

La Révolution de l'Immunothérapie dans la lutte contre le Cancer

De Immunotherapie Revolutie in de strijd tegen Kanker



**INSTITUT
ROI ALBERT II**

CANCÉROLOGIE ET HÉMATOLOGIE
Cliniques universitaires SAINT-LUC | UCL Bruxelles

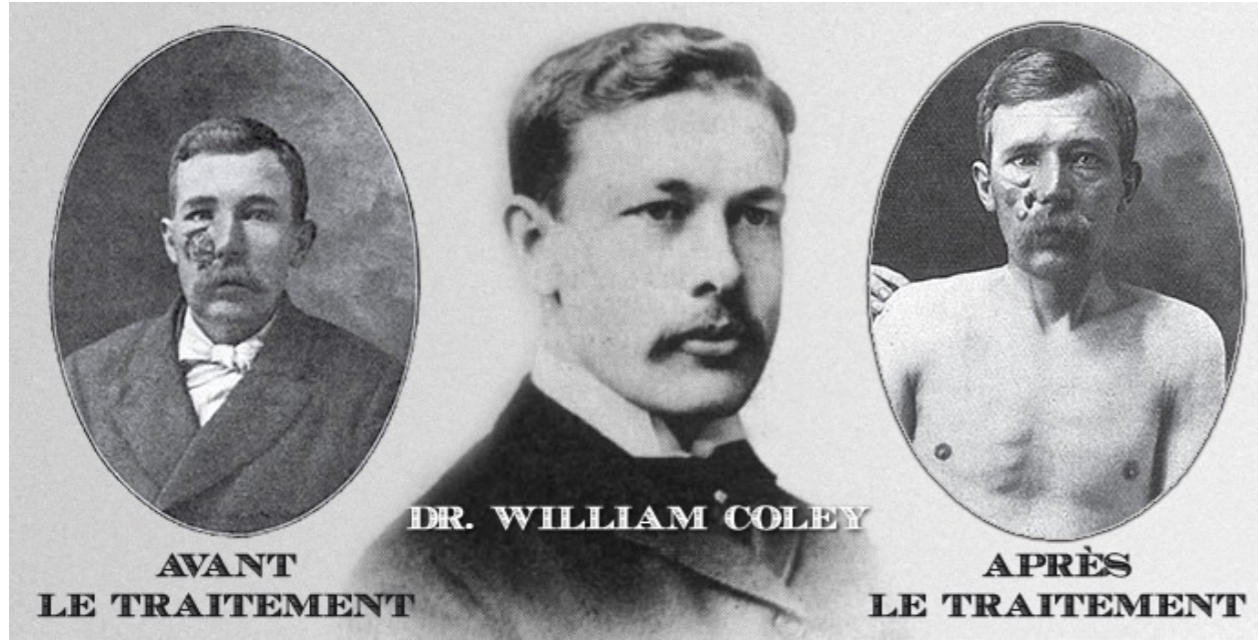
UCL
Université
catholique
de Louvain



Prof J-Fr. BAURAIN
Medical Oncology Department

Table Ronde
Bruxelles
2 Juillet 2015

Moving from Bacterial to Modern Immunotherapy



BACTERIAL IMMUNOTHERAPY



Thierry Boon



Jim Allison

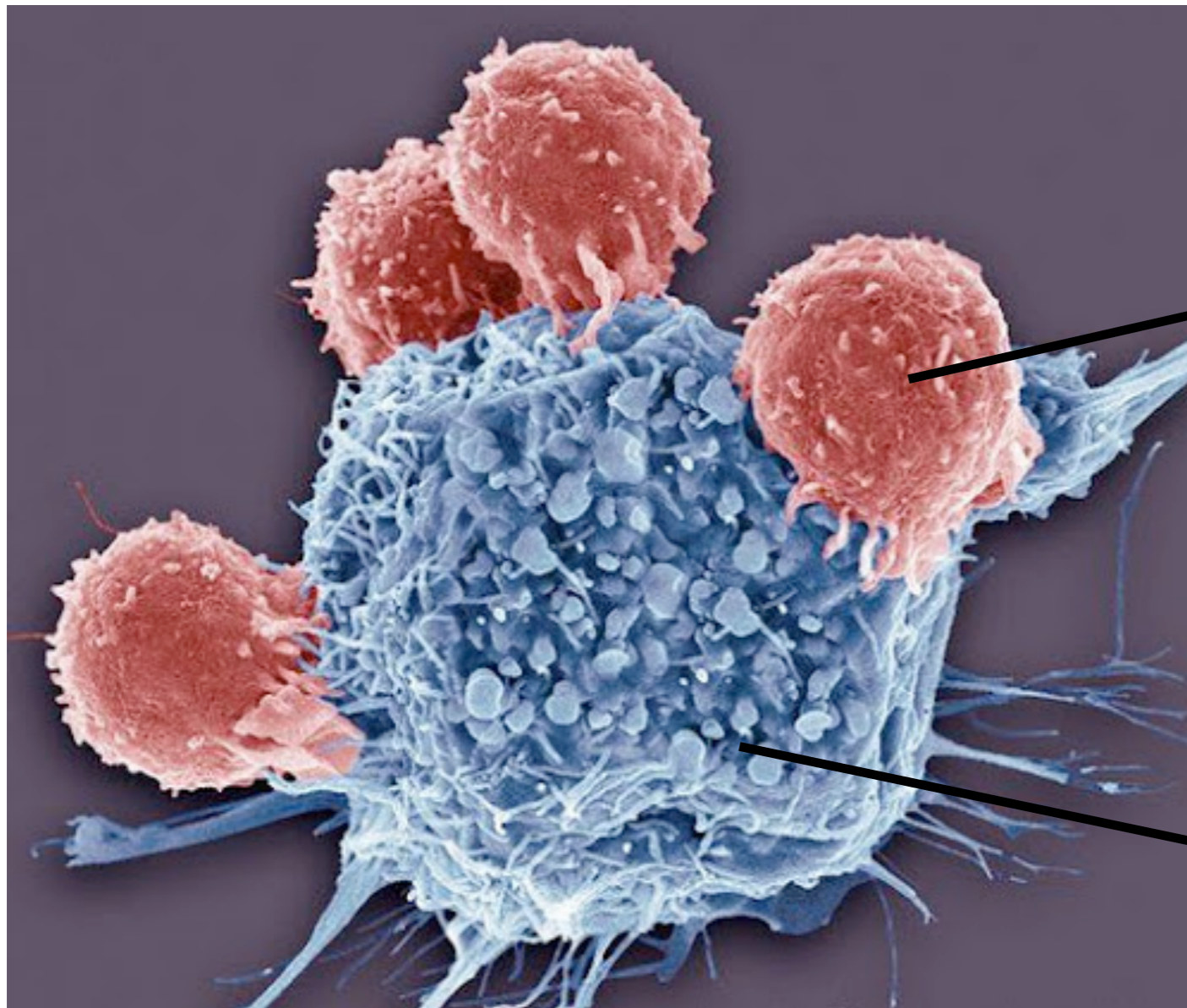


Tasuku Honjo

MODERN IMMUNOTHERAPY



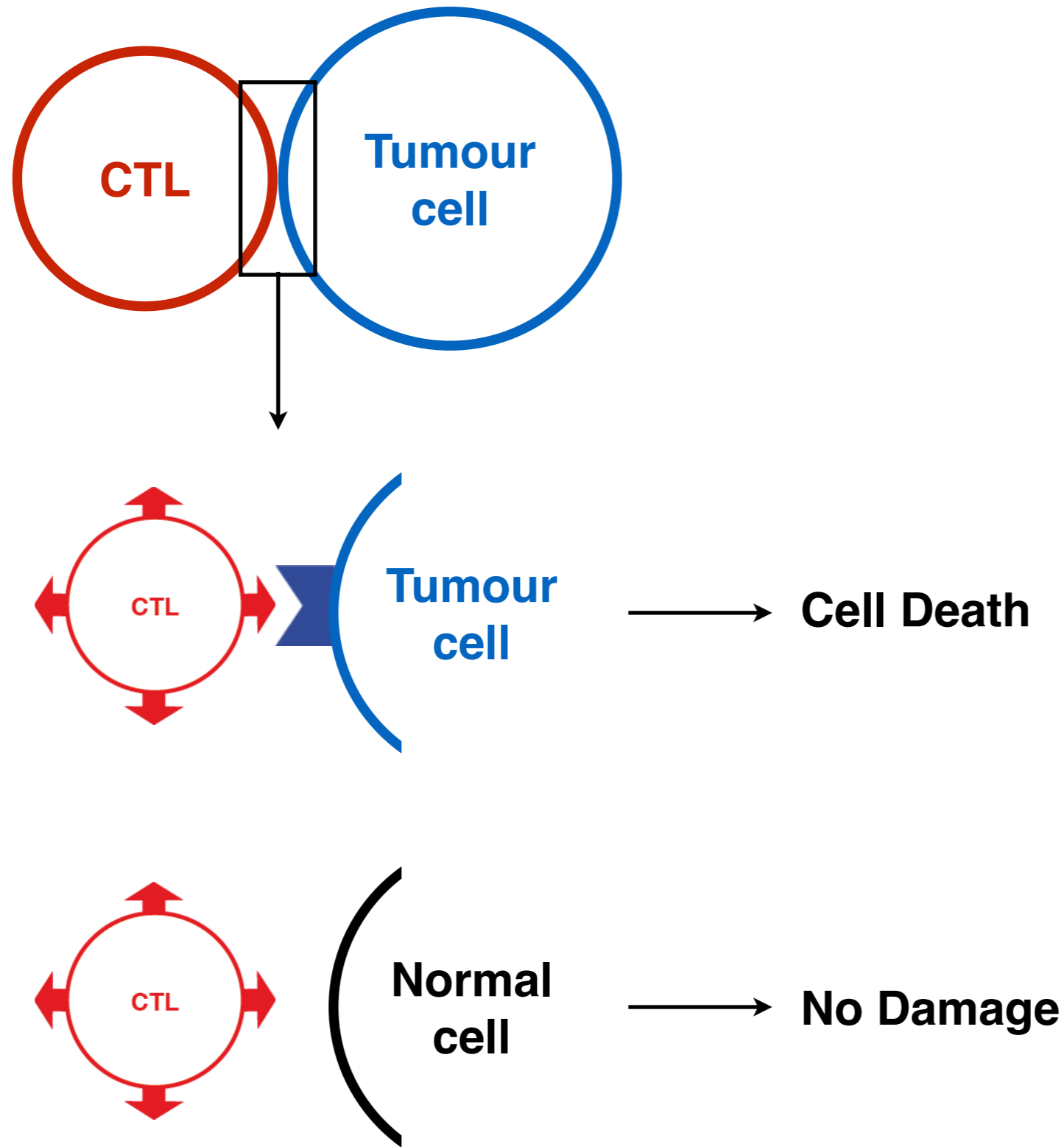
Basis of Immunotherapy



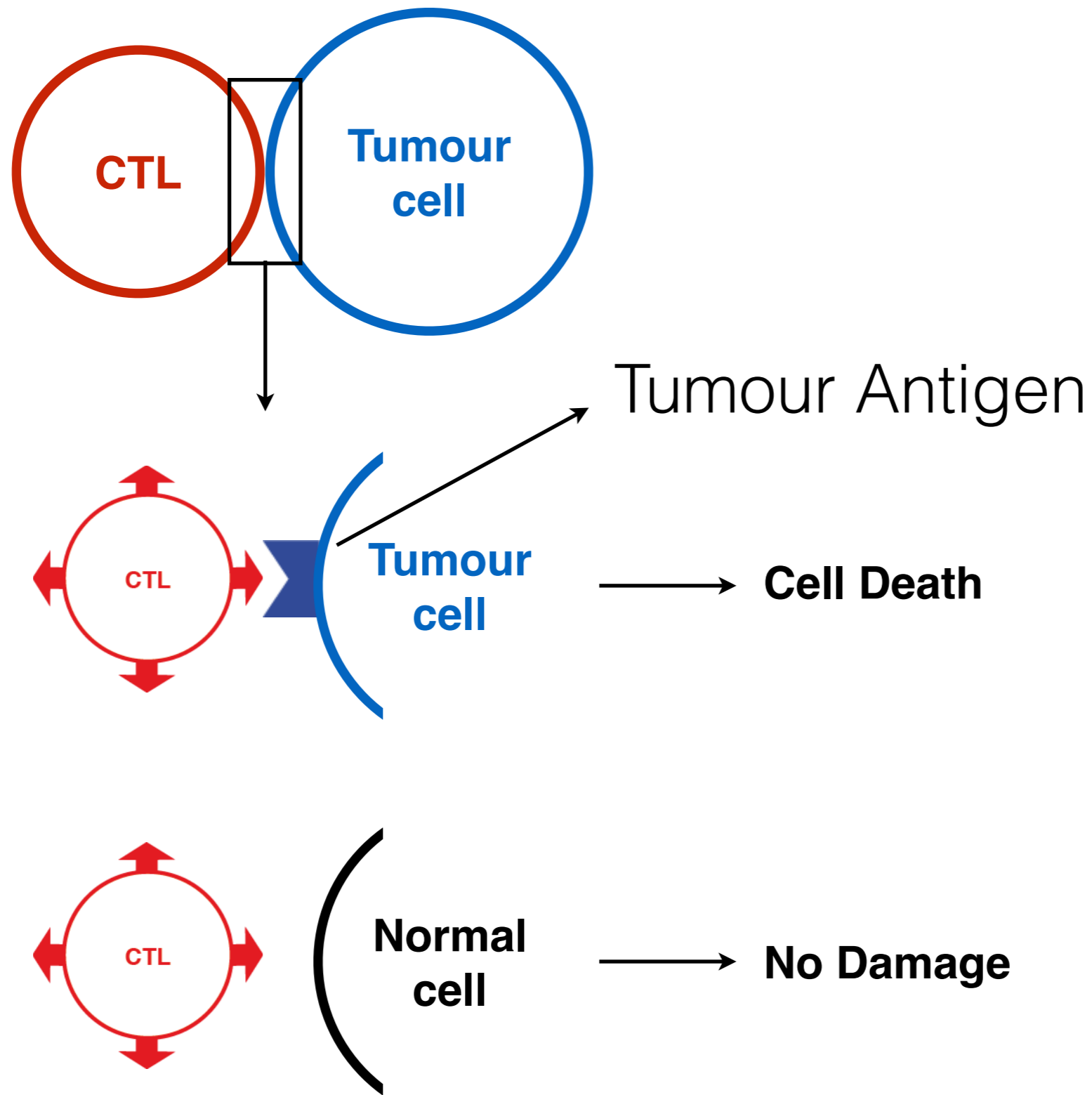
T Lymphocytes (CTL)

Tumour Cell

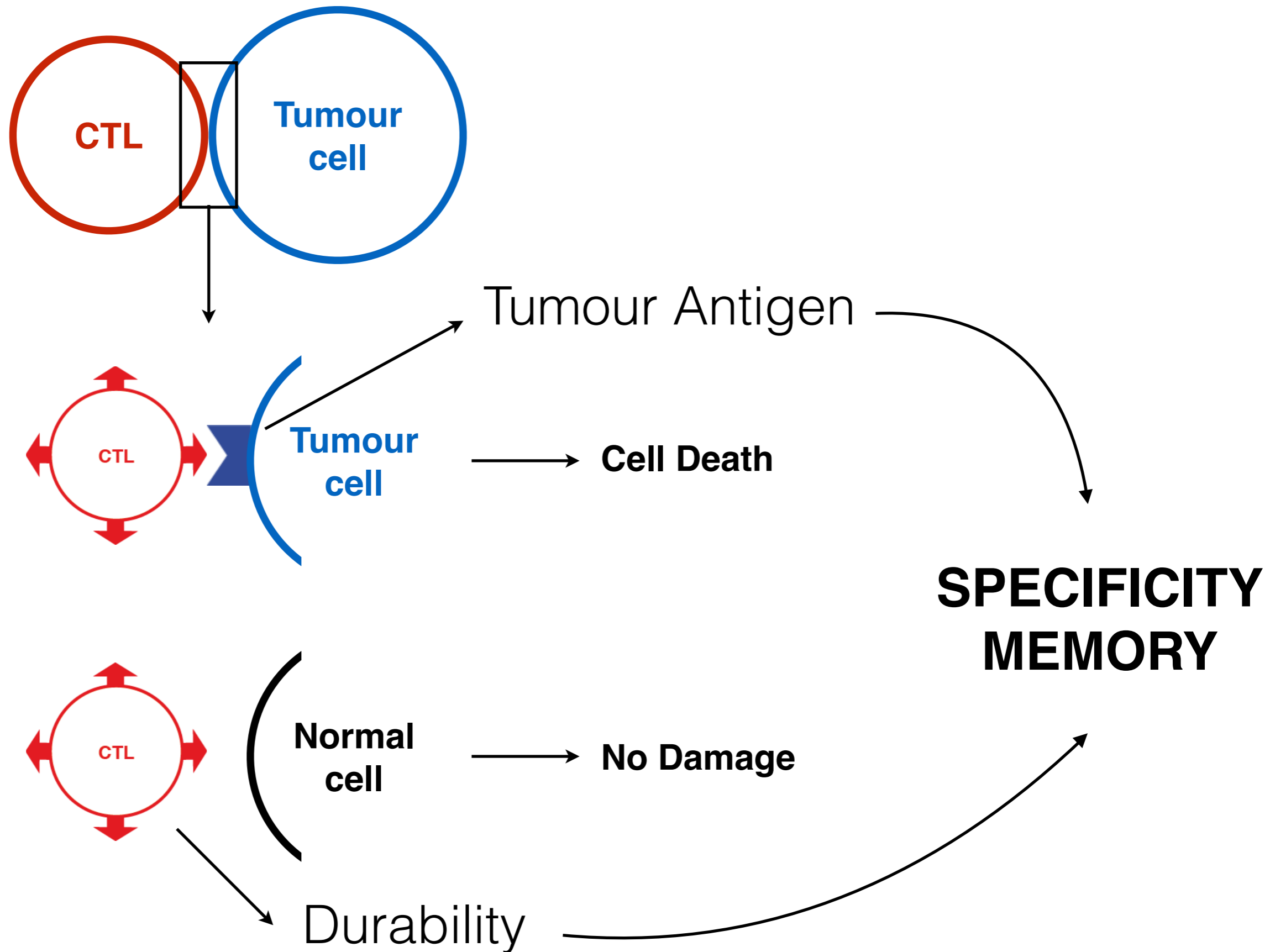
Human Tumours are Antigenic



