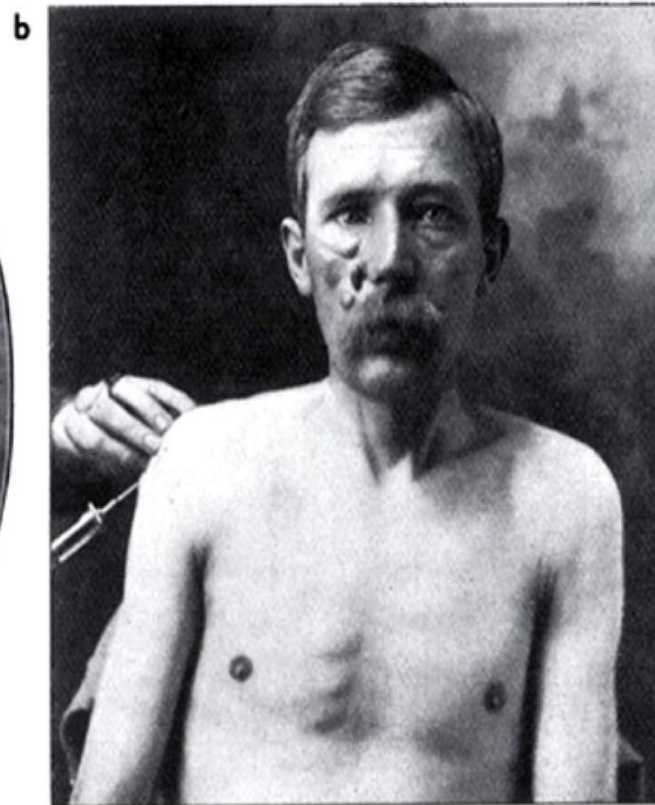


# ΑΝΟΣΟΘΕΡΑΠΕΙΑ ΤΟΥ ΚΑΡΚΙΝΟΥ: ΤΙ ΠΕΡΙΜΕΝΟΥΜΕ ΤΗΝ ΕΠΟΜΕΝΗ ΠΕΝΤΑΕΤΙΑ

ΑΜΑΝΤΑ ΨΥΡΡΗ

ΑΝΑΠΛΗΡΩΤΡΙΑ ΚΑΘΗΓΗΤΡΙΑ ΕΚΠΑ  
ΑΤΤΙΚΟ ΝΟΣΟΚΟΜΕΙΟ

# 1899: Coley's Toxin



Balkwill F. *Nature Rev Cancer*. 2009;9:361-371.

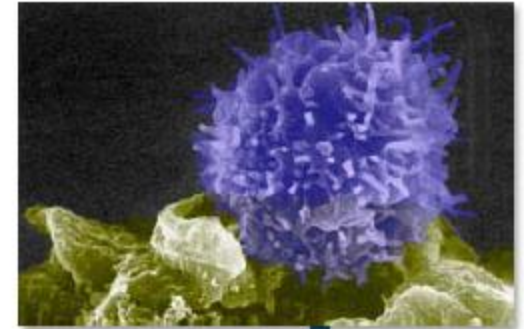
# Evolution of Cancer Therapy: Treatment Modalities



