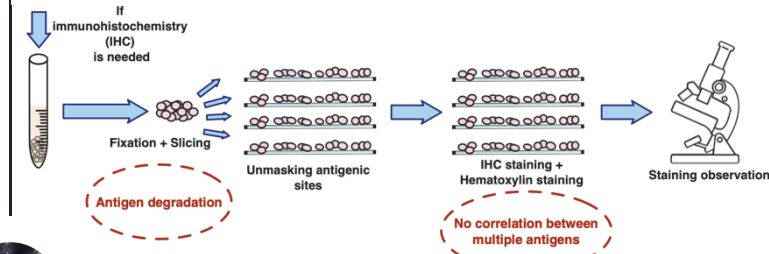


Introduction

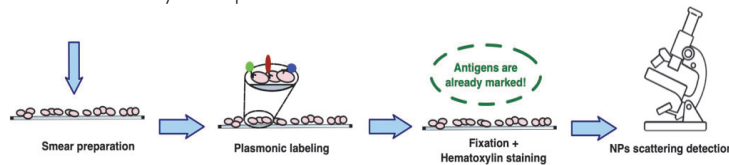
Cytopathology diagnostic: current procedure

Although diagnostic through cytopathology is expected to grow over the years, current procedure often lacks sensitivity and specificity to be widely use.



Cytopathology diagnostic: proposed protocol

We propose to use colorful and optically stable nanoparticles (NPs) as immunomarkers in order to bring multiplexing and quantitivity in a field that is mainly semi-quantitative



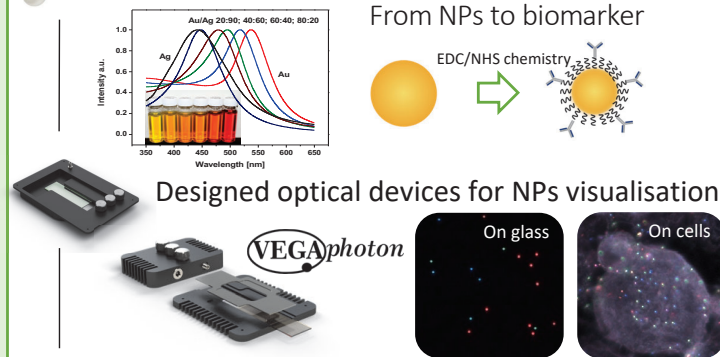
Hypothesis

Using plasmonic NPs allows for multiplexed and quantitative detection of antigens on cancer cells, improving the sensitivity and specificity of cytopathology diagnostic.

Methods

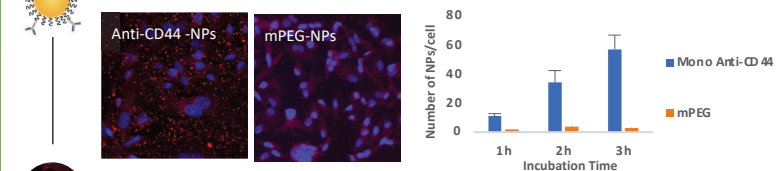
Alloy NPs as color-tunable bio-markers

Patent: S10239122B2

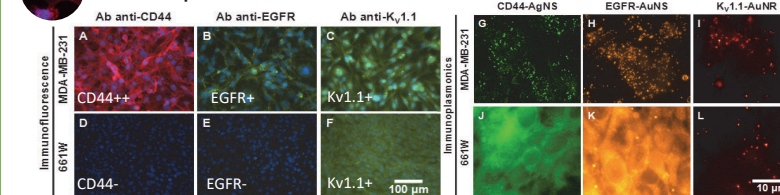


Results

Anti-CD44-NPs vs mPEG-NPs on MDA-MB-231 (CD44+)



Comparison with standard immunofluorescence



Conclusion

- New protocol for cytopathology diagnostic
- Fine control of AuAg synthesis
- Improved optical detection
- Good agreement with immunofluorescence

Future work

- Automated image processing
- Application of the technique to the PD-L1 detection in NSCLC lung cancer

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ACKNOWLEDGEMENT:

