

Patching Team Presentation 2

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Miriam, Veer



Improvements



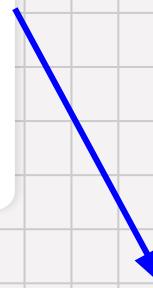
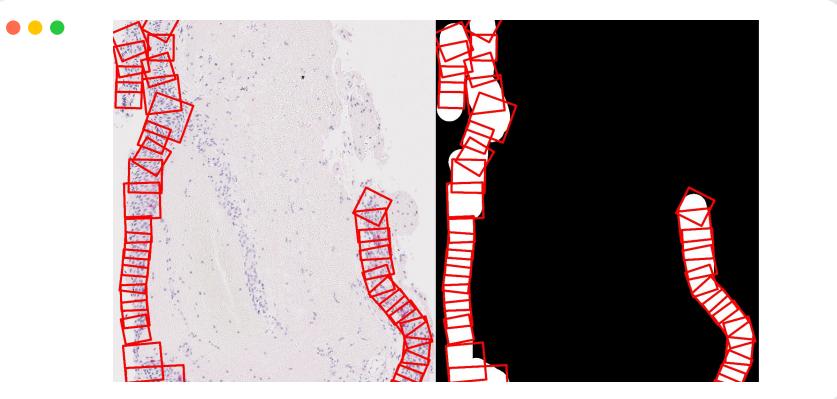
Continued Issues



Questions

Improvements

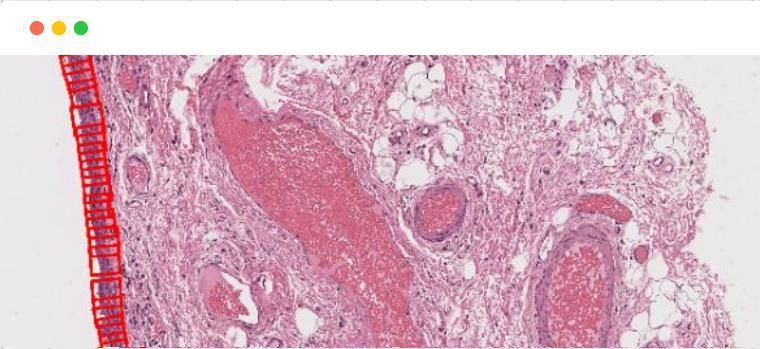
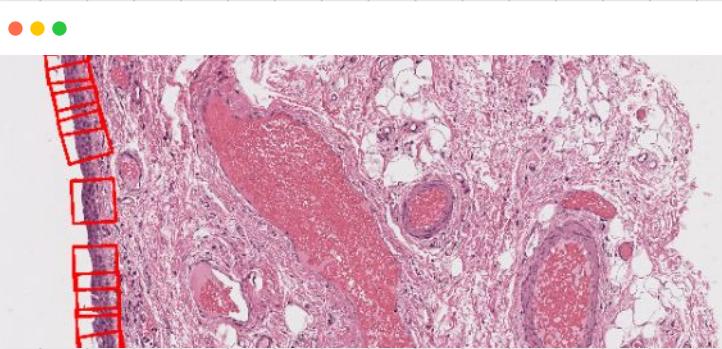
Improvements



Before vs After:

An Improvement Made Through Redoing
Annotations of the Epithelium

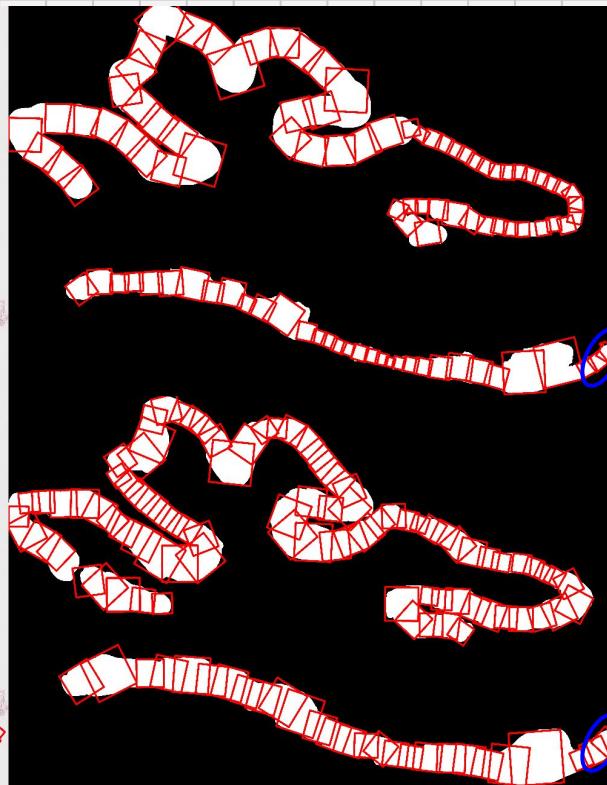
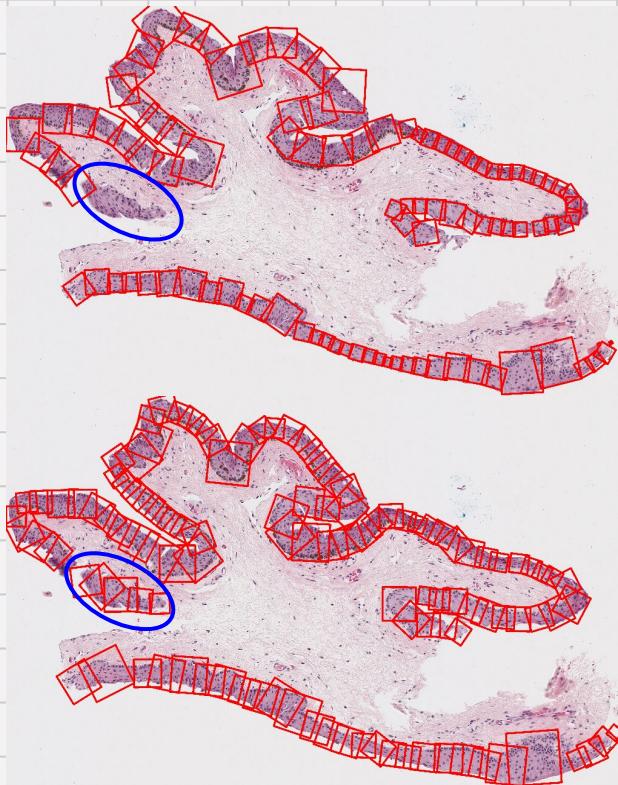
Improvements Pt 2



Before vs After:

An Improvement Made Through The New
Patching Code

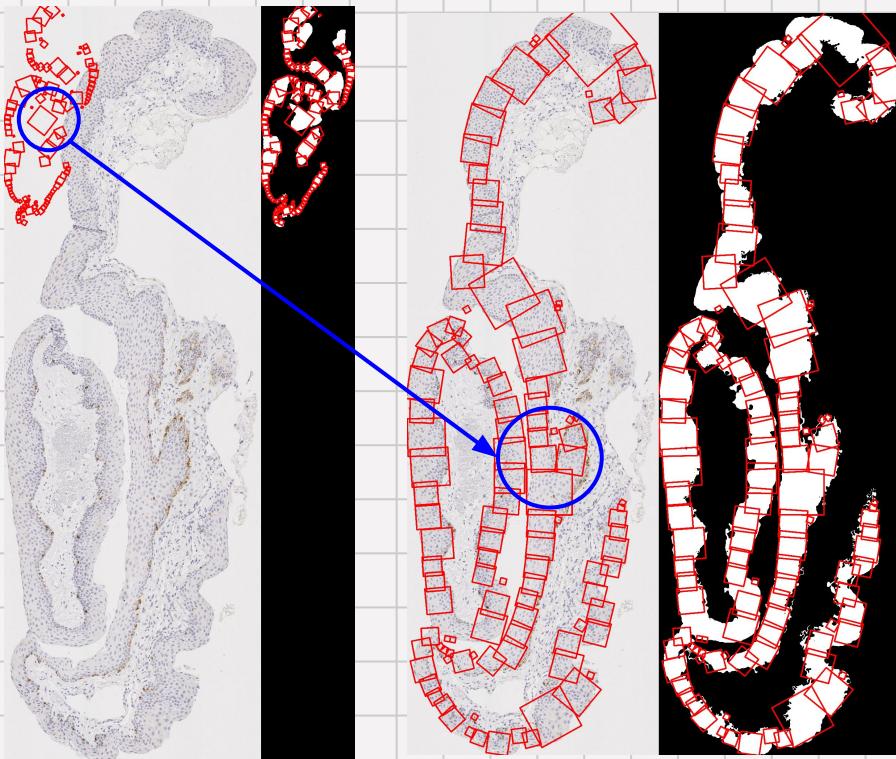
Improvements Pt 3



Before vs After:
An Improvement Made Through
Re-annotating the Mask and The
New Patching Code

Case 85 Match 1 h&e

Improvements Pt 4



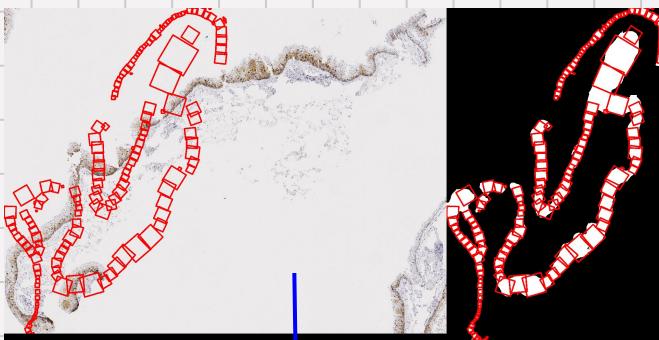
Case 21, Match 1 (melan)



Before vs After:
(through redoing epithelium mask)

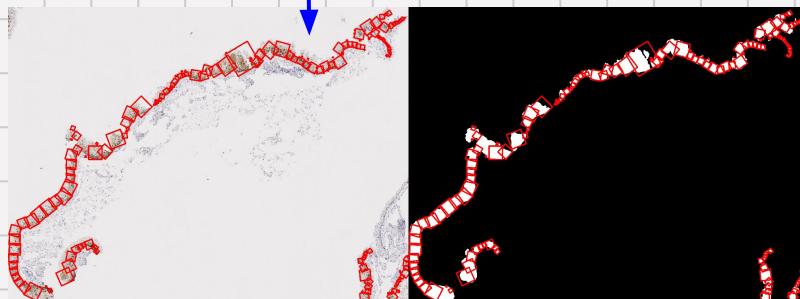
Much better outcomes in patching (aside from
sizing error)

Improvements Pt 5

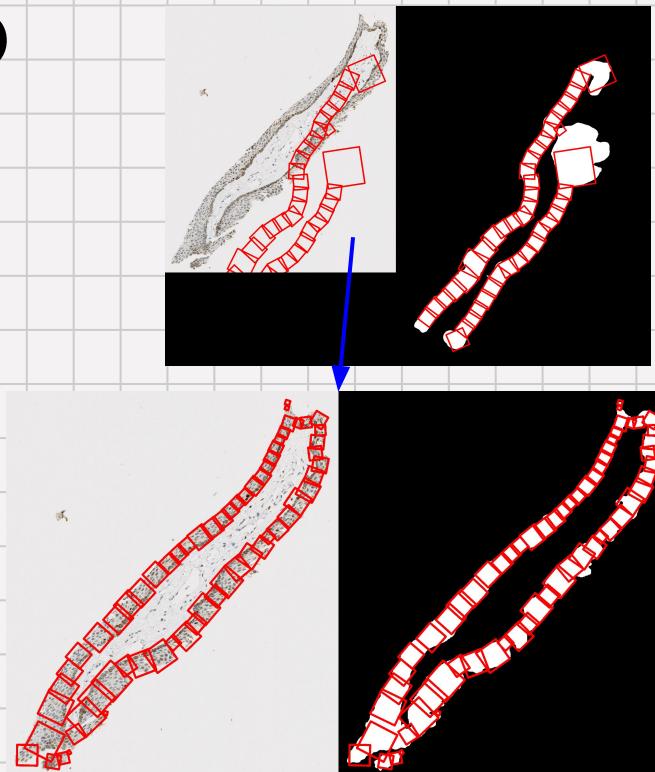


Before vs After:

Patches now match the shape accordingly after redoing epithelium mask

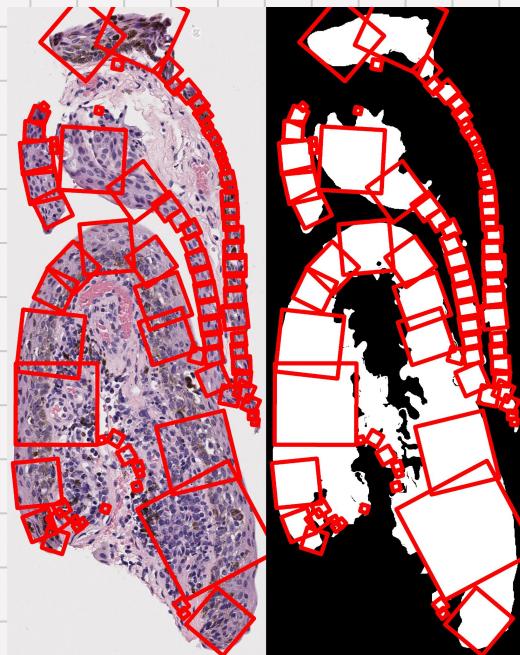


Case 22, Unmatched 2 (melan)



Case 27, Match 1 (sox10)

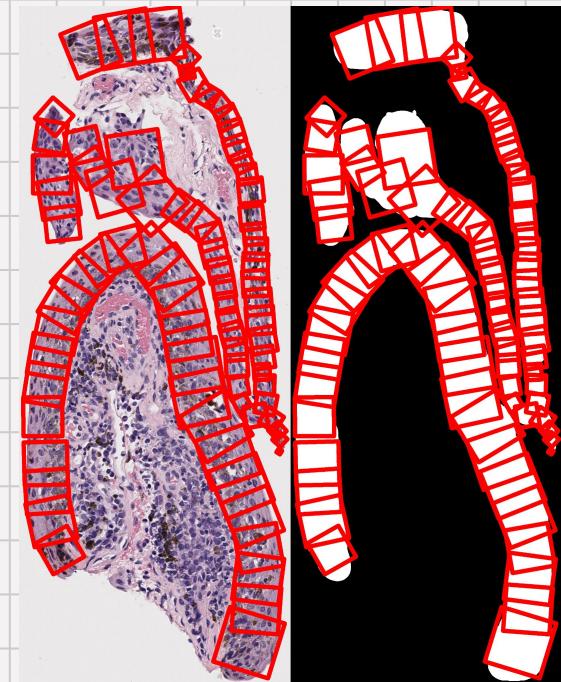
Improvements Pt 6



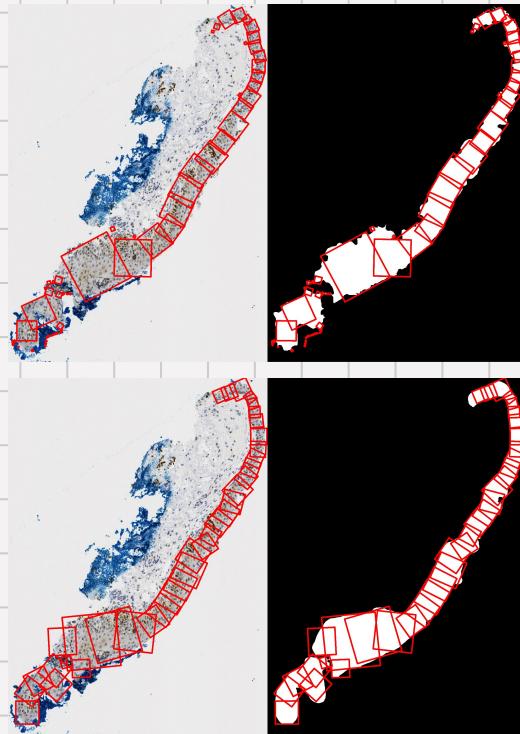
Case 11, Match 1 (h&e).

Before vs After:

Resolved small patch
issue by smoothing out
the mask

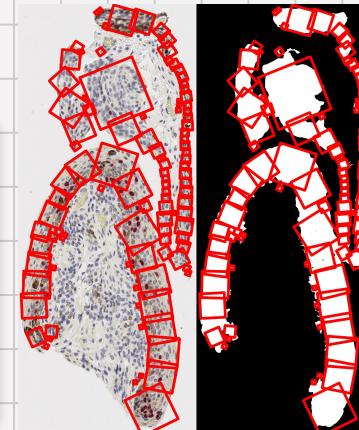


Improvements Pt 7



Case 09, Match 1 (sox10)

Before vs After:
Updated code +
smoothing out the mask
results in significantly
better patches

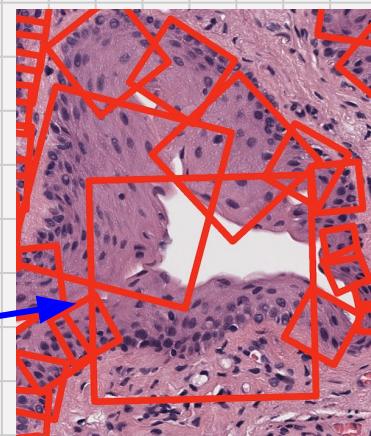
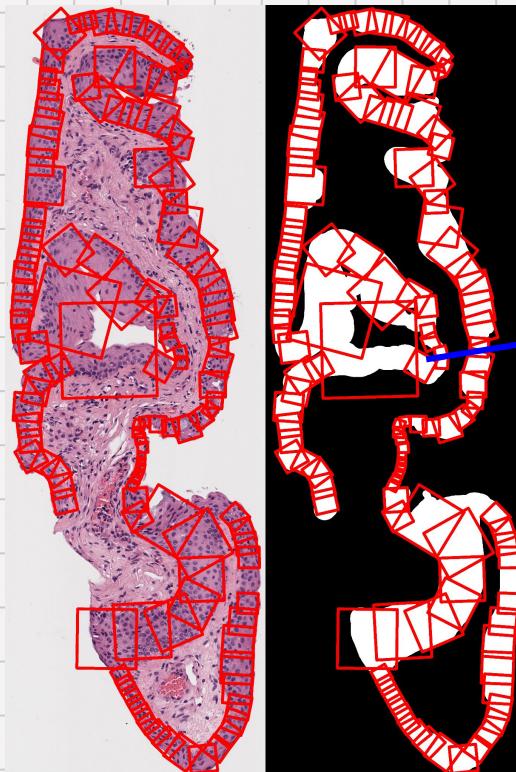


Case 11, Match 1 (sox10)



Continued Issues

Continued Issues



Case 02, Match 1 (h&e)

