 testing for
HNSCC

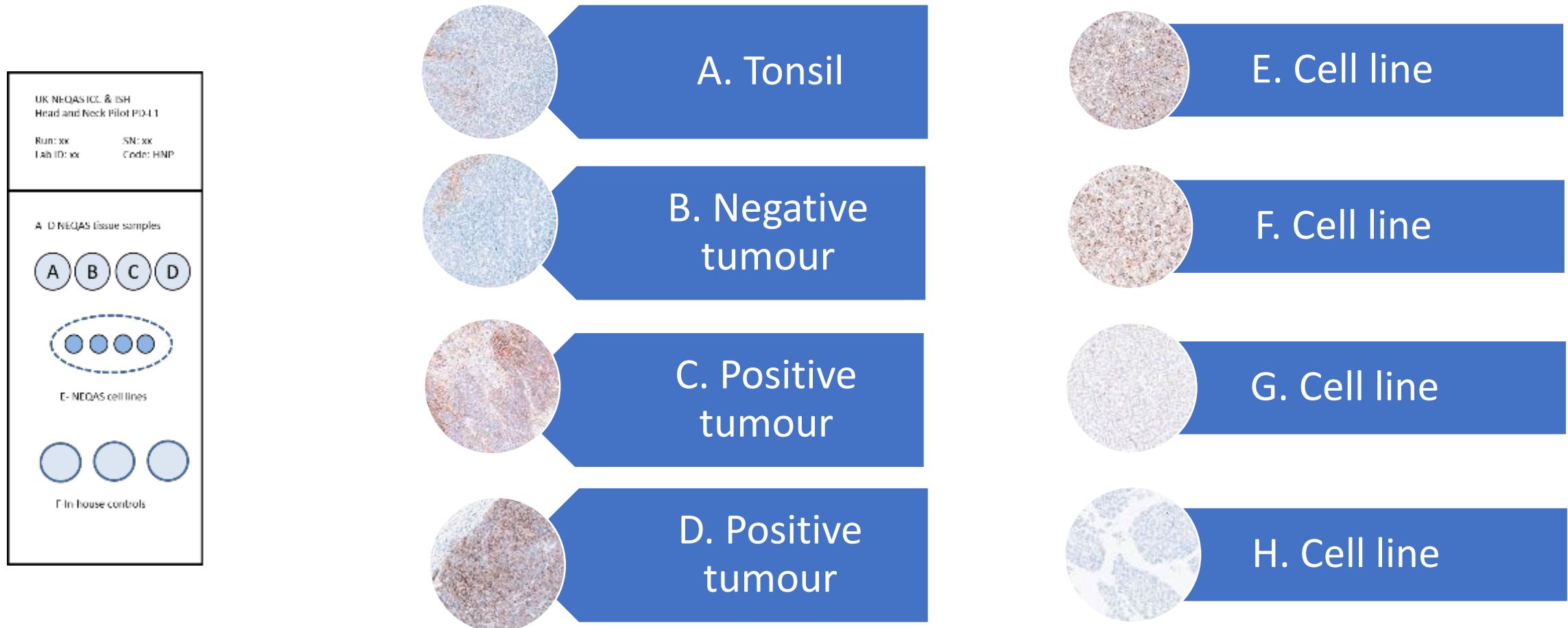


■ Yes ■ No ■ In future

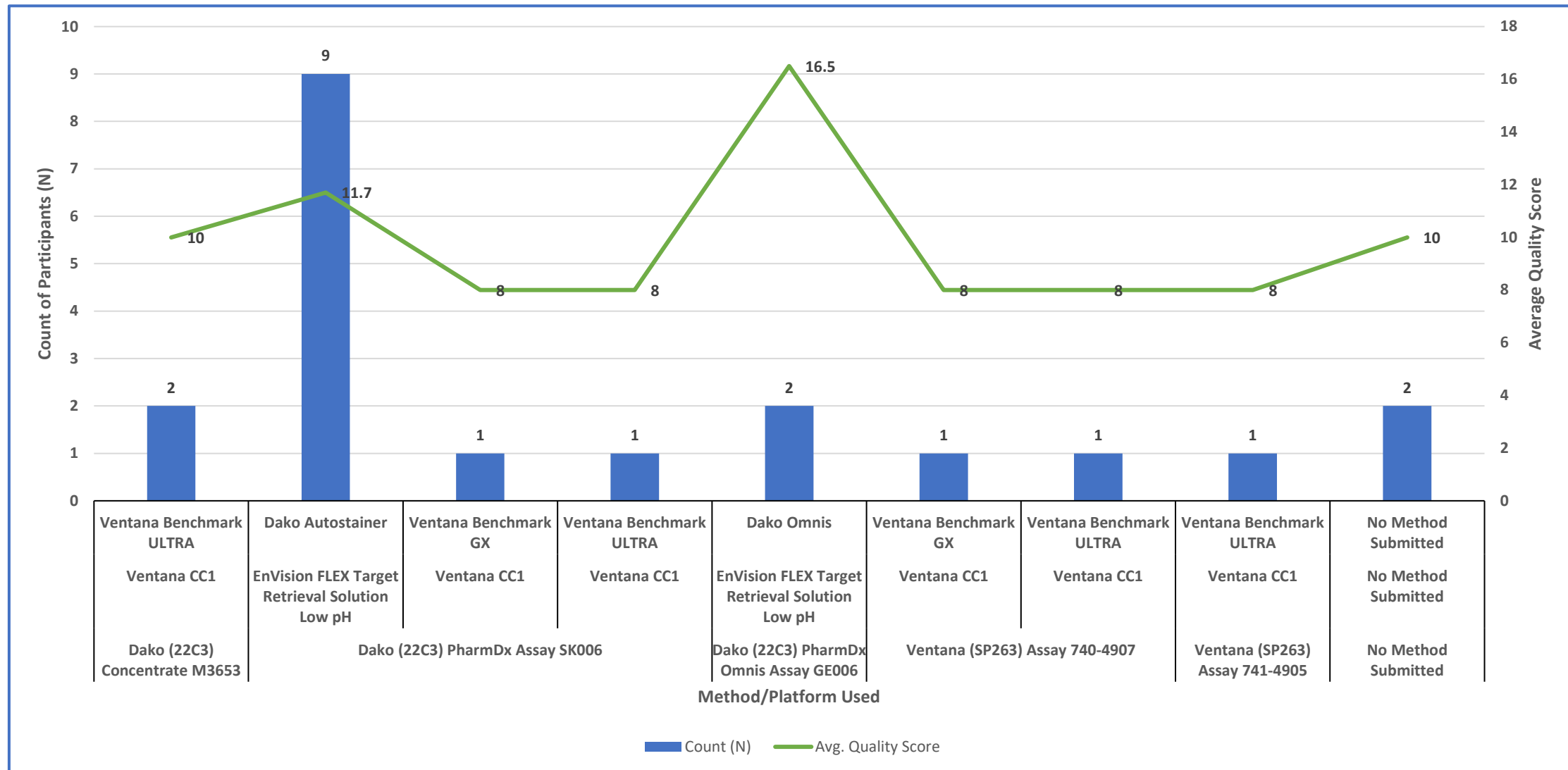


PD-L1 Pre-Pilot Run

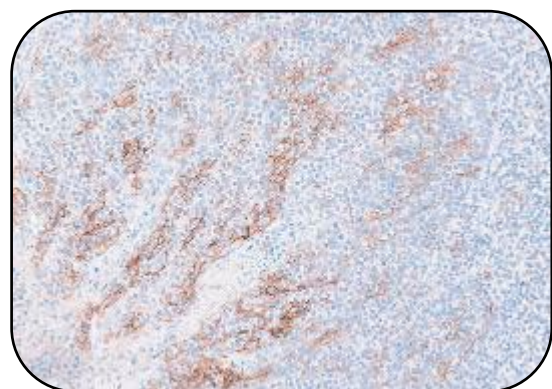
- TMA of Tonsil, Negative tumour and 2 positive tumours with varying expression is sent to participants
- C/L are included and assessed
- Assessment process
- Score criteria



