



Animal &
Plant Health
Agency

Asiantaeth
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UK National Reference
Laboratory for TSEs



Histopathology interpretation EQA

John Spiropoulos
plus
34 anonymised readers (unknown soldiers)





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Materials & Methods

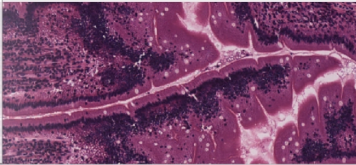
- 15 slides (14 IHC, 1 H&E)
- Scanned
- Access to scanned images via the web
- Results entered in spreadsheet and sent to PB who compiled them

Aperio Slidehosting

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Leica
BIOSYSTEMS

Case Specimens

Sort | View Images | Open Data

Page 1 of 1 (1)

☐	☐	Procedure ↑	Id	Data Group	Body Site	Comment
☐	☐	EQA - MAY 2018	970	APHA		

Sort | View Images | Open Data

1 of 1 (15)

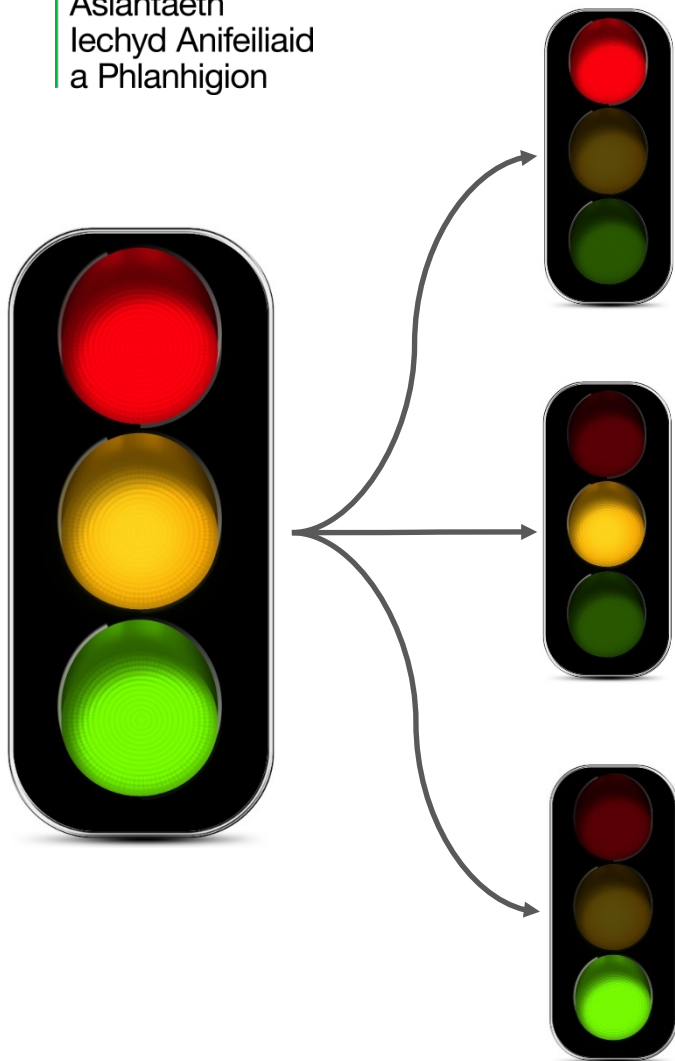
☐	☐	Image	Description ↑	Stain	Interpretation	Comment	Image ID	File Location
☐	☐		Slide 01				3777	\\virdu-aws-sh2\images\APHA_Mar2018\EQA- APRIL 2018\APHA Slide 1.svs
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☐	☐		Slide 04				3786	\\virdu-aws-sh2\images\APHA_Mar2018\EQA- APRIL 2018\APHA Slide 4.svs



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Interpretation rules - Traffic light approach



Misdiagnosis: Positive instead of **negative*** or negative instead of **positive**.

Also for H&E samples positive or negative interpretation of **inconclusive** or **unsuitable** samples if the interpretation disagrees with the IHC result.