Large Patch

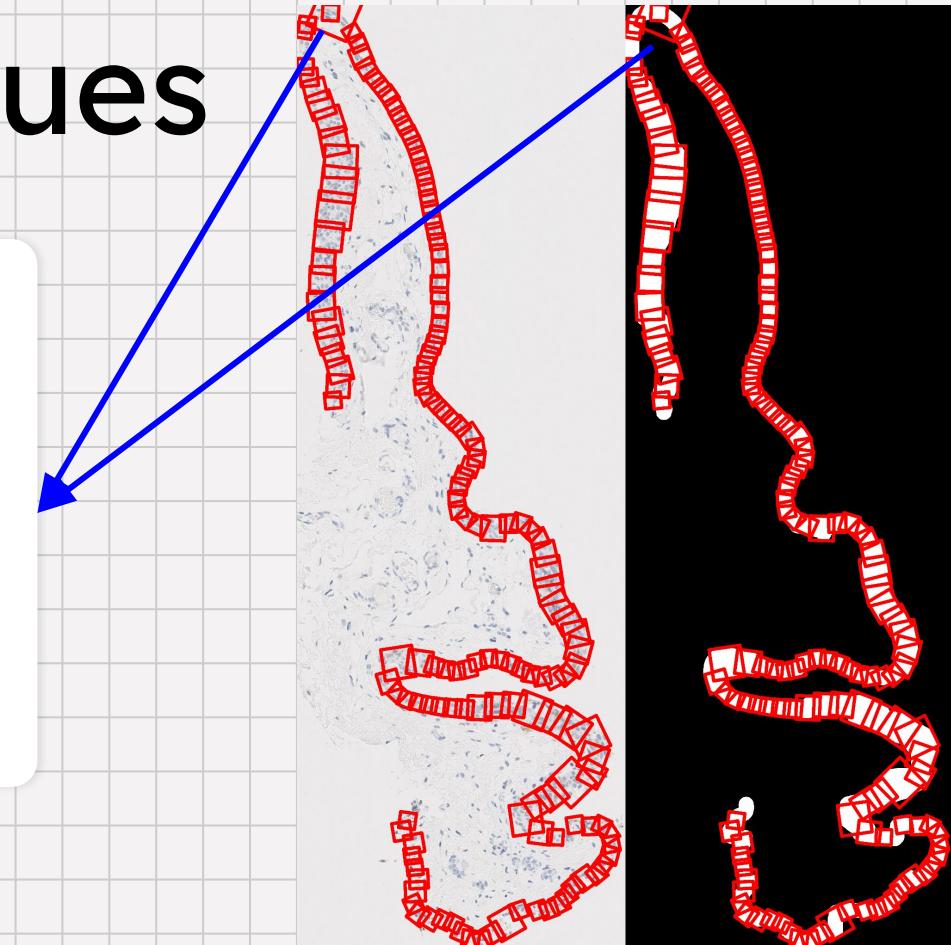
Significantly large patch that is leaking onto other strips of the epithelium

Continued Issues

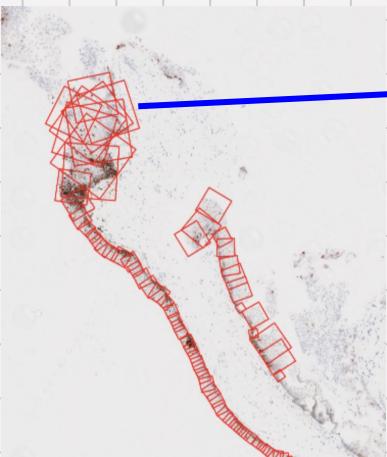


Overlapping Patches

A small patch is being entirely
overlapped by another larger patch.



Continued Issues

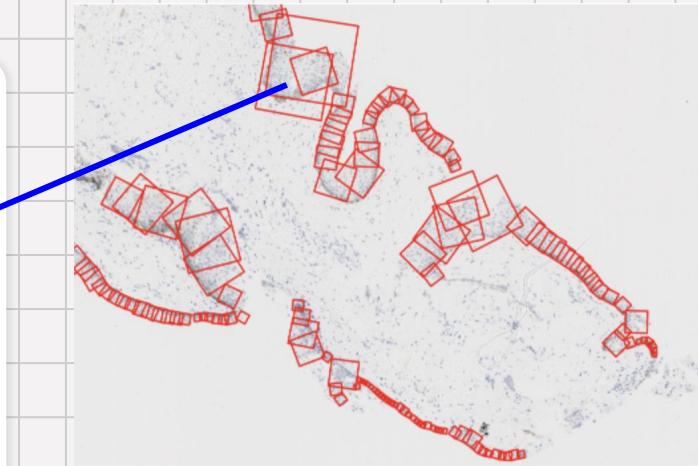


Case 97, Match 3 (melan)



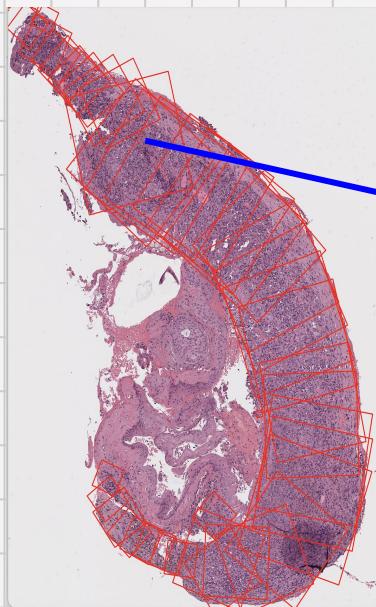
Overlapping Patches

A small patch is being entirely overlapped by another larger patch.

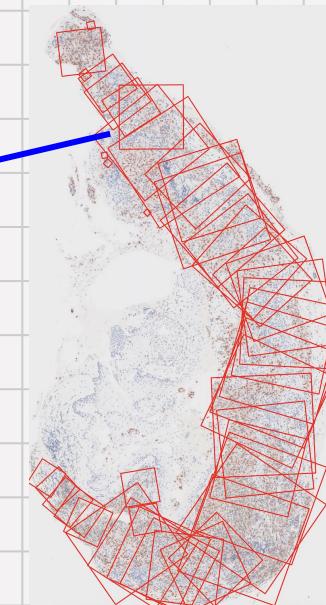
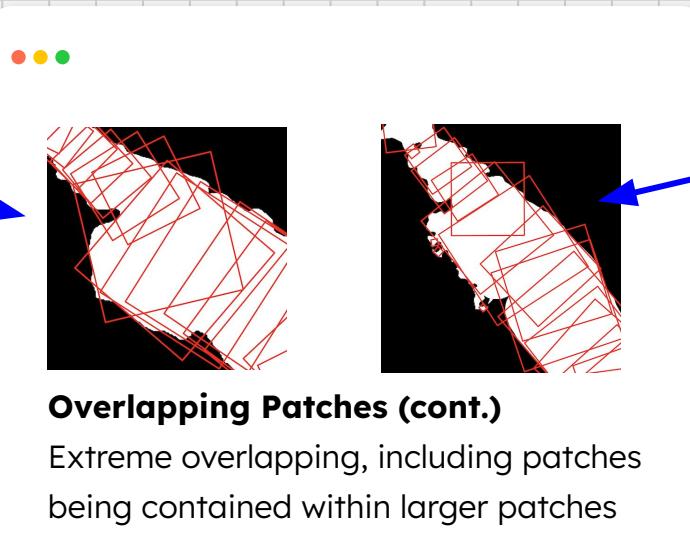


Case 97, Match 4 (sox10)

