

Immunohistochimie nouvelle génération

AFTLM

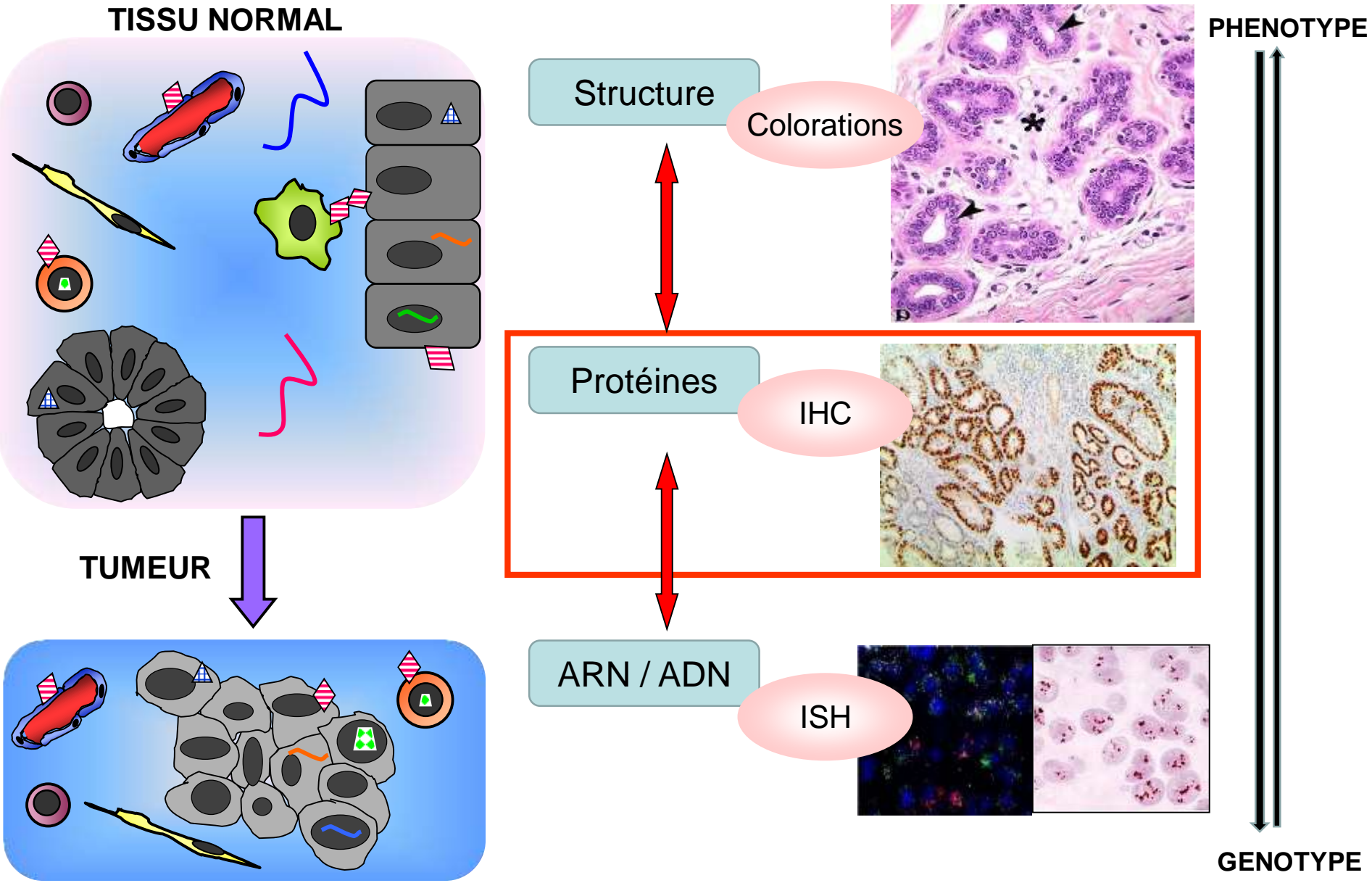
28 novembre 2019

Virginie Marty – Pr Jean-Yves Scoazec

Plateforme Pathologie Expérimentale et TRAnslationnelle (PETRA)

Gustave Roussy

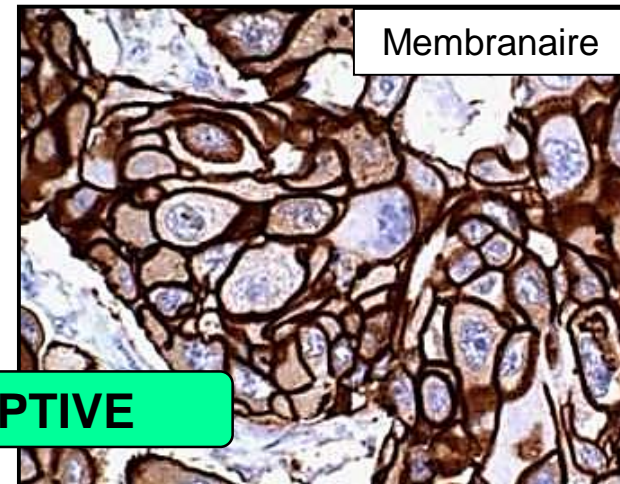
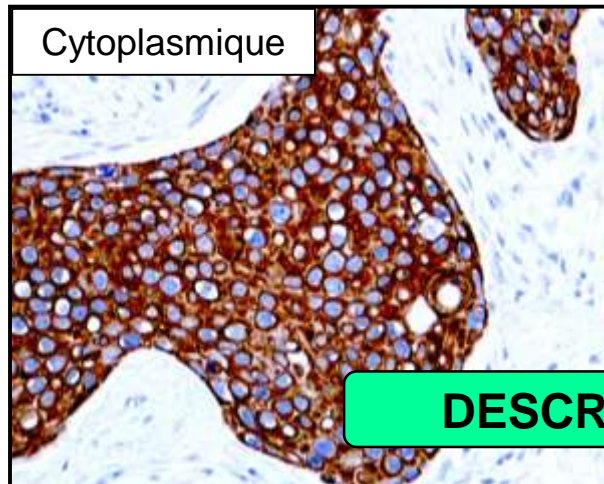
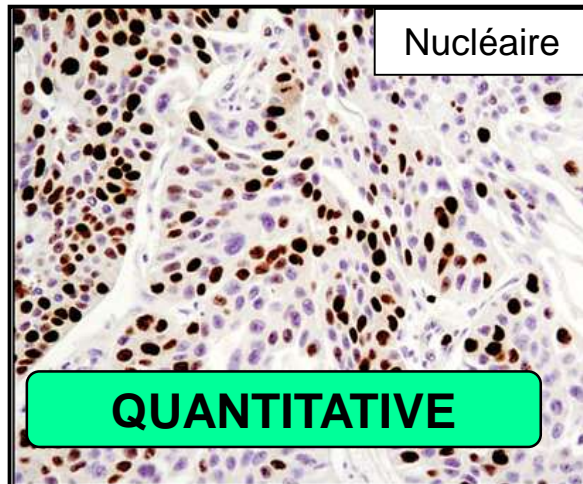
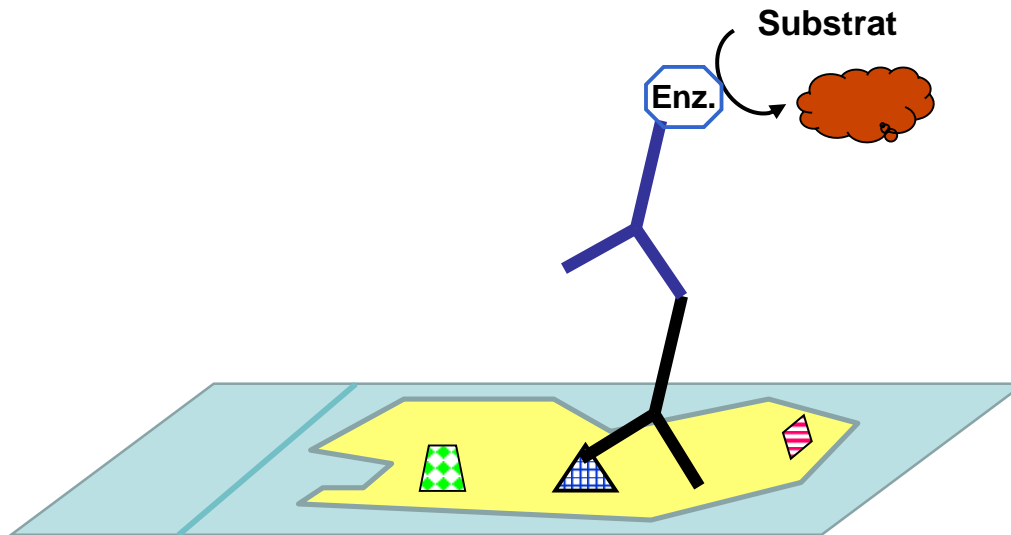
PETRA : une histoire de tissu et de cancer



IHC : Comment ça marche ?

Protéine

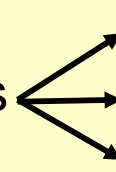
AVANTAGE : Information morphologique



Applications de l'IHC ?

Pathologie diagnostique

Marqueurs diagnostiques

Classification des tumeurs  Diagnostic
Pronostic
Traitement

Biomarqueurs thérapeutiques

Mise en évidence
d'éventuelles cibles
thérapeutiques

Recherche Clinique et translationnelle

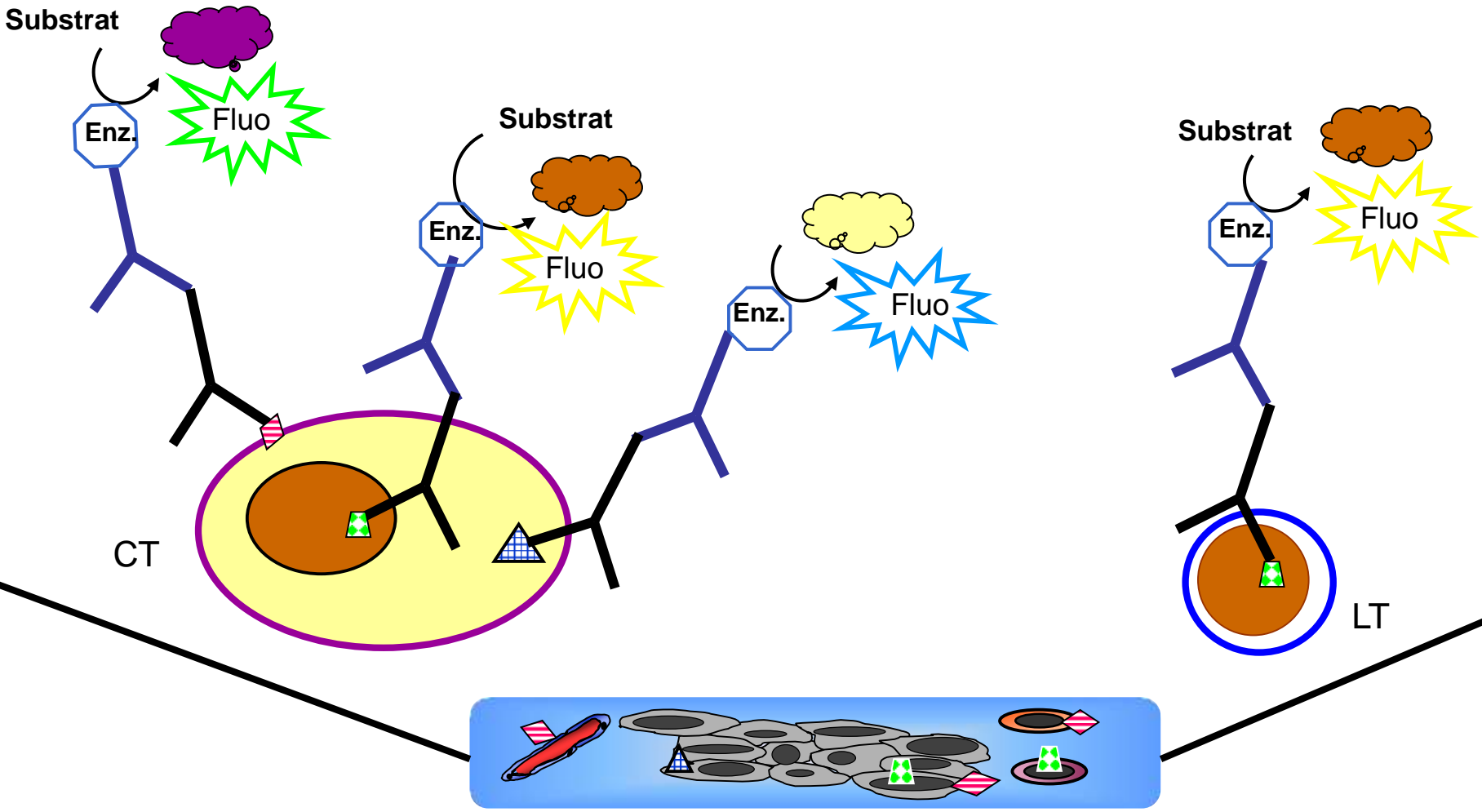
Marqueurs Exploratoires

Comprendre et Prédire la sensibilité / résistance aux traitements
Nouvelles cibles thérapeutiques
Mécanismes de développement et de prolifération