Safe diagnosis: Unsuitable or Inconclusive for a **positive** or **negative sample**.

Also for H&E samples positive or negative interpretation of **inconclusive** or **unsuitable** samples if the interpretation agrees with the IHC result.

You Rock! Positive for **positive**, negative for **negative**, inconclusive for **inconclusive** and unsuitable for **unsuitable**.

* Green values indicate the gold standard diagnosis



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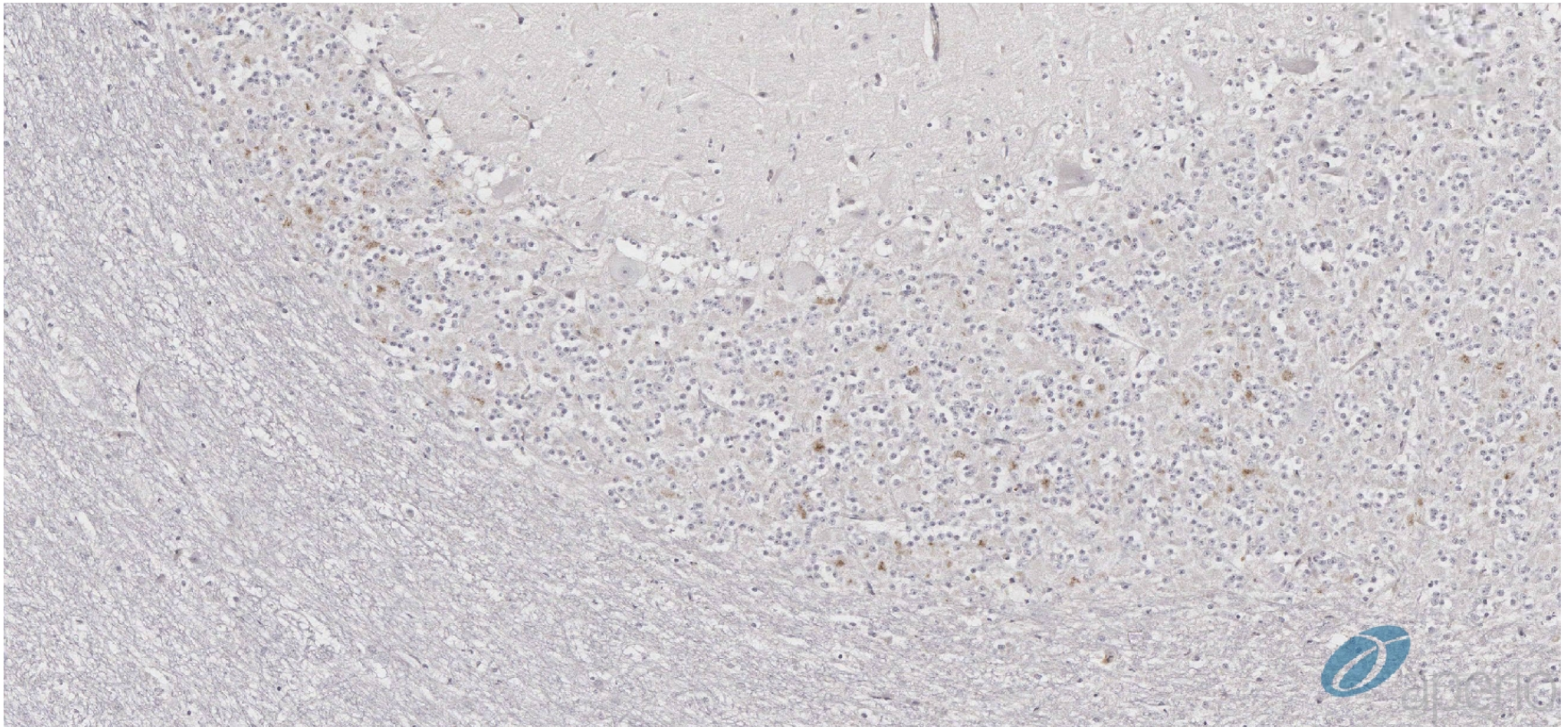
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Test type	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	IHC	H&E	IHC
Gold standard result	Neg	Pos -C	Pos-C	Pos -C	Pos-A	Pos-A	Pos- A	Pos- A	Pos-A	Pos-A	Pos-C	Pos-C	Pos	Pos	Neg
Species	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Ov	Bov	Bov	Bov
IHC result of all H&E sections														Pos	
User ID ↴															
1922	Neg	Pos -C	Pos -C	Pos -C	Inc	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-C	Pos-C	Pos	Pos	Neg
1927	Neg	Pos -C	Pos -C	Pos -C	Inc	Pos-A	Pos-A	Pos-C	Pos-A	Pos-A	Pos-C	Pos-C	Pos	Pos	Neg
2169	Neg	Pos -C	Pos -C	Pos -C	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-C	Pos-C	Pos	Pos	Neg
2174	Neg	Pos -C	Pos -C	Pos -C	Inc	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-C	Pos-C	Pos	Pos	Neg
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2177	Neg	Pos -C	Pos -C	Pos -C	Inc	Uns	Inc	Uns	Pos-A	Inc	Pos-A	Pos-C	Pos	Pos	Neg
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2798	Neg	Pos -C	Pos -C	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-A	Pos-C	Pos	Pos	Neg



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Case 5 Atypical scr.



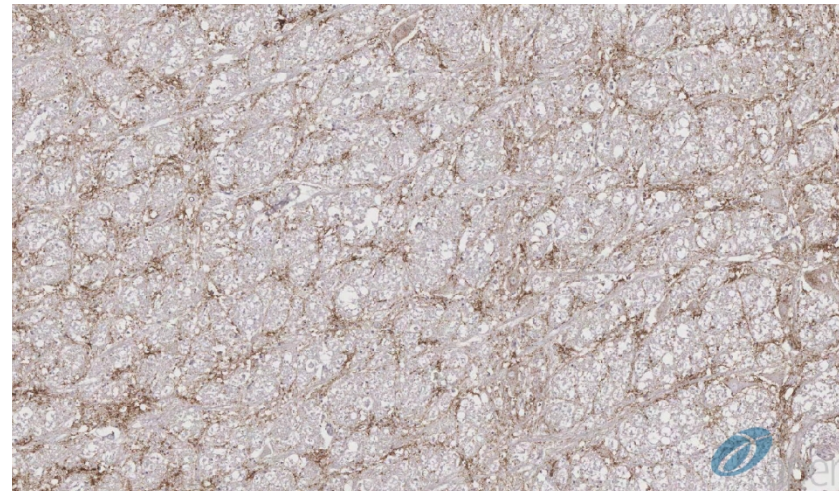
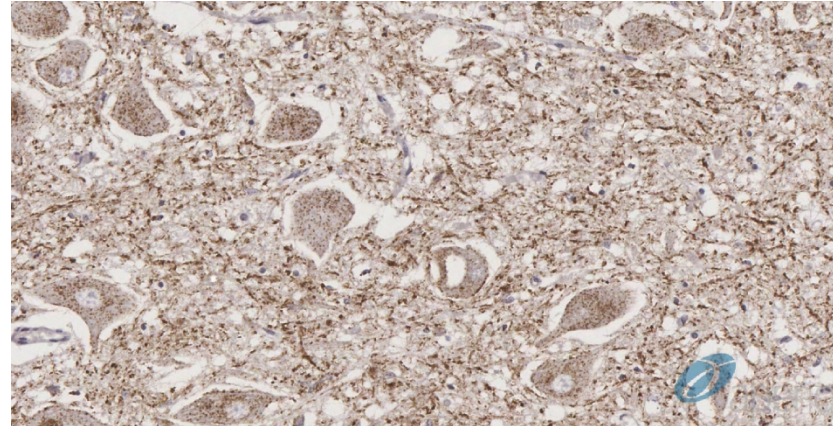


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Case 4 Classical scr.

6 readers entered atypical



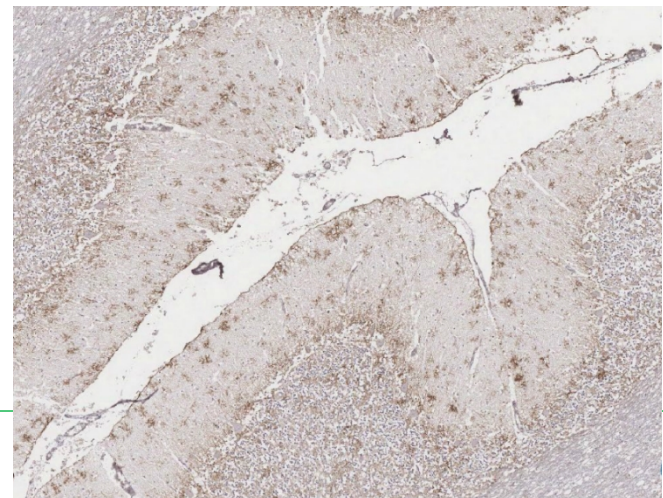
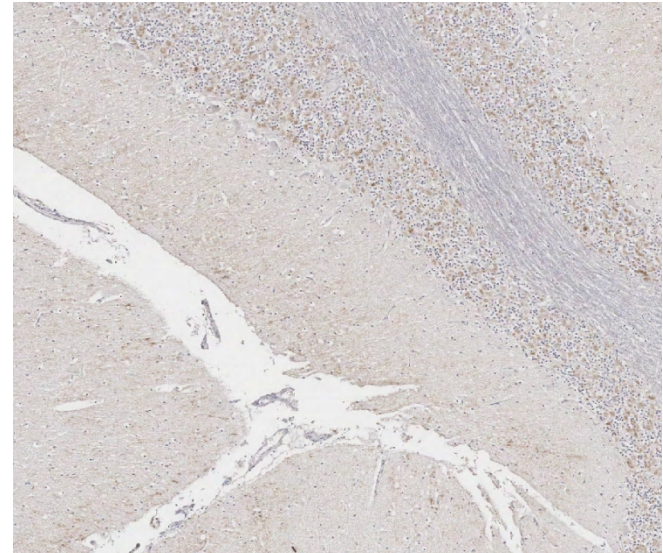


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Case 8 Atypical scr.