Continued Issues

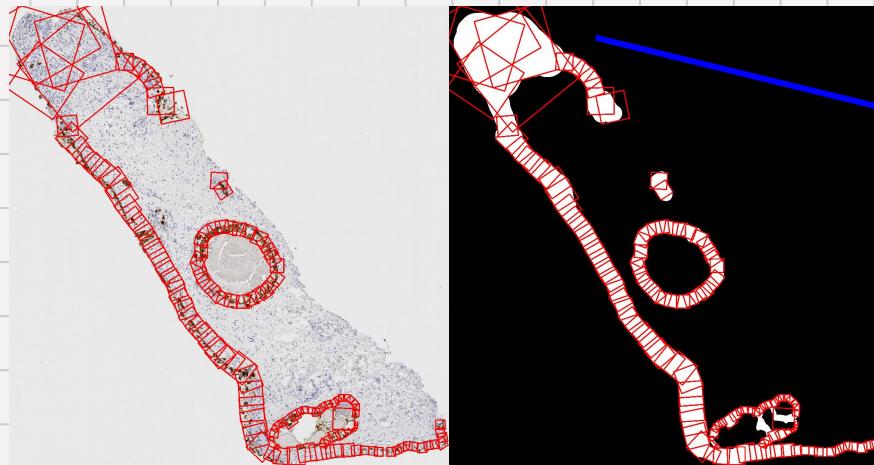


Case 49, Match 1 (h&e)

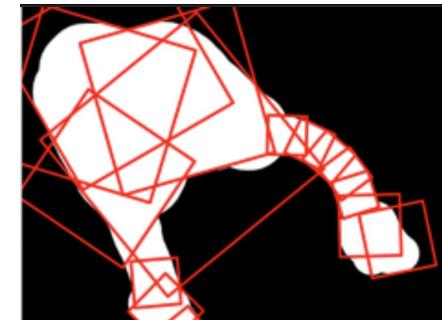


Case 49, Match 1 (sox10)

Continued Issues



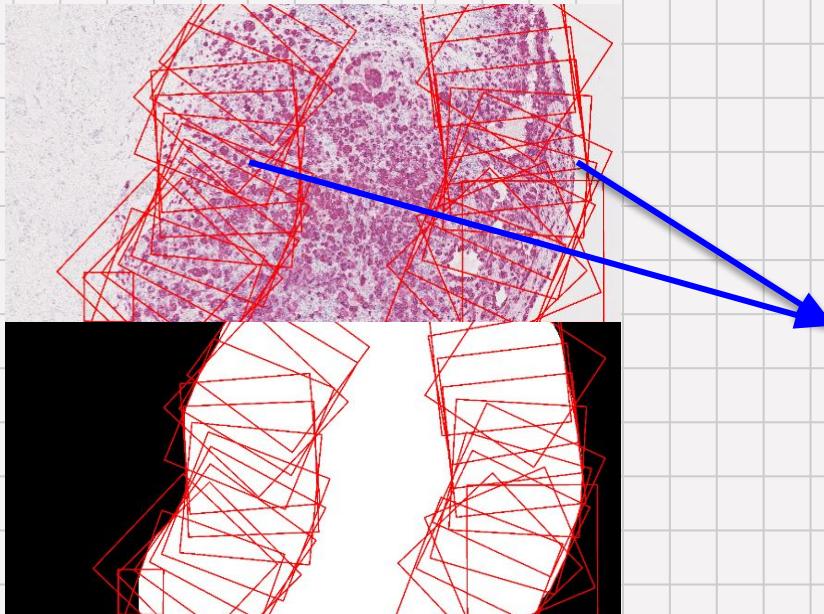
Case 03, Match 1 (melan) – also seen in other stains



Overlapping Patches (cont.)

Really large patches in regions with wide epithelium leading to excess overlap

Continued Issues



Large Epithelium

Abnormal cases with an extremely large epithelium lead to doubling of patches on either side (Case 38 Match 27)

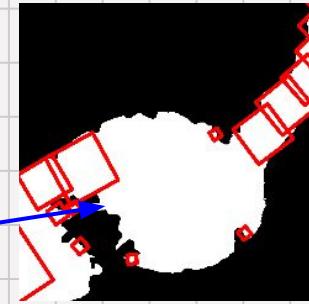
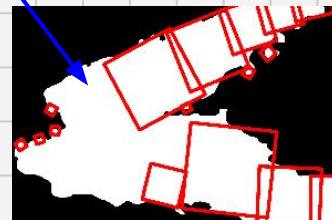
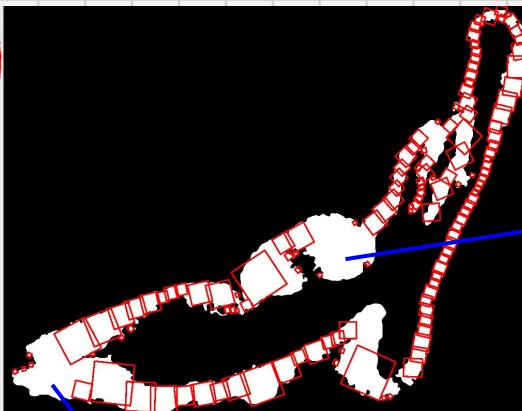
Potential Fixes:

- Increase max_length parameter
- Ignore cases w/ abnormally large epithelium

Continued Issues



Case 19, Unmatched 2 (melan)

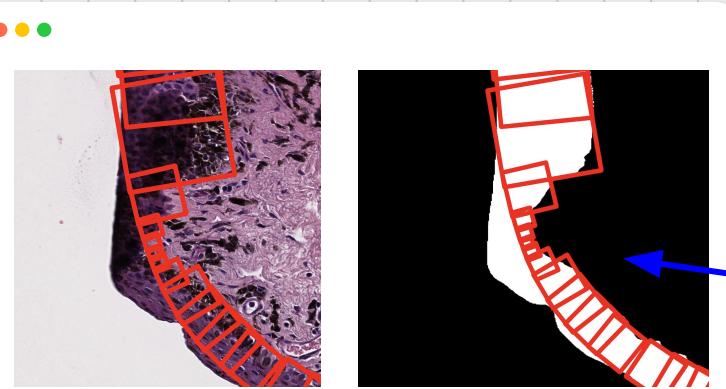


Large Epithelium

The large epithelium prevents the patches from encompassing the entire space

Set adaptive threshold?