Validation de marqueurs pour une utilisation en diagnostic

IHC Multiparamétrique : IHC Multiplex

Protéine + Protéine + Protéine + Protéine



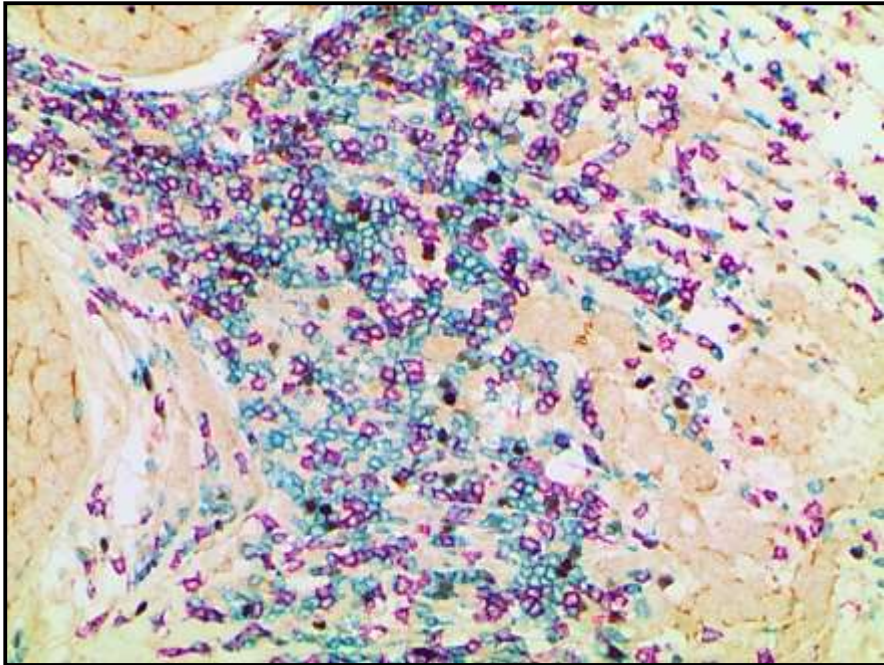
Multiplex et Immunothérapie

Description de l'infiltrat immunitaire

Quantitative

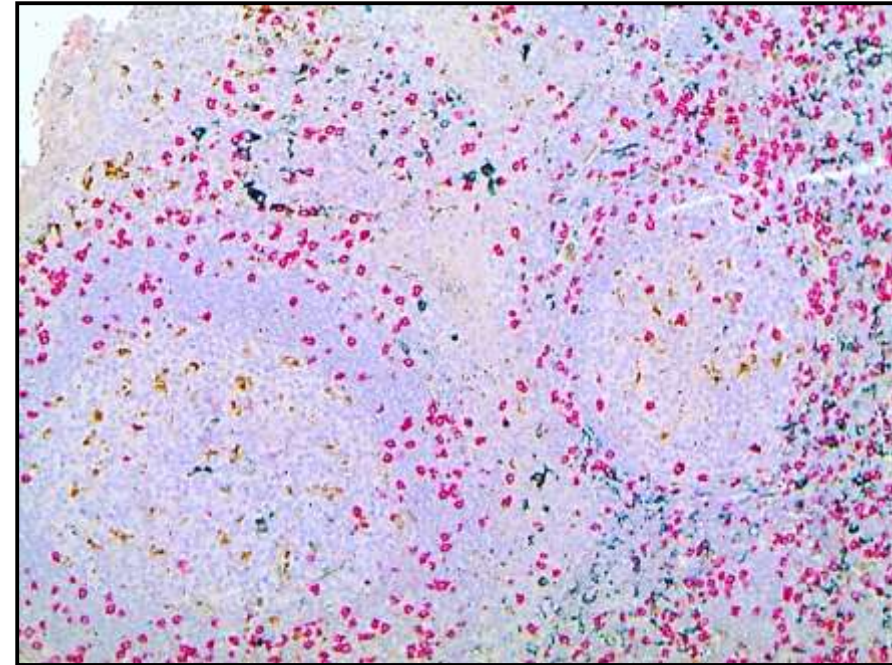
Descriptive

Topographique



FOXP3 / CD8 / CD3

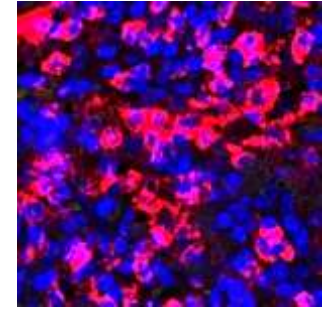
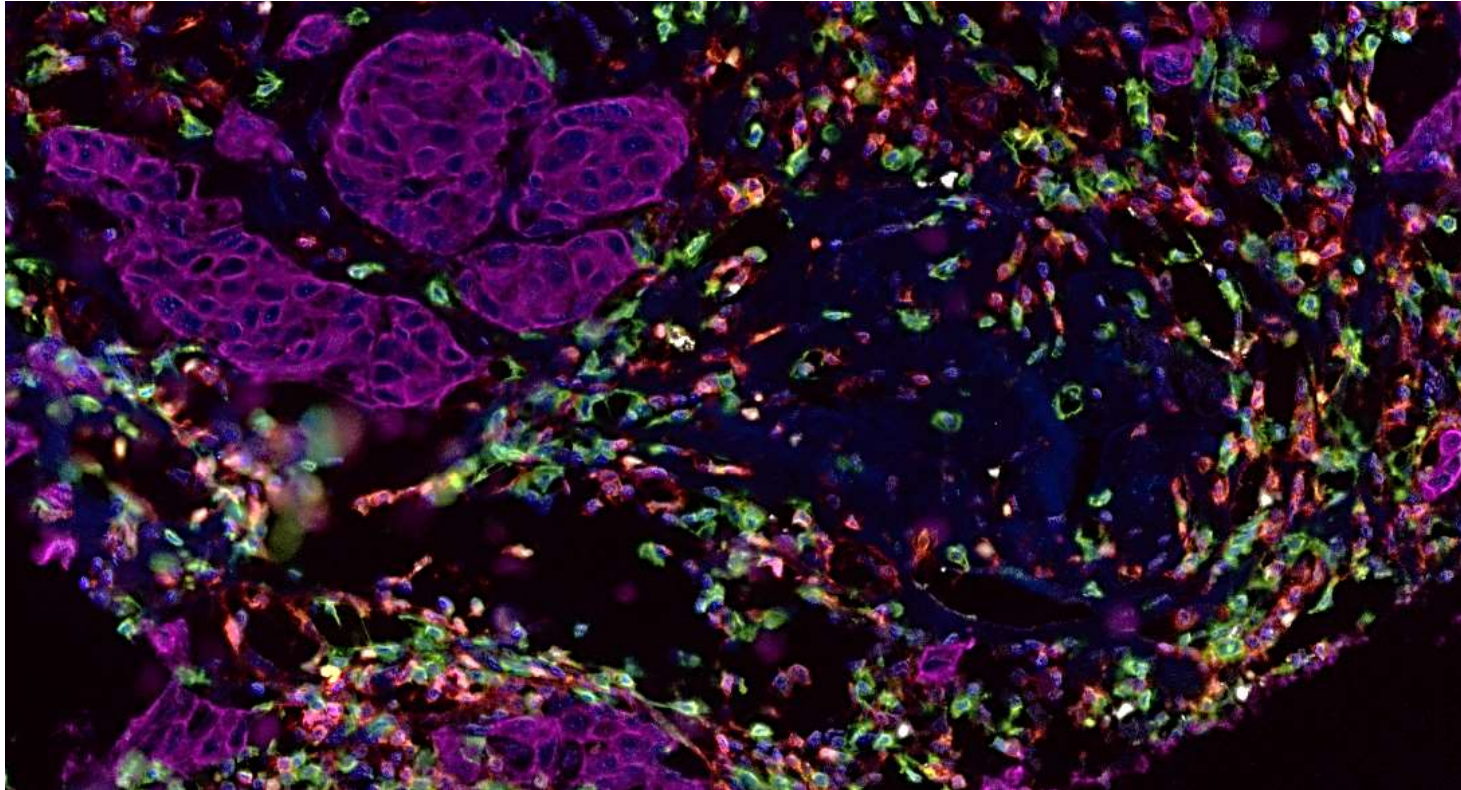
Lymphocytes



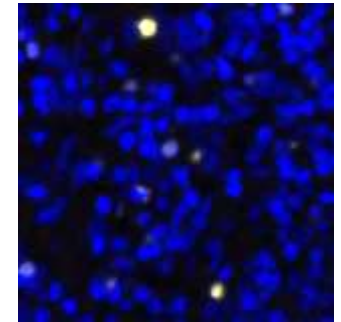
CD8 / CD68 / CD163

Lymphocytes T8 cytotoxiques /
Macrophages

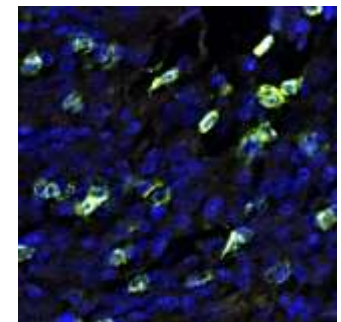
Et en fluorescence alors ?



CD4

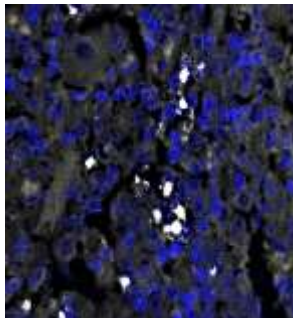


FoxP3

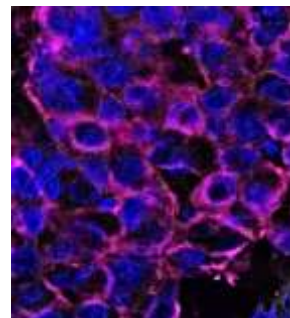


CD8

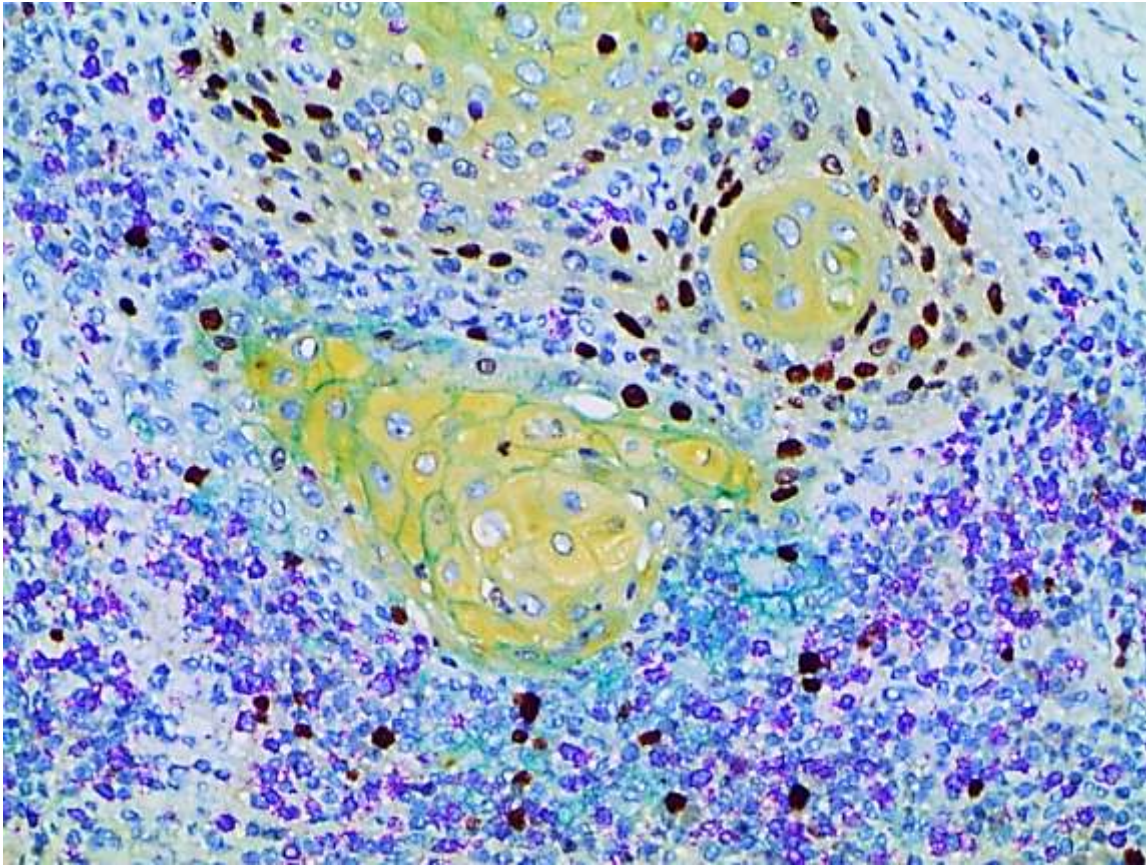
DCLamp



Cytokératine



Autre exemple d'IHC multiplex



Ki67 / CD8 / PD-L1 / CK

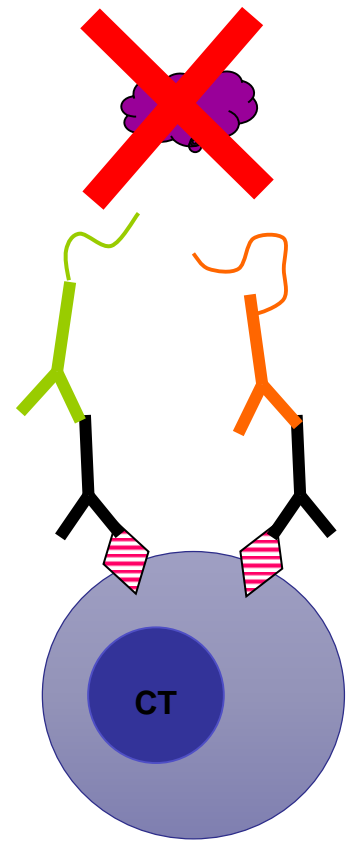
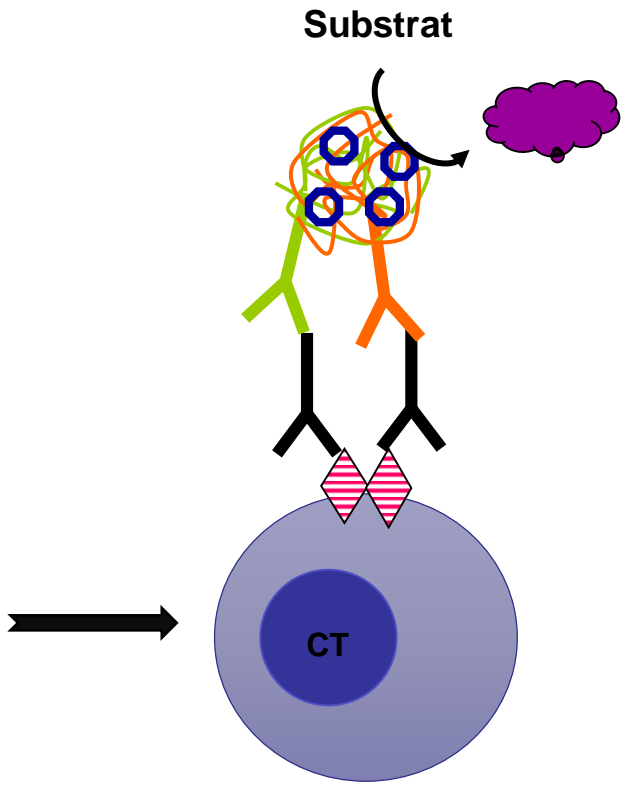
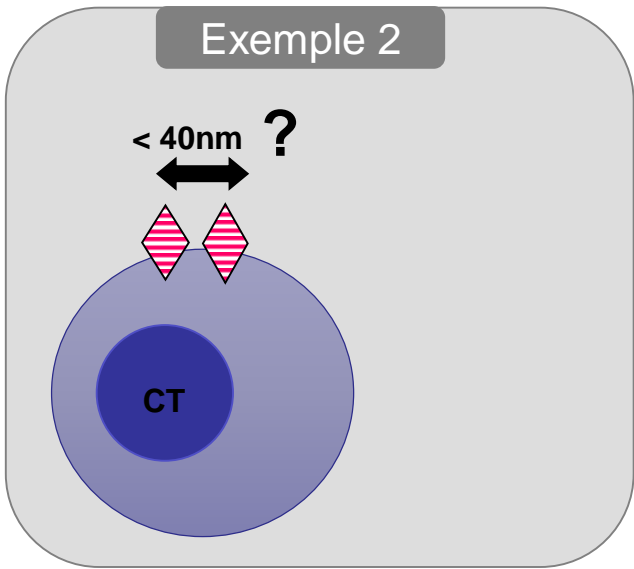
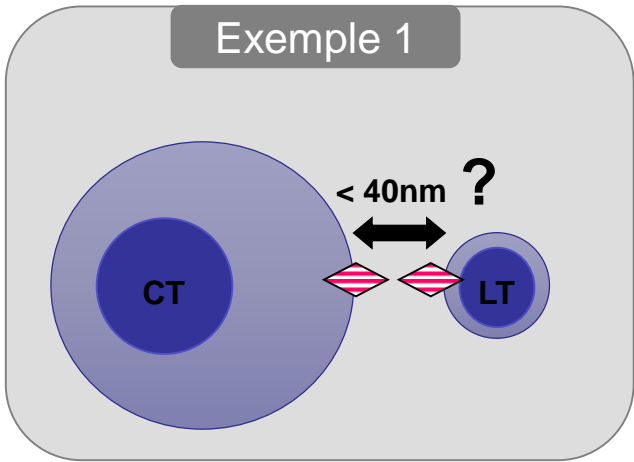
Cellules tumorales PD-L1 +

Nombre LT8

Localisation LT8
Intra / péritumorale

LT8 : prolifération ?

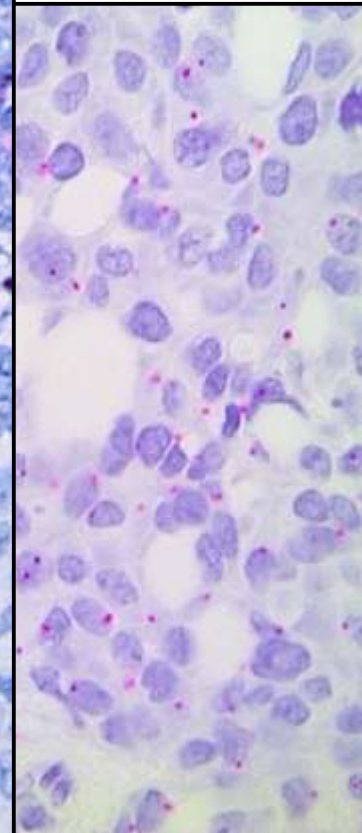
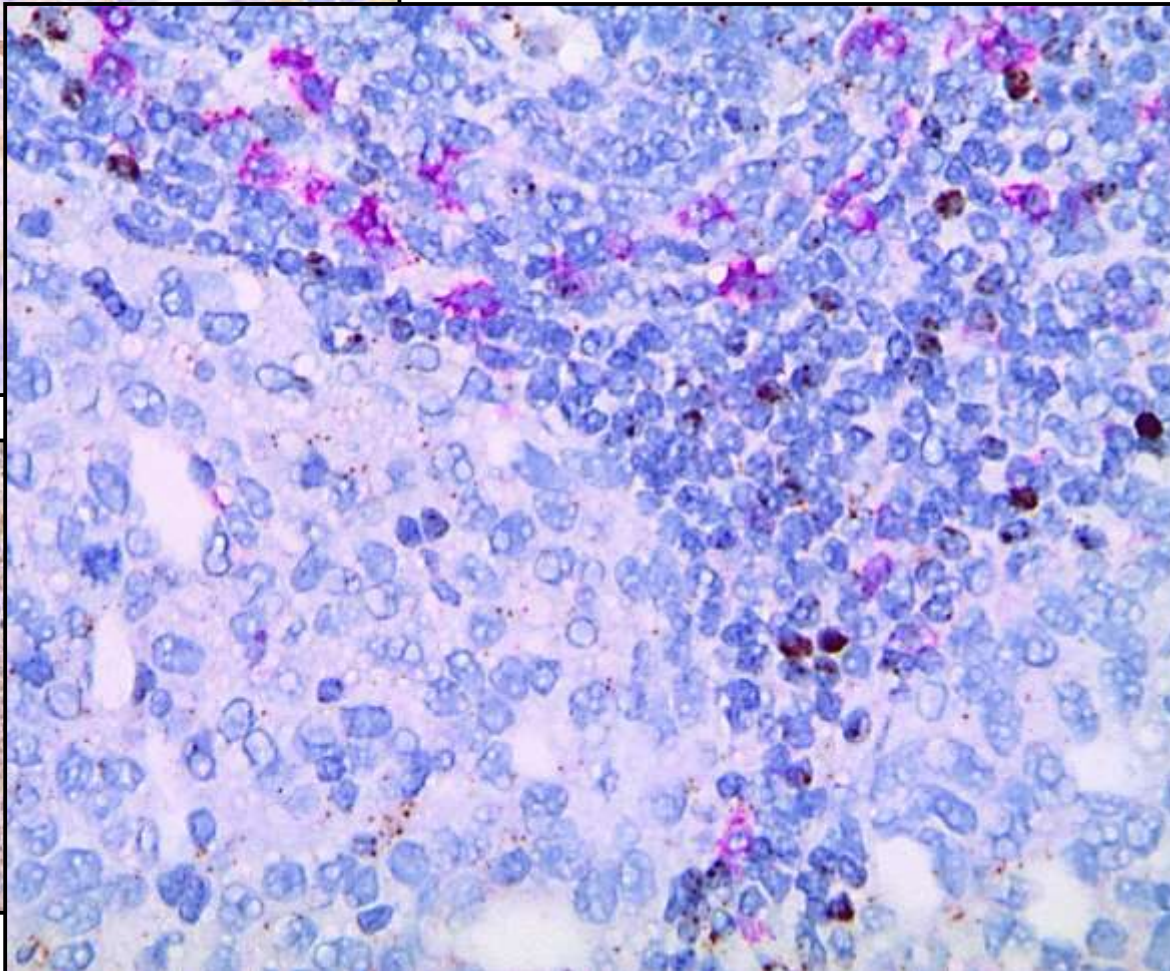
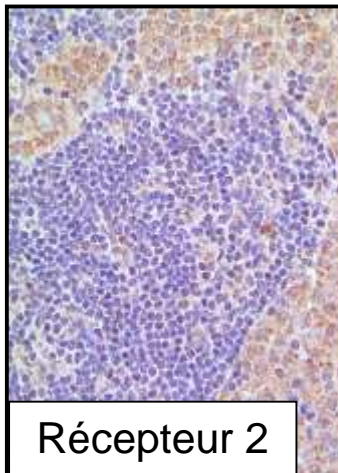
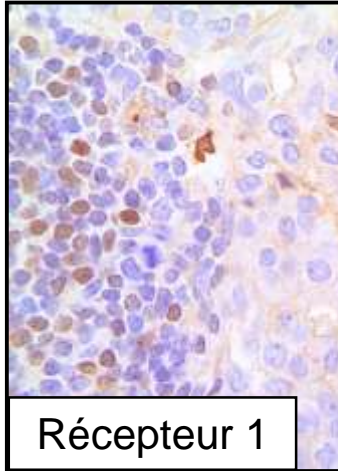
IHC Fonctionnelle : Protein Ligation Assay



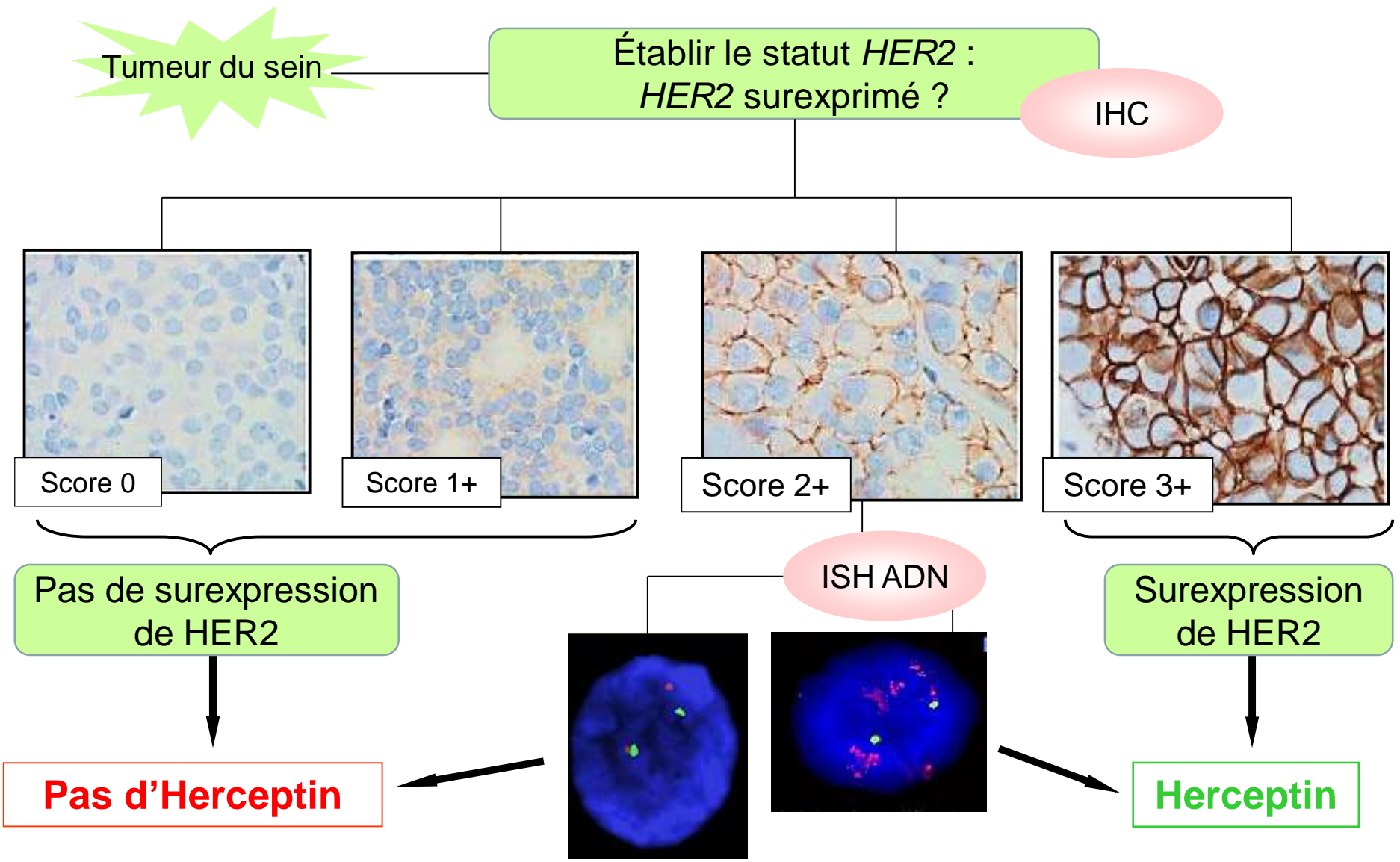
Exemple PLA : Complexe de récepteurs

Formation d'un complexe entre deux récepteurs :
facteur prédictif de résistance à certains traitements ?

PLA + IHC

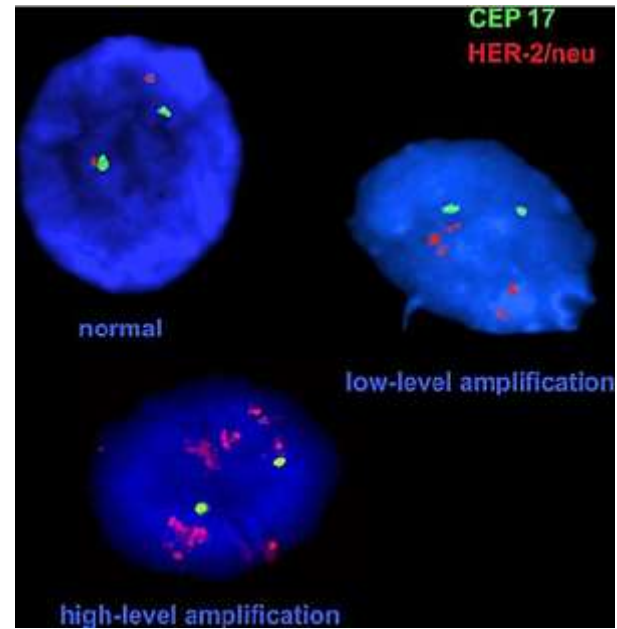
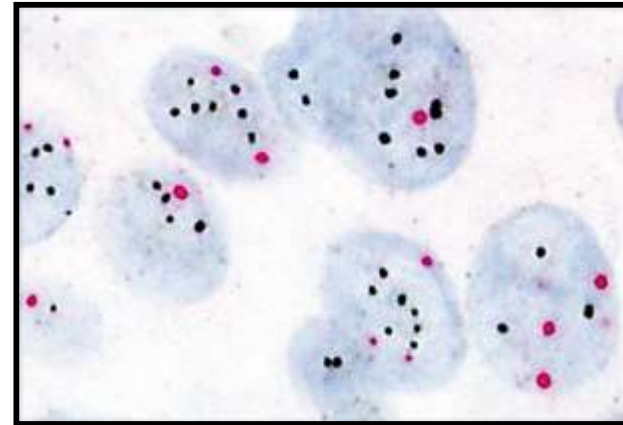
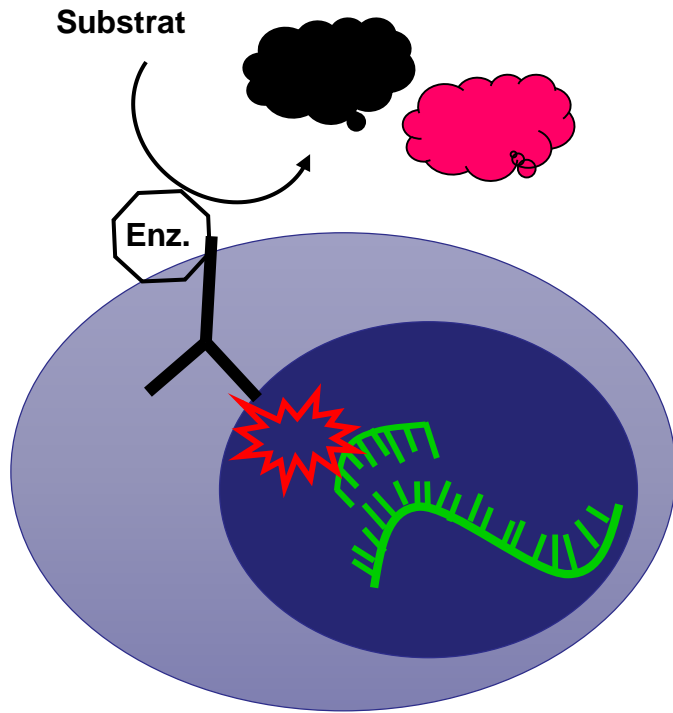


Outil en thérapeutique : Récepteur *HER2*



ISH : Principe

ADN



GPA : Gene Protein Assay

ADN

ISH

+

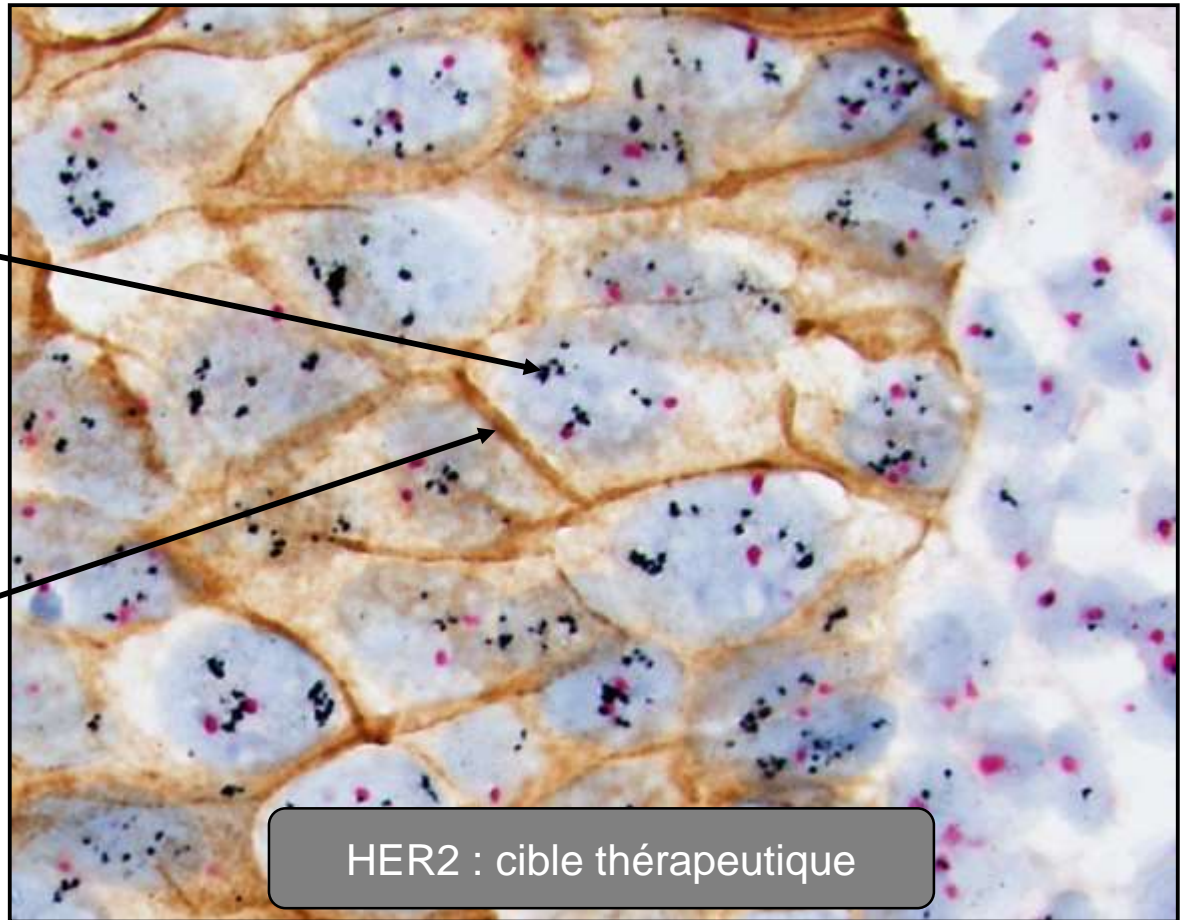
Protéine

IHC

ISH

IHC

HER2 : cible thérapeutique

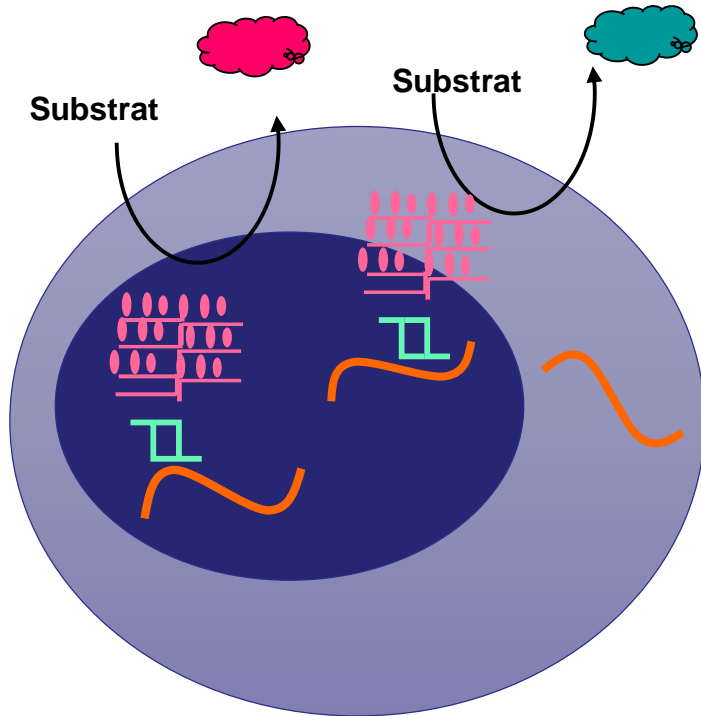


Et l'ISH ARN ? RNAscope

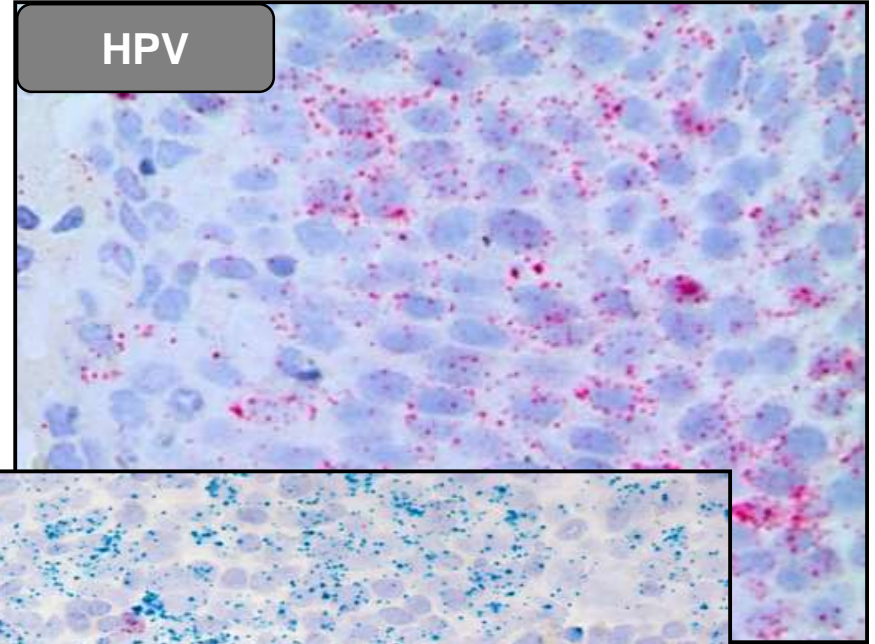
ARN

+

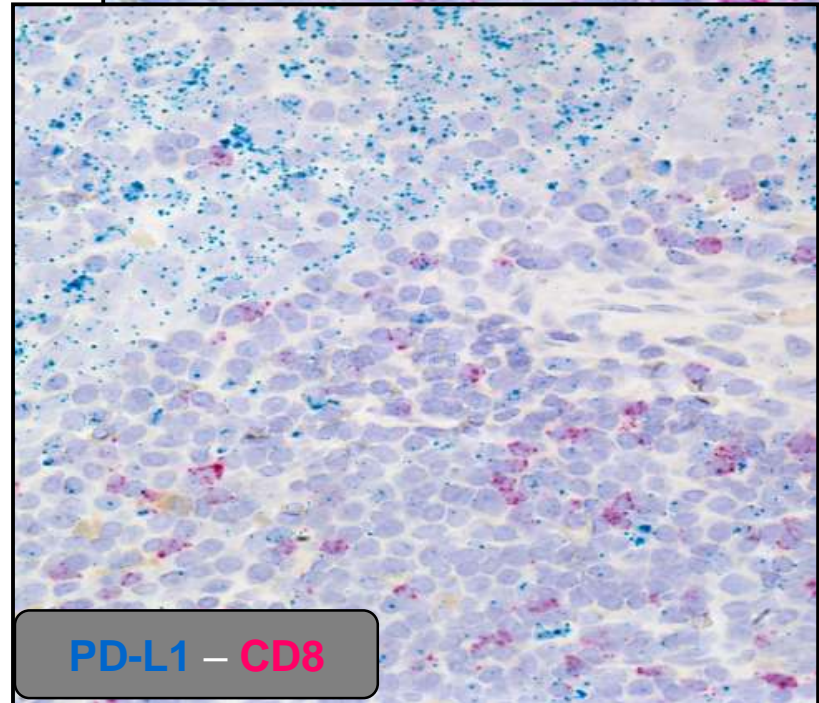
ARN



HPV



PD-L1 – CD8



De l'ARN à la protéine

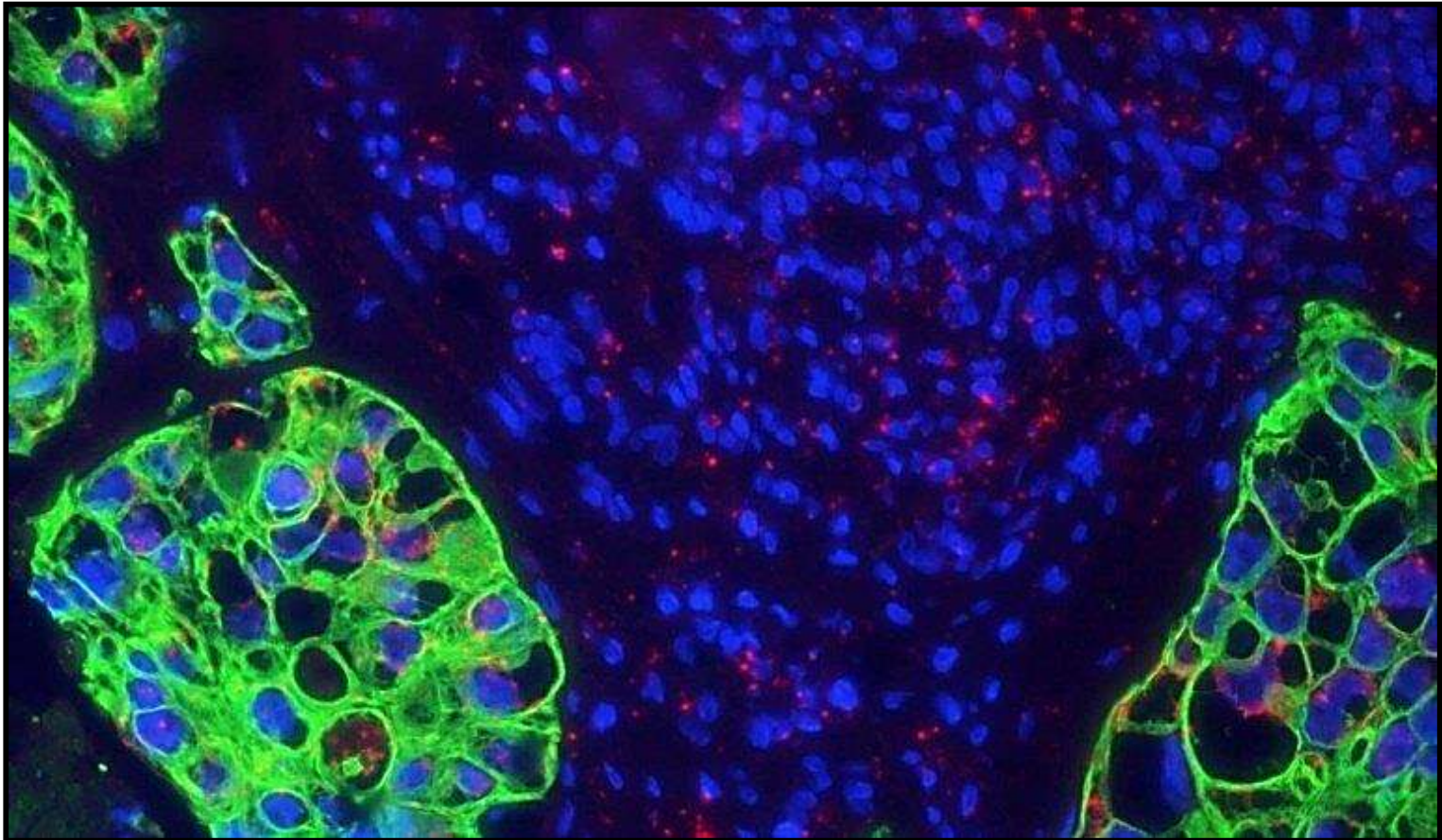
ARN

ISH

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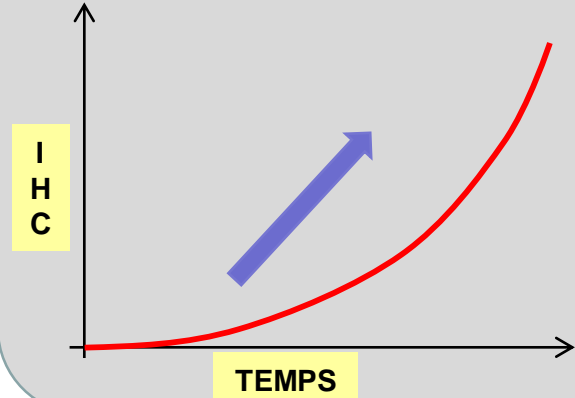
Protéine

IHC

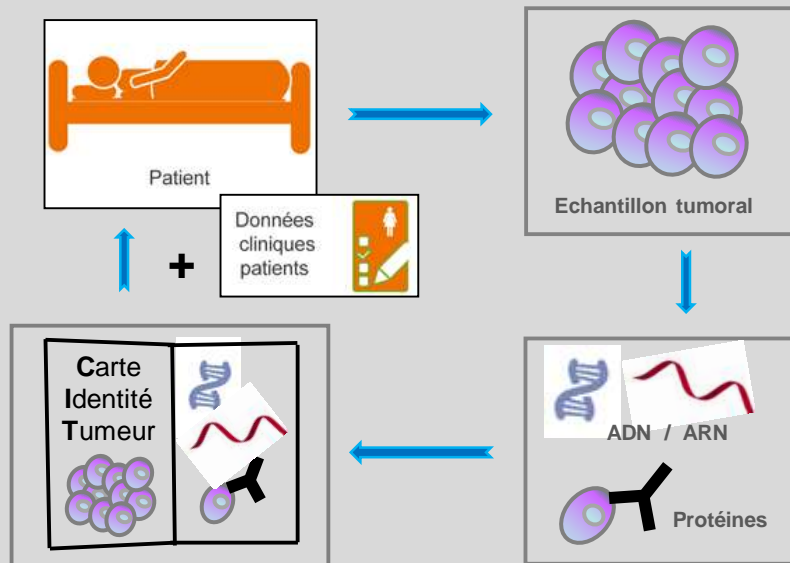


Conclusion

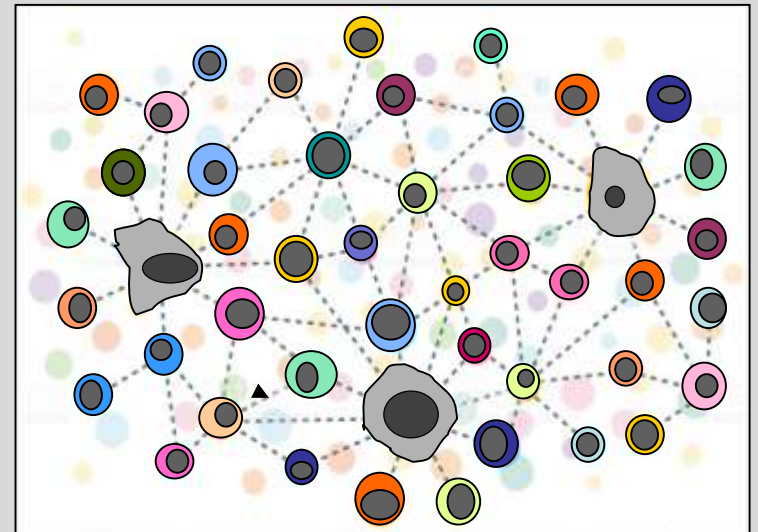
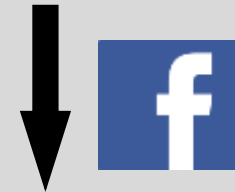
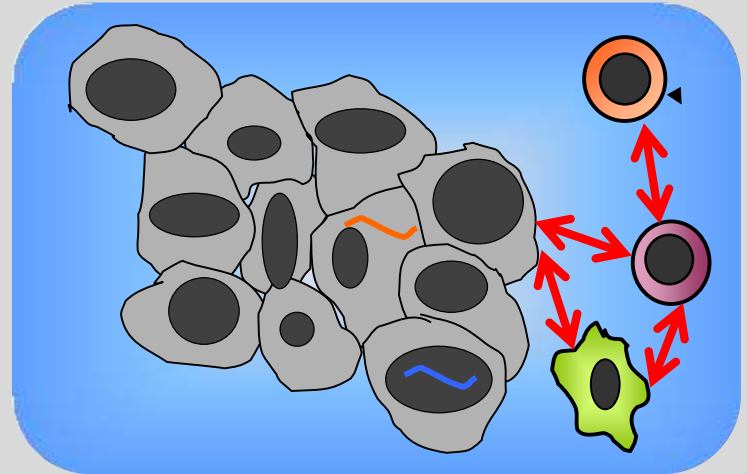
Evolution de l'IHC dans le temps



Biomarqueurs



Multiparamétrique



MERCI