2 readers entered classical



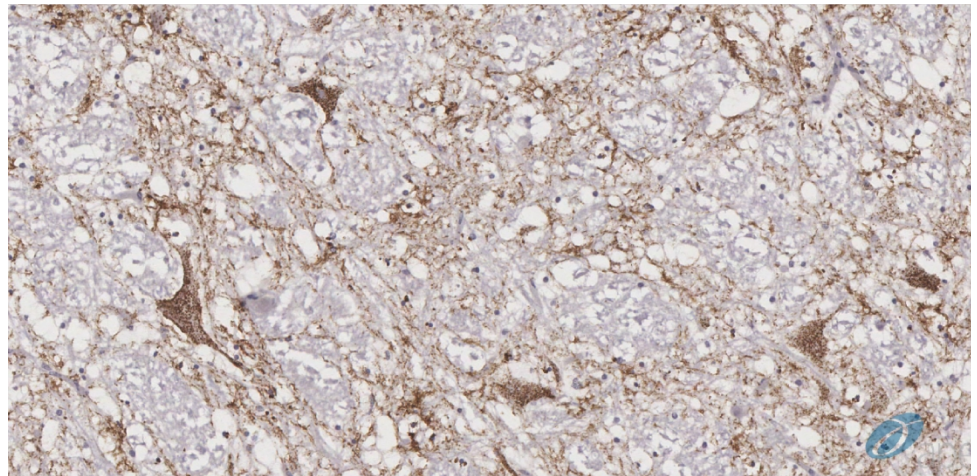
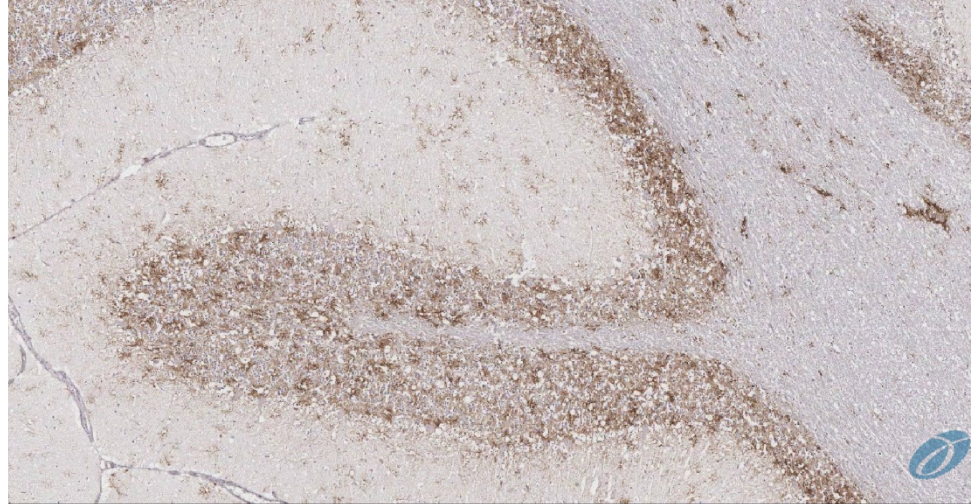
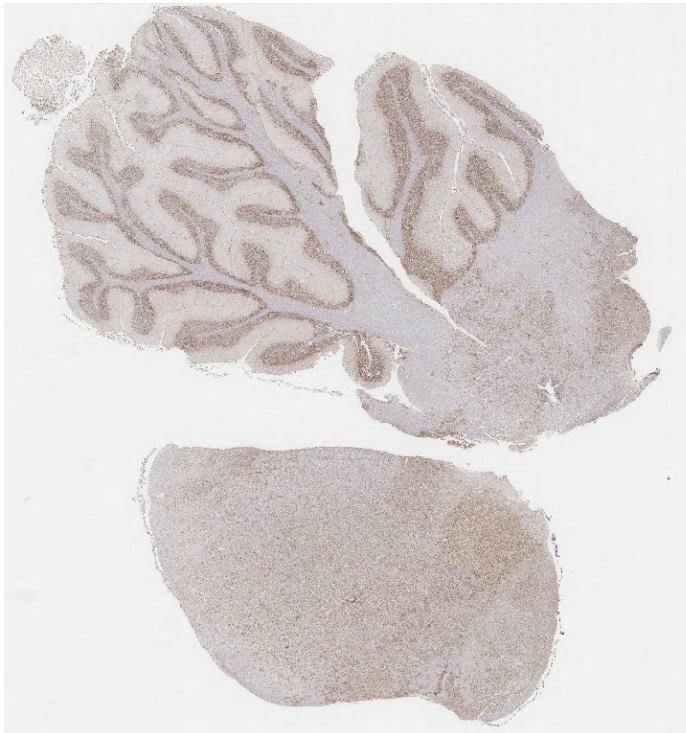


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Case 11 Classical scr.

7 readers entered atypical





- **Misdiagnoses: 3 readers (8.7%) & 3 samples (0.6%)**
- **Absolute accuracy: 9 readers (25.7%) & 450 samples (85.7%)**
- **Guarded diagnosis: 23 readers (65.6%) & 51 samples (9.7%)**
- **Correct diagnosis but wrong TSE type: 9 readers (25.7%) & 21 samples (4.0%)**
- **6 readers mistyped classical scrapie for atypical twice each**



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תודה
Dankie Gracias
Спасибо شكرياً
Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Děkojame
Ďakujeme Vielen Dank Paldies
Kiitos Tänname teid 谢谢
Thank You Tak
感謝您 Obrigado Teşekkür Ederiz
감사합니다
Σας ευχαριστούμε ඔබට
Bedankt Děkuje vám
ありがとうございます
Tack