**Surgery**  
1846



**Chemotherapy**  
1946

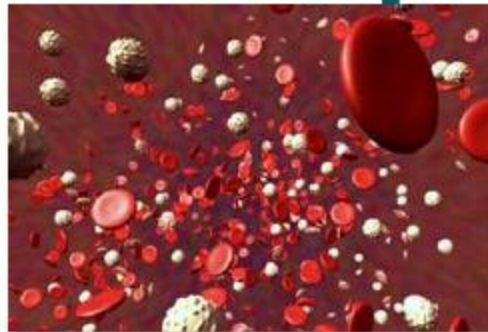


**Immuno-oncology**  
Sipuleucel-T 2010  
Ipilimumab 2011

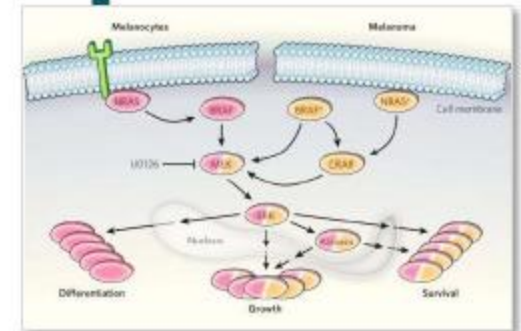
**Radiation Therapy**  
1901



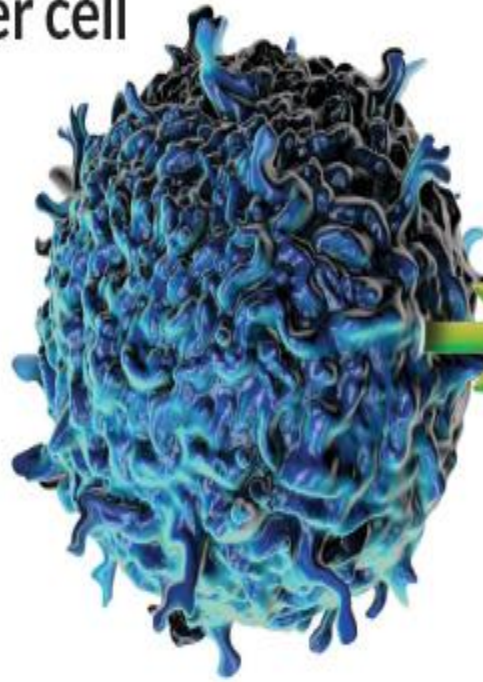
**Immunotherapy**  
Interferon- $\alpha$  1995  
Interleukin-2 1998



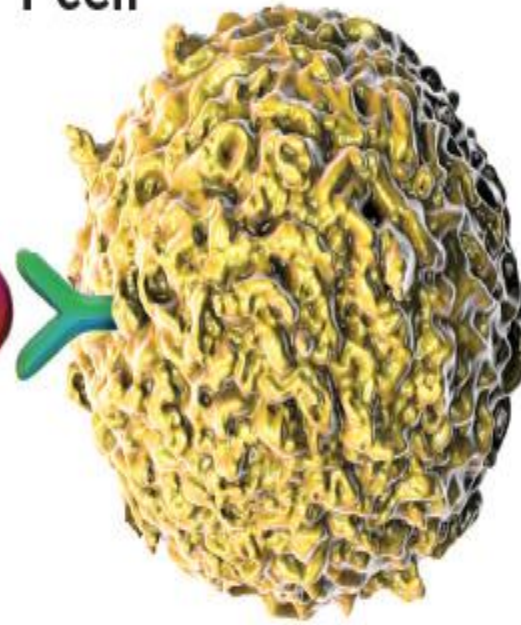
**Targeted Therapy**  
1997



Cancer cell



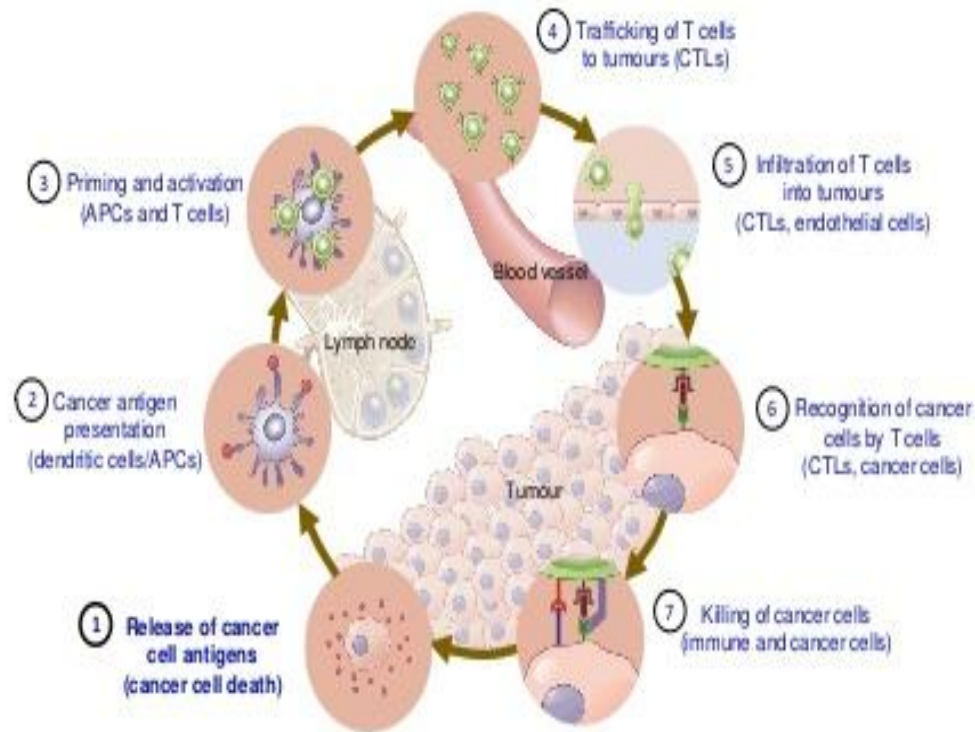
T cell



**Immunotherapy= tumor cell killing by immune cells**



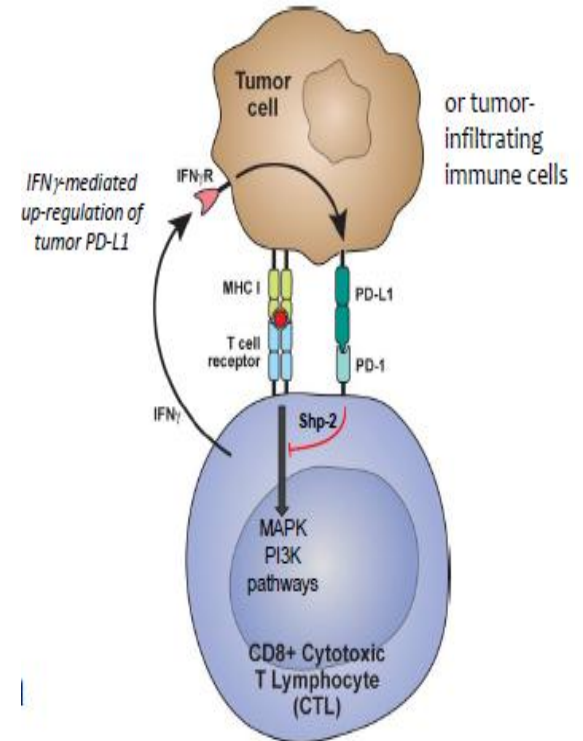
# Key steps for an effective antitumor T cell response



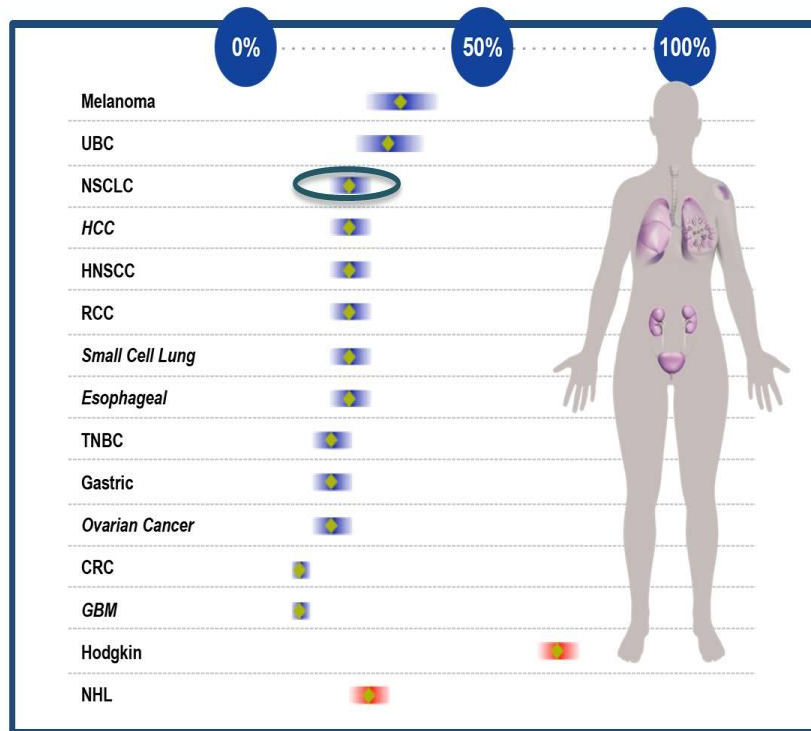
Chen & Mellman. 2013

# Blocking PD1 axis blocks or restores loss of T cell activity

- PD-1/PD-L1 interaction inhibits T cell activation, attenuates effector function, maintains immune homeostasis
- Tumors and surrounding cells upregulate PD-L1 in response to T cell activity