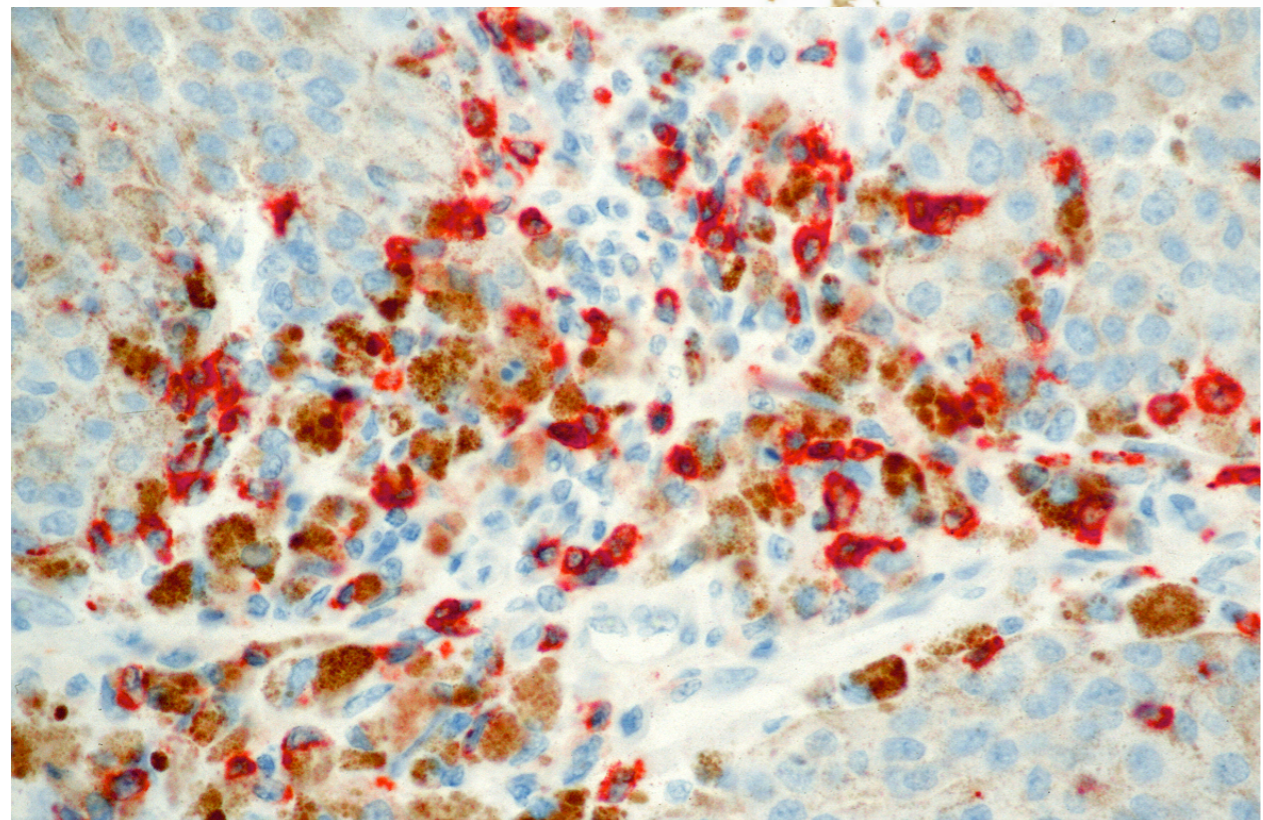
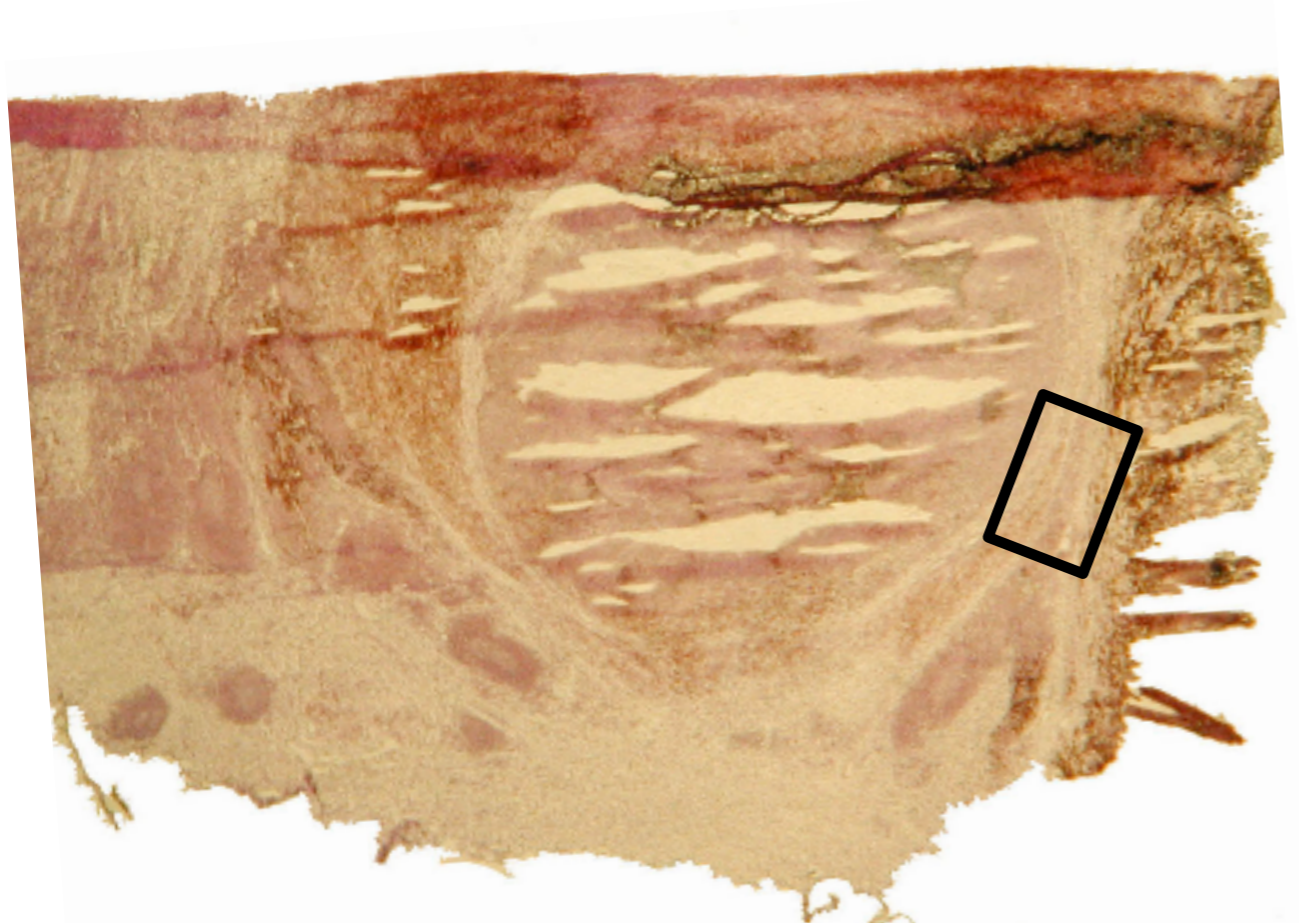
Human Tumours are Antigenic



Human Tumours are Antigenic

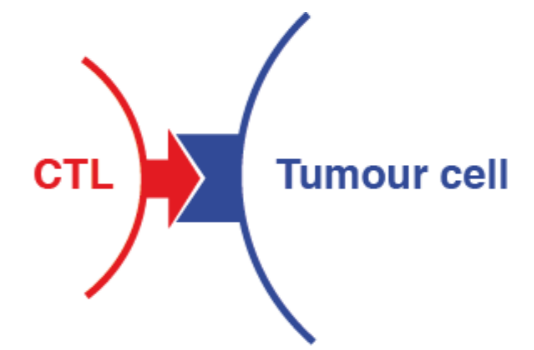


Human Tumours are Antigenic and Immunogenic



Courtesy of N.van Baren

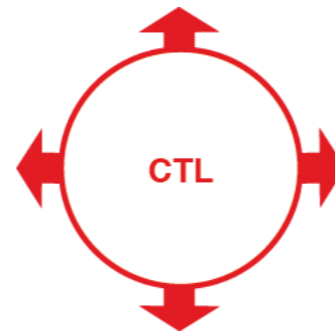
Insufficient Process



Cancer Immunotherapy

« Active »

« Passive »



Vaccines

**Adoptive
Transfer**

Few Side-effects

More Side-effects

Weak Efficacy

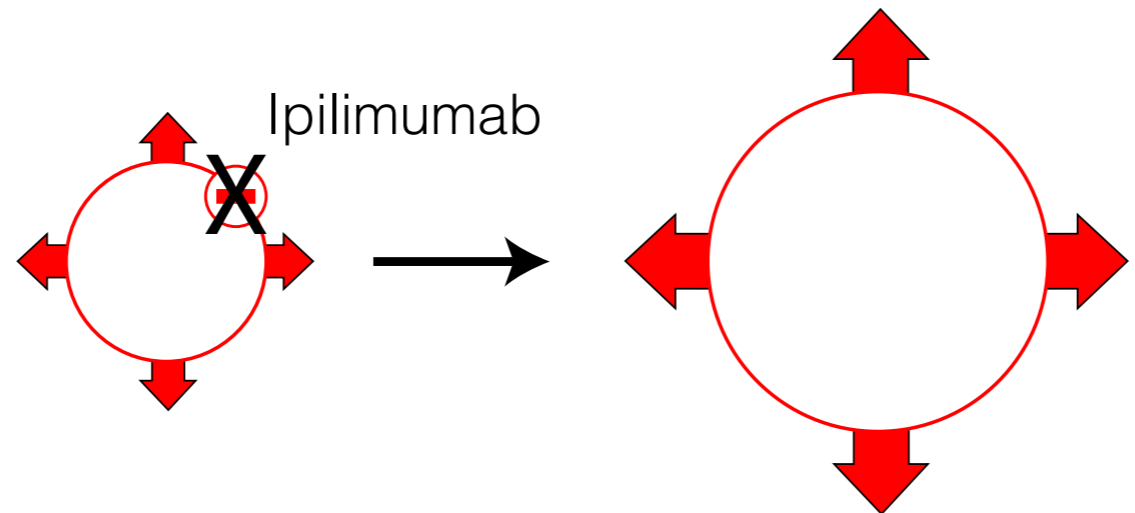
Higher Efficacy

Checkpoint Inhibitors : Ipilimumab, Yervoy® the First in Class

On CTL, there are proteins regulating their efficacy



We can block these regulators and increase the efficacy



Cancer Immunotherapy

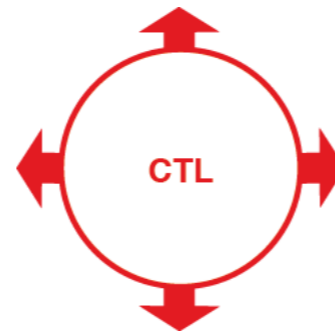
« Active »



Vaccines

Few Side-effects
Weak Efficacy

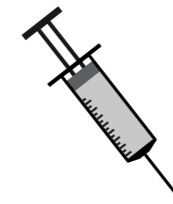
« Passive »



**Adoptive
Transfer**

More Side-effects
Higher Efficacy

« Modulatory »

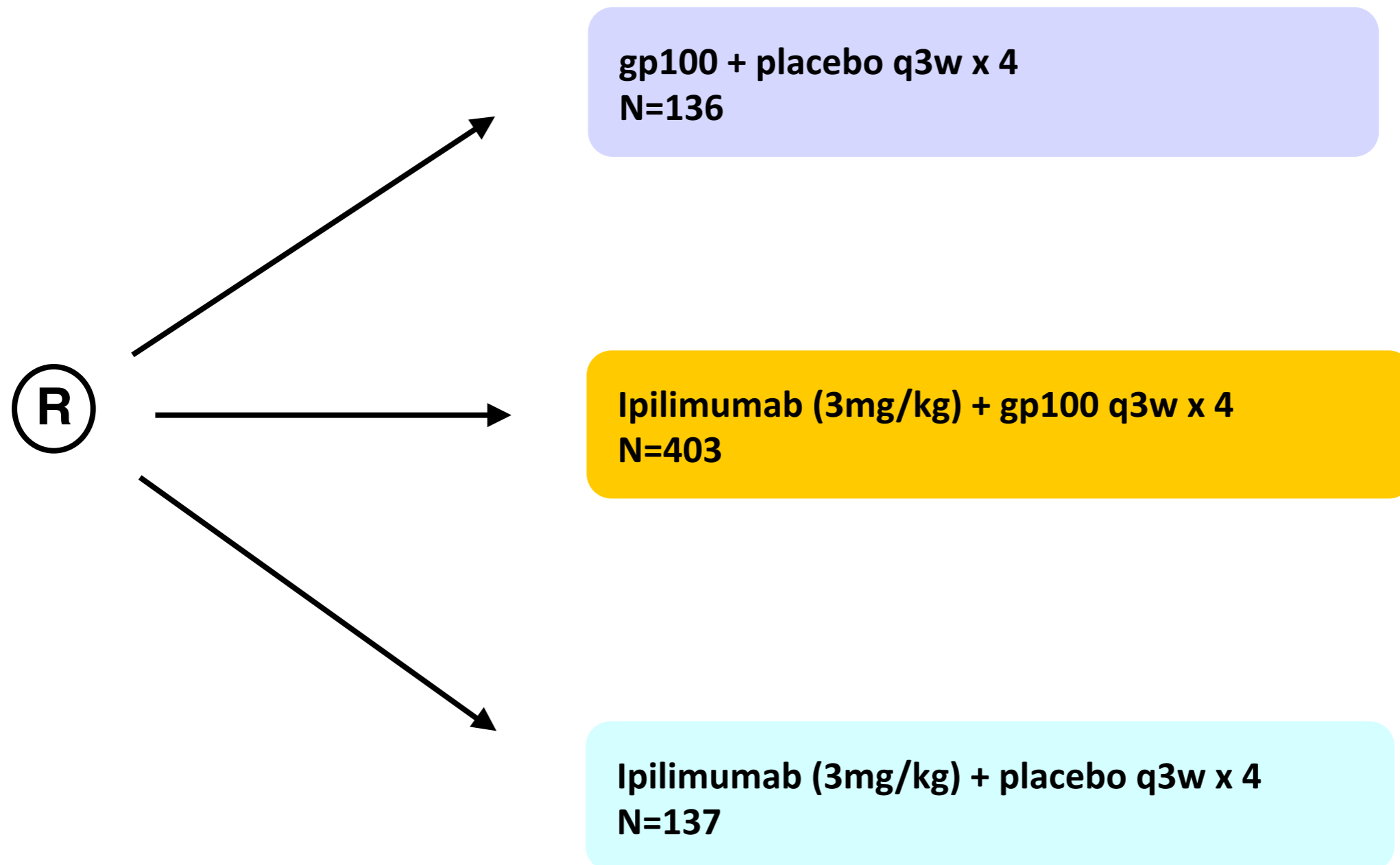


**Checkpoint
inhibitors**

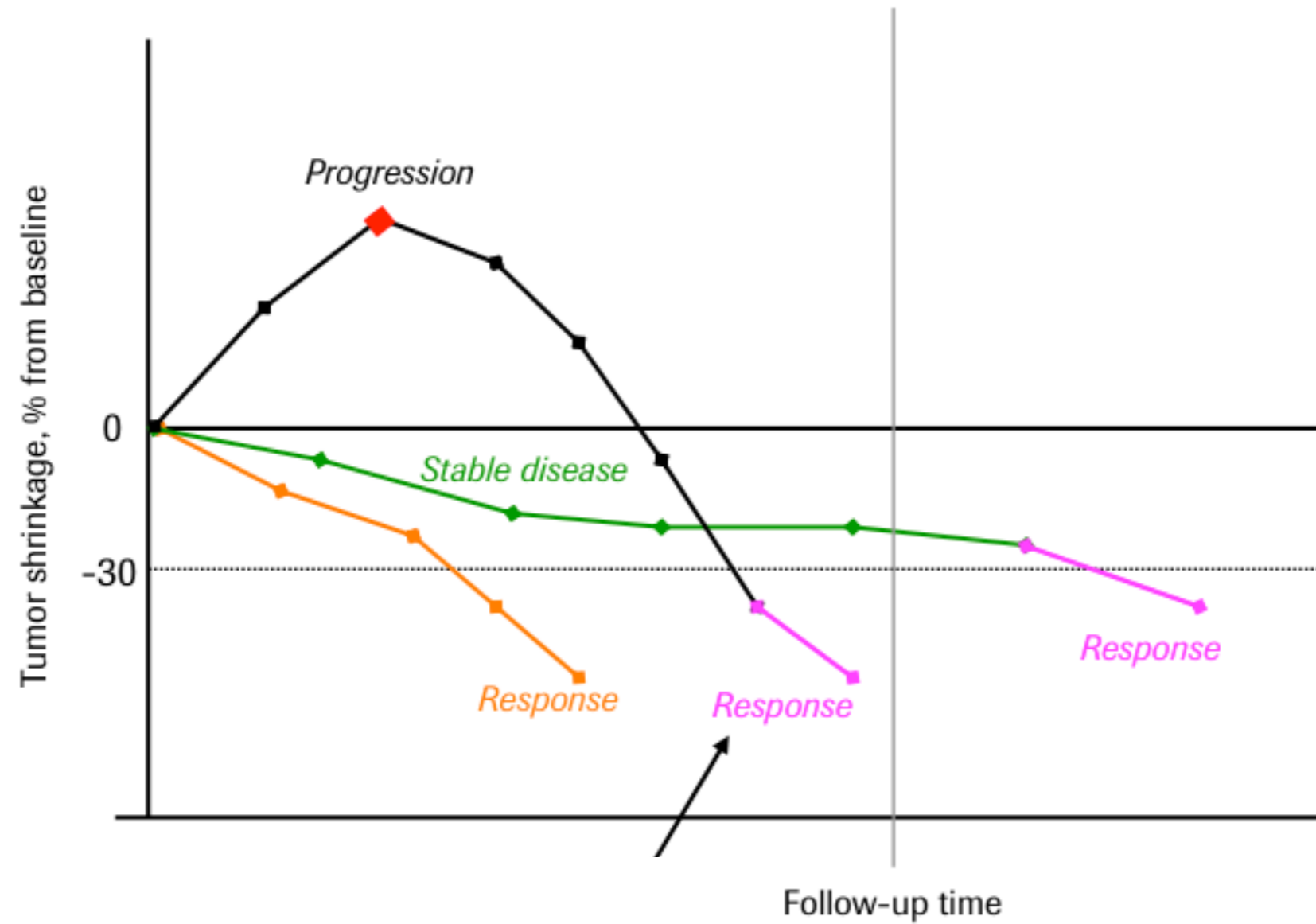
Some Side-effects
Some Efficacy

First Phase III : peptide vaccine and Ipilimumab

- 676 patients with metastatic melanoma progressing after first-line chemotherapy
- Primary endpoint : Overall survival



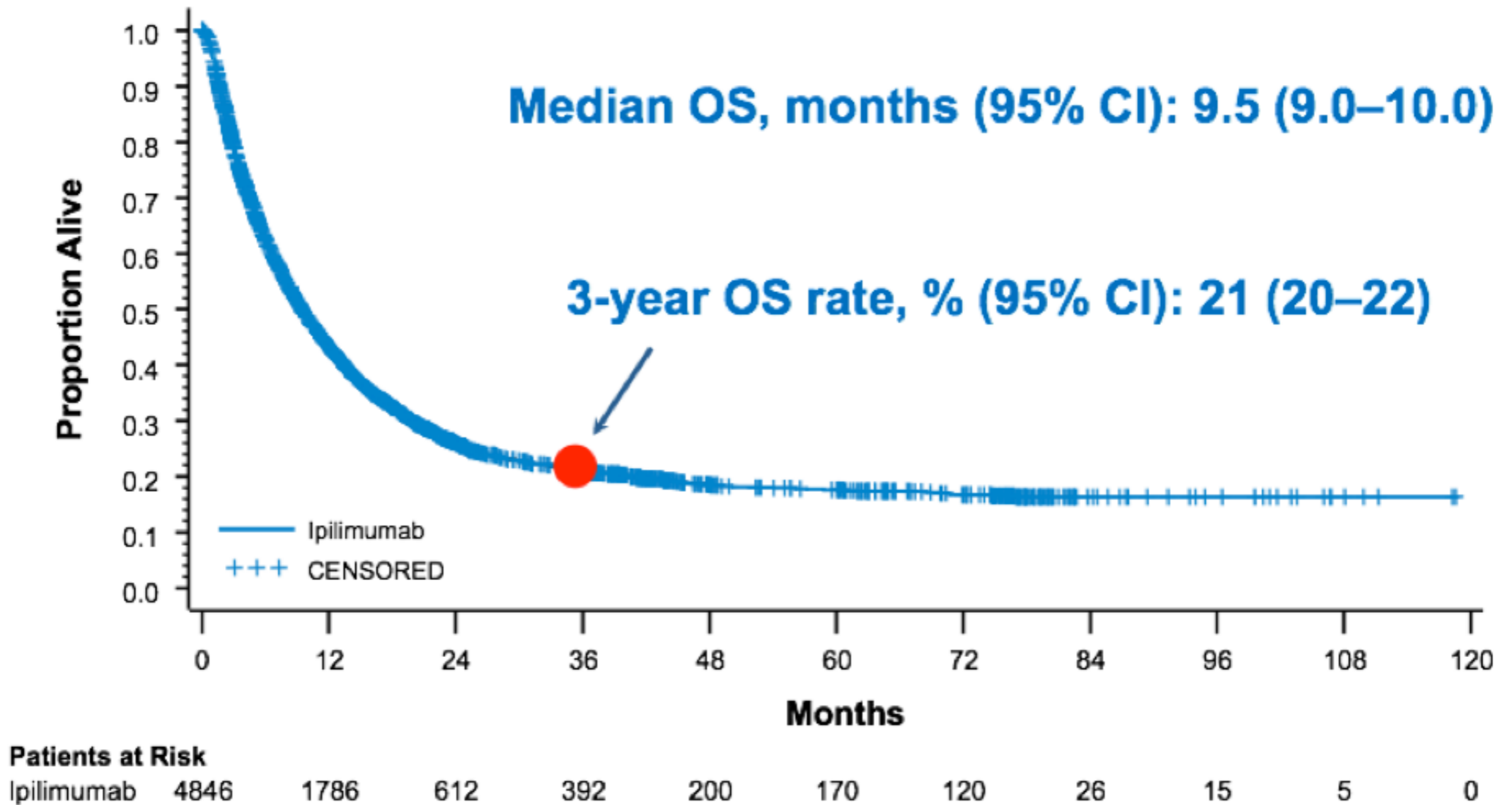
New Pattern of Response with Checkpoint Inhibitors



Late response



Can we Cure Melanoma with Immunotherapy ?



S. Hodi, NEJM 2010
C. Robert, ESMO 2013
M. Maio, JCO 2015

Many More Candidates