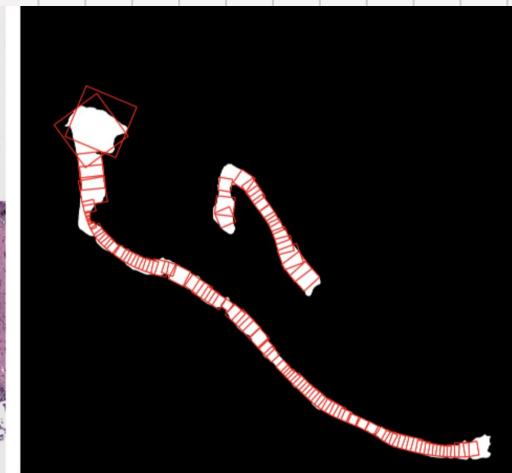
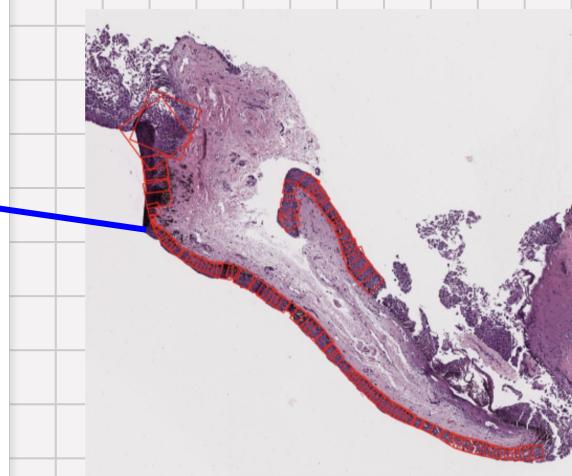
Continued Issues



Misaligned Patches

Some areas of patching don't match the contour of the mask

New Smoothing Function?



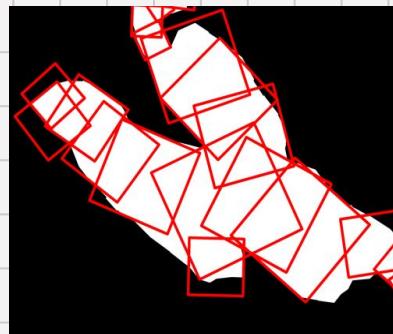
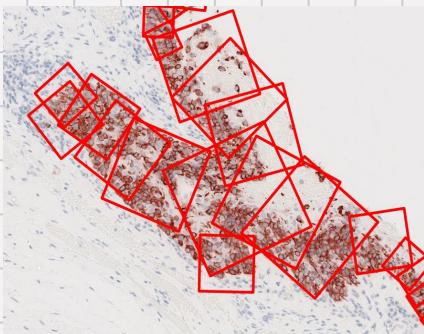
Case 97, Match 3 (h&e)

Continued Issues

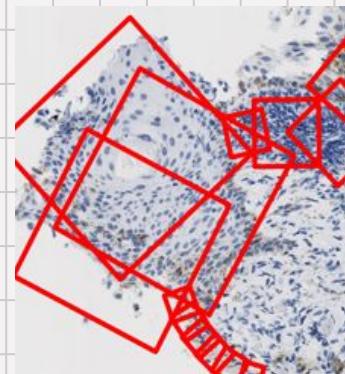


Patches Not Spanning Epithelium

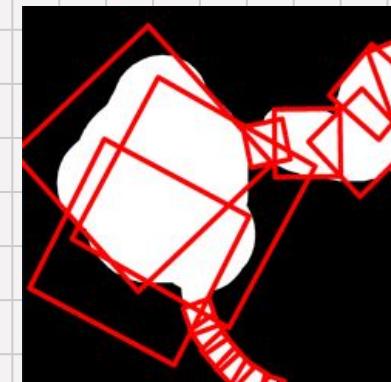
Specifically where there are sharp turns or large sections, some patches



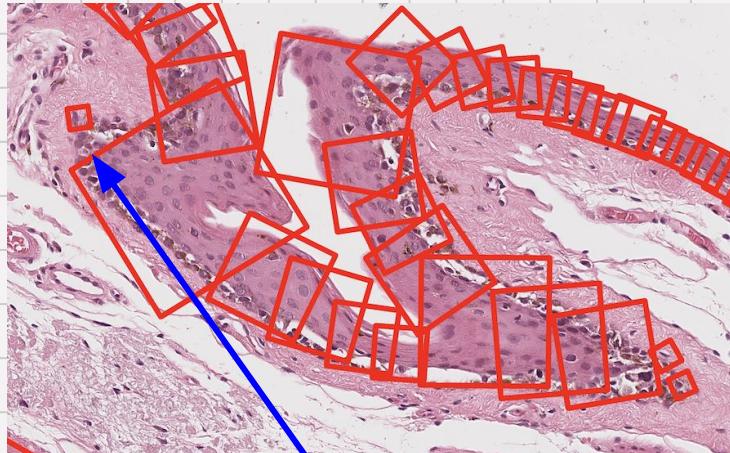
Case 90, Unmatched 1 (h&e)



Case 89, Match 1 (sox10)



Continued Issues



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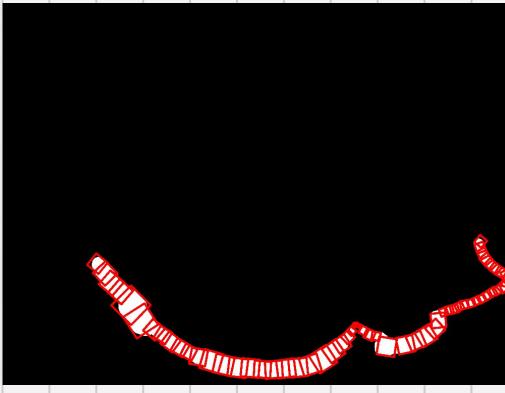
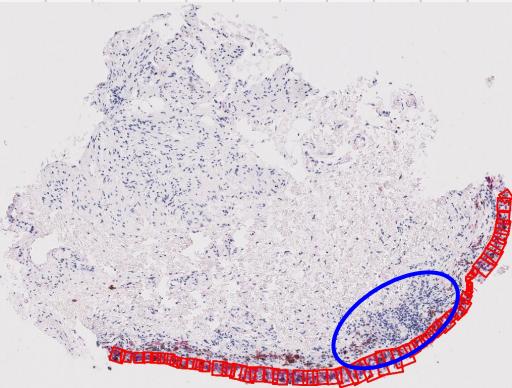
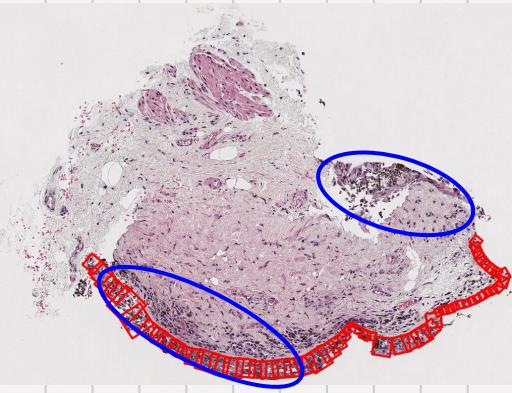
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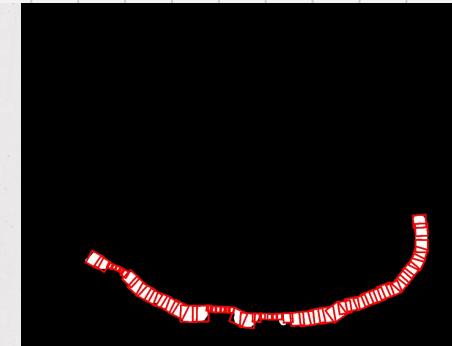
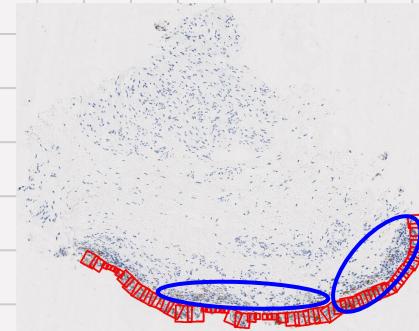
rr

Questions

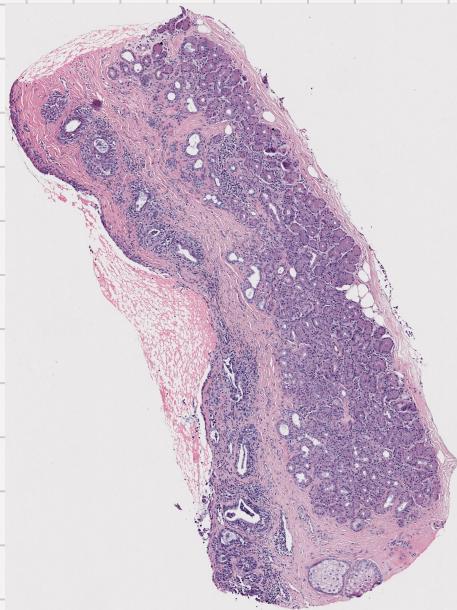
Unsure of Epithelium



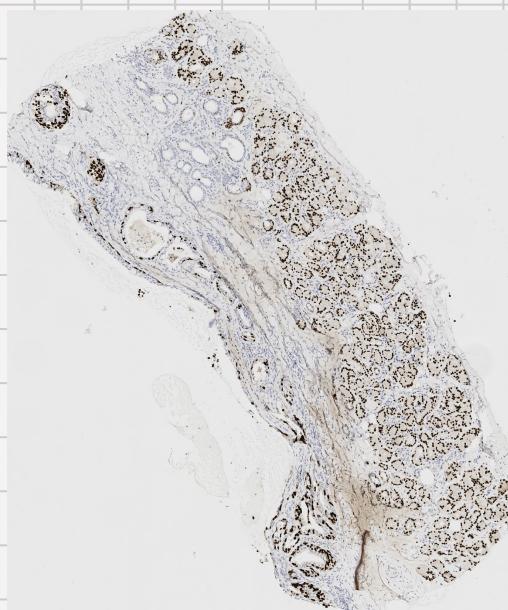
Case 88 Match 1, all stains



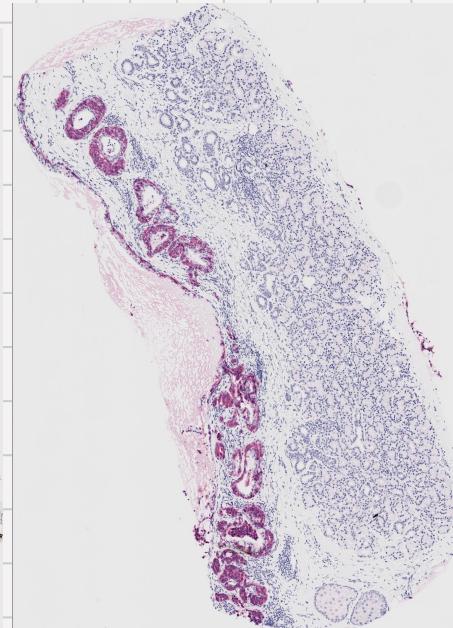
Unsure of Epithelium



h&e



sox10



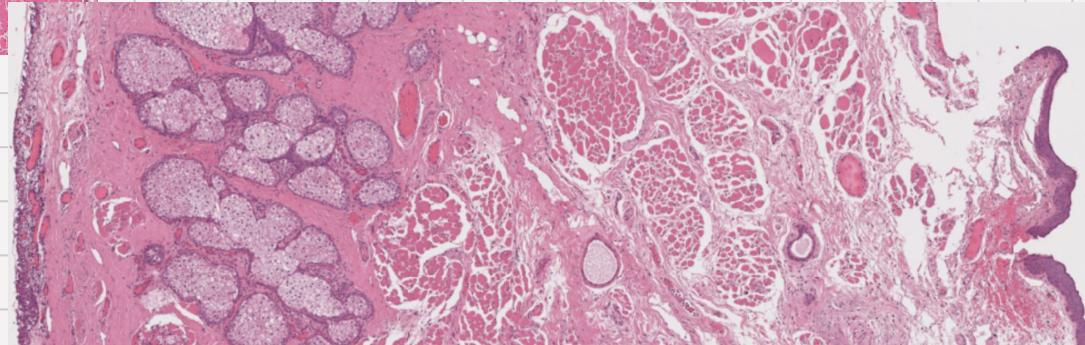
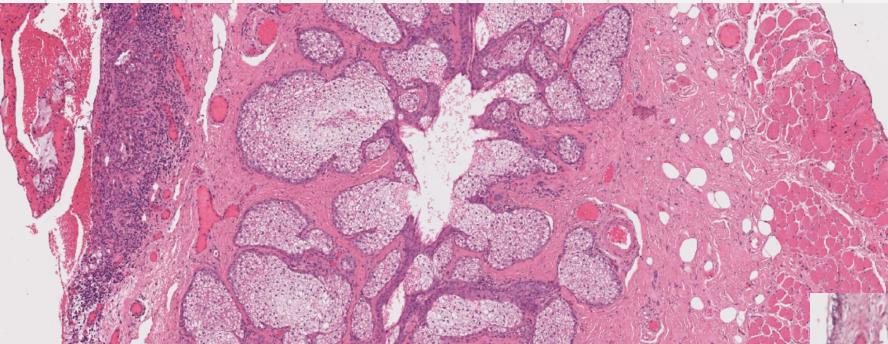
melan



All Case 16, Match 1

Already posted in the GitHub folder for stakeholders

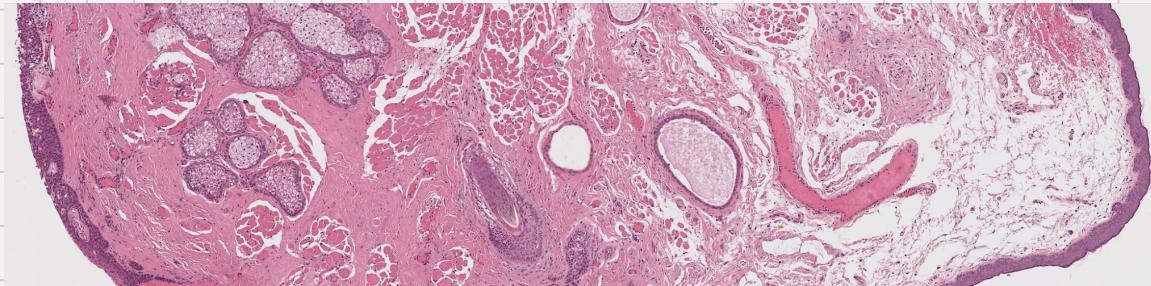
Unsure of Epithelium



Case 38, Match 4 & 6 (h&e)

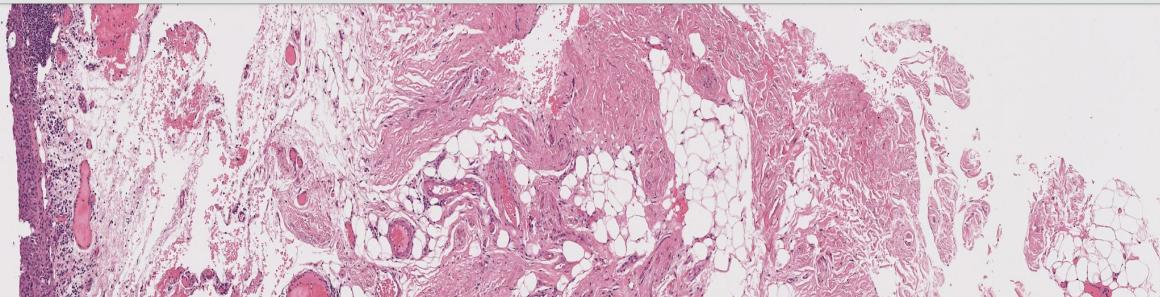
Can be difficult to tell without seeing the whole cell

Unsure of Epithelium

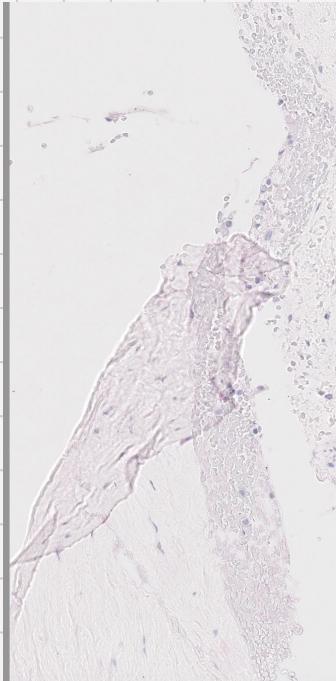


Case 38, Match 7 (h&e)

Case 38, Match 9
(h&e)



Unsure of Epithelium

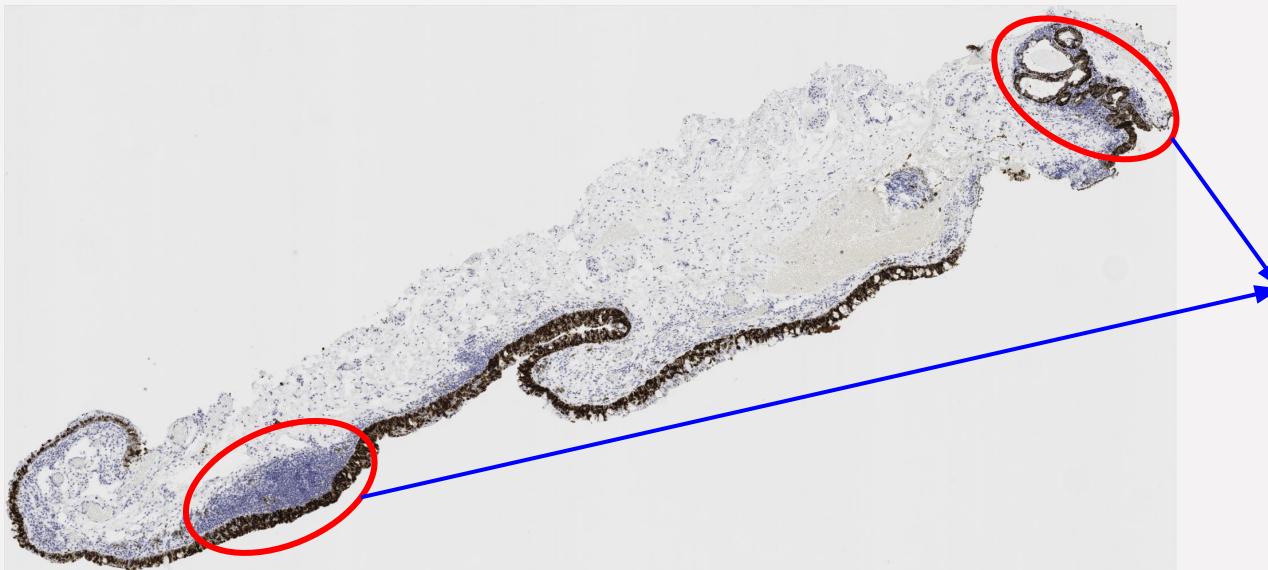


Case 50, "Other" (melan)



Patch image

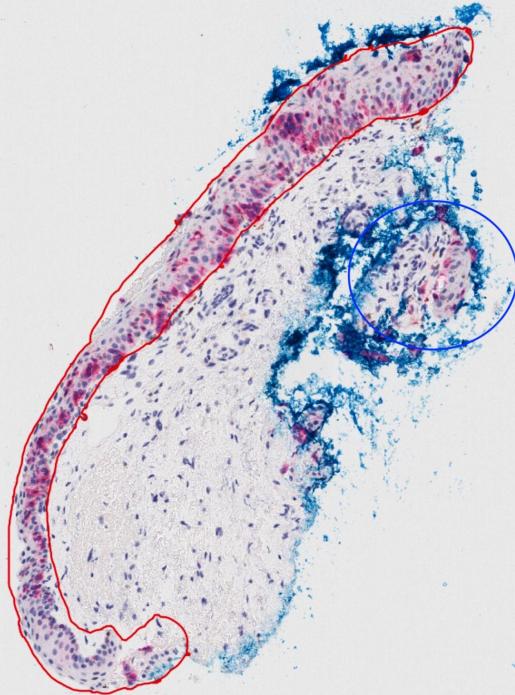
Unsure of Epithelium



Is the epithelium just the black region or does it include the dark blue region as well?

Case 35 Match 1 (Melan)

Unsure of Epithelium



Case 9, Match 1 (Melan)

Contour – what I would mark as epithelium
Blue circle – unsure how to mark