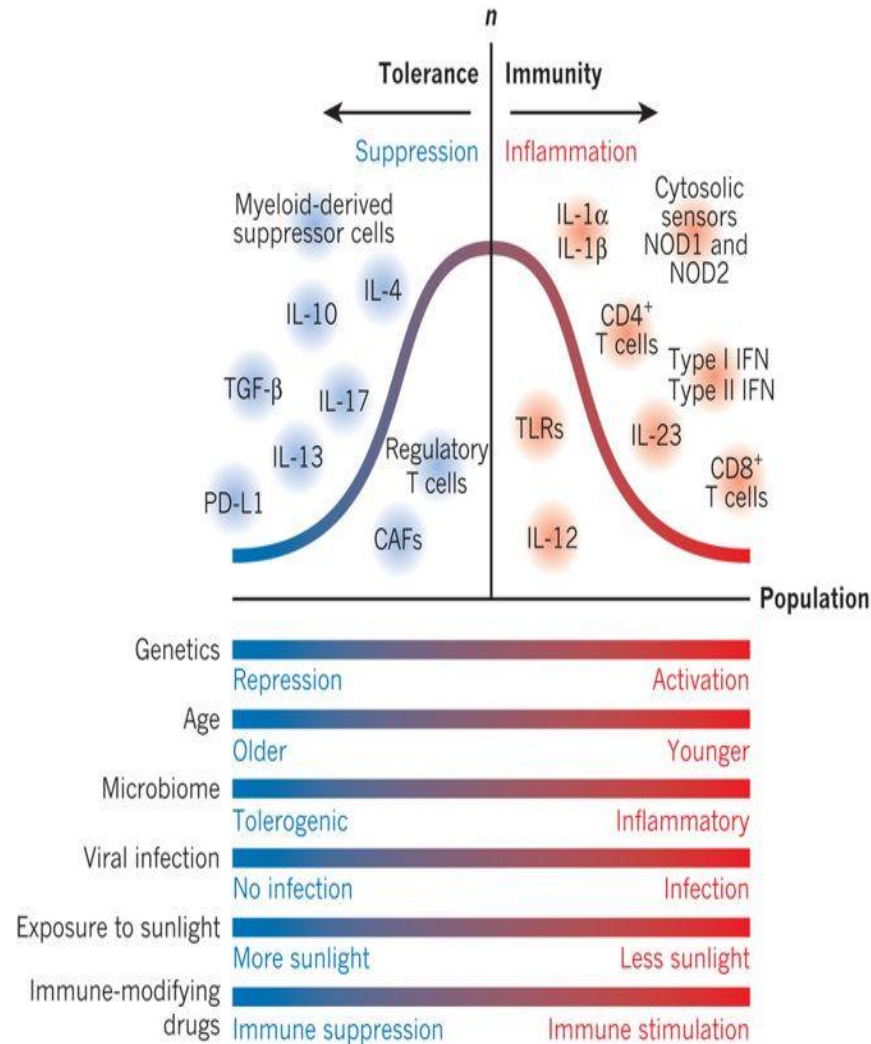
# Anti PD(L)-1 monotherapy results in response in a minority of cancer patients



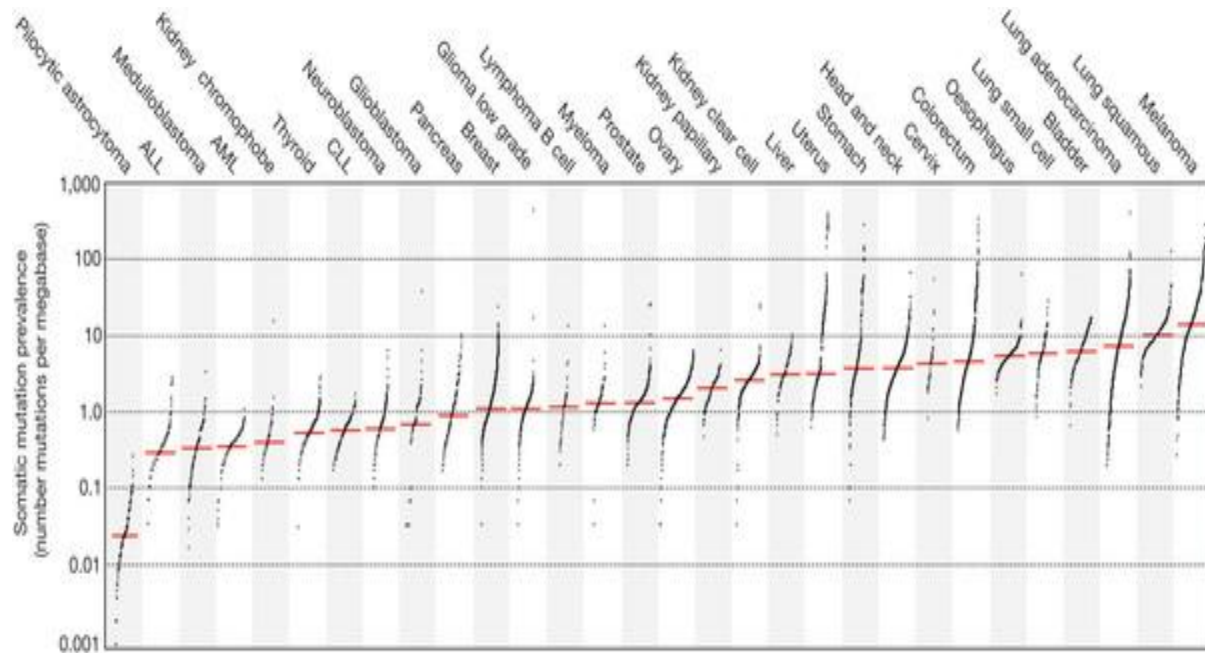
**Moving immunotherapy  
frontline: only a minority of our  
patients reach subsequent  
lines**



# An evolving immunogram: a complexity to acknowledge



# Indication response rates correlate with mutation frequency