PD-L1 Methods and Platforms

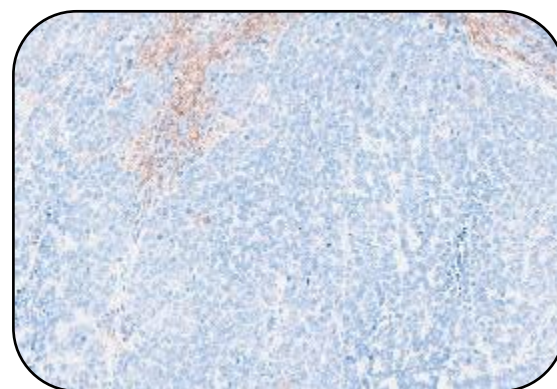


PD-L1 Expected staining-provided tissue



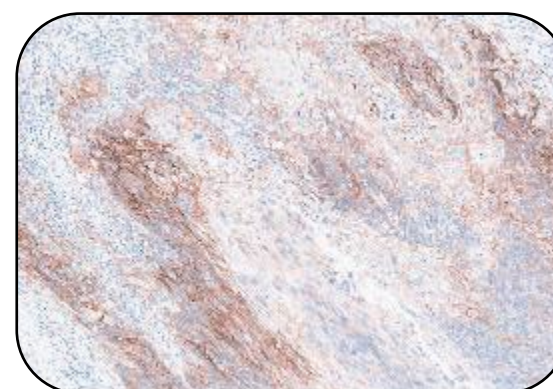
Tonsil

Core A: Tonsil
(acceptable/not
acceptable)



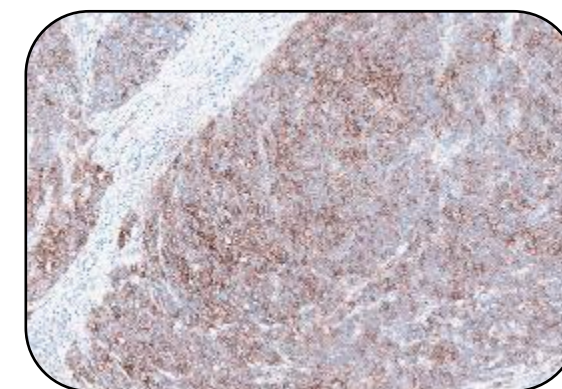
Negative
tumour

CPS Value <1



Positive tumour

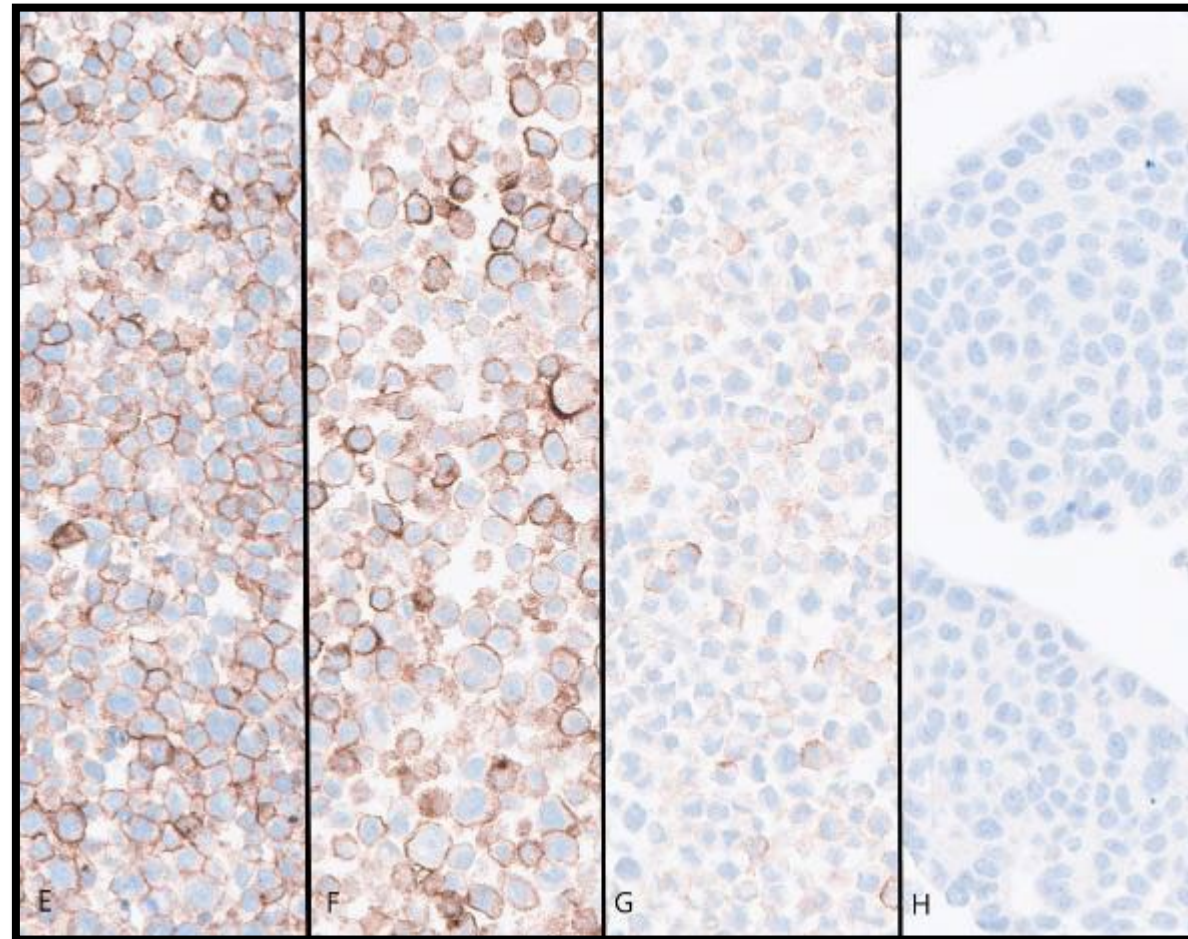
CPS Value ≥ 20



Positive tumour

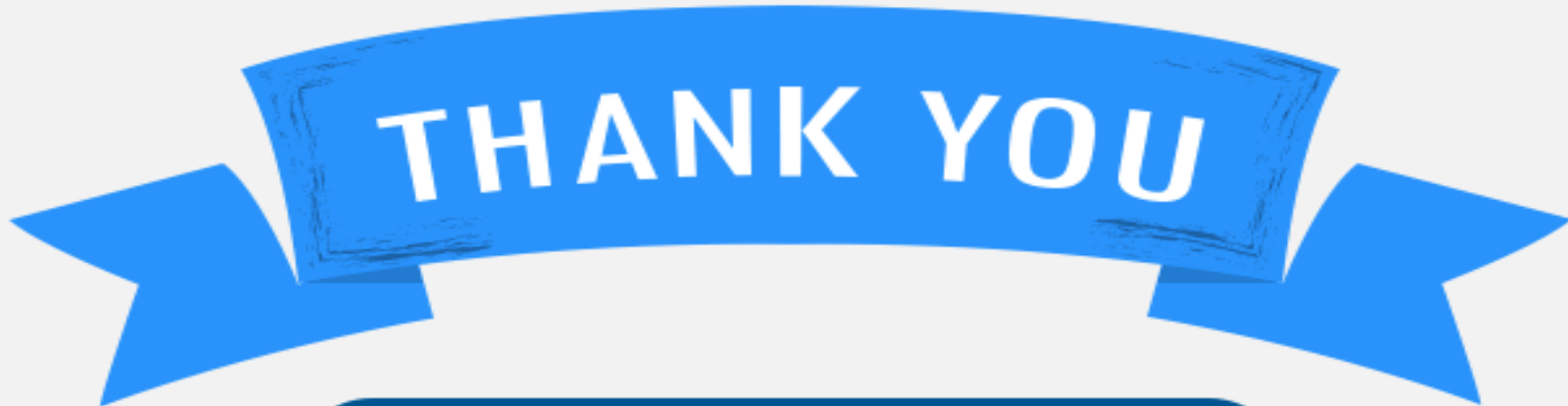
CPS Value ≥ 20

PD-L1 Expected staining-cell lines



Cell lines scored using TPS values: Core E and F; >80%, core G; 5-15% and core H; 0%

I would like to thank the team at UK NEQAS ICC & ISH,
all our assessors and our participants.



THANK YOU



Any Questions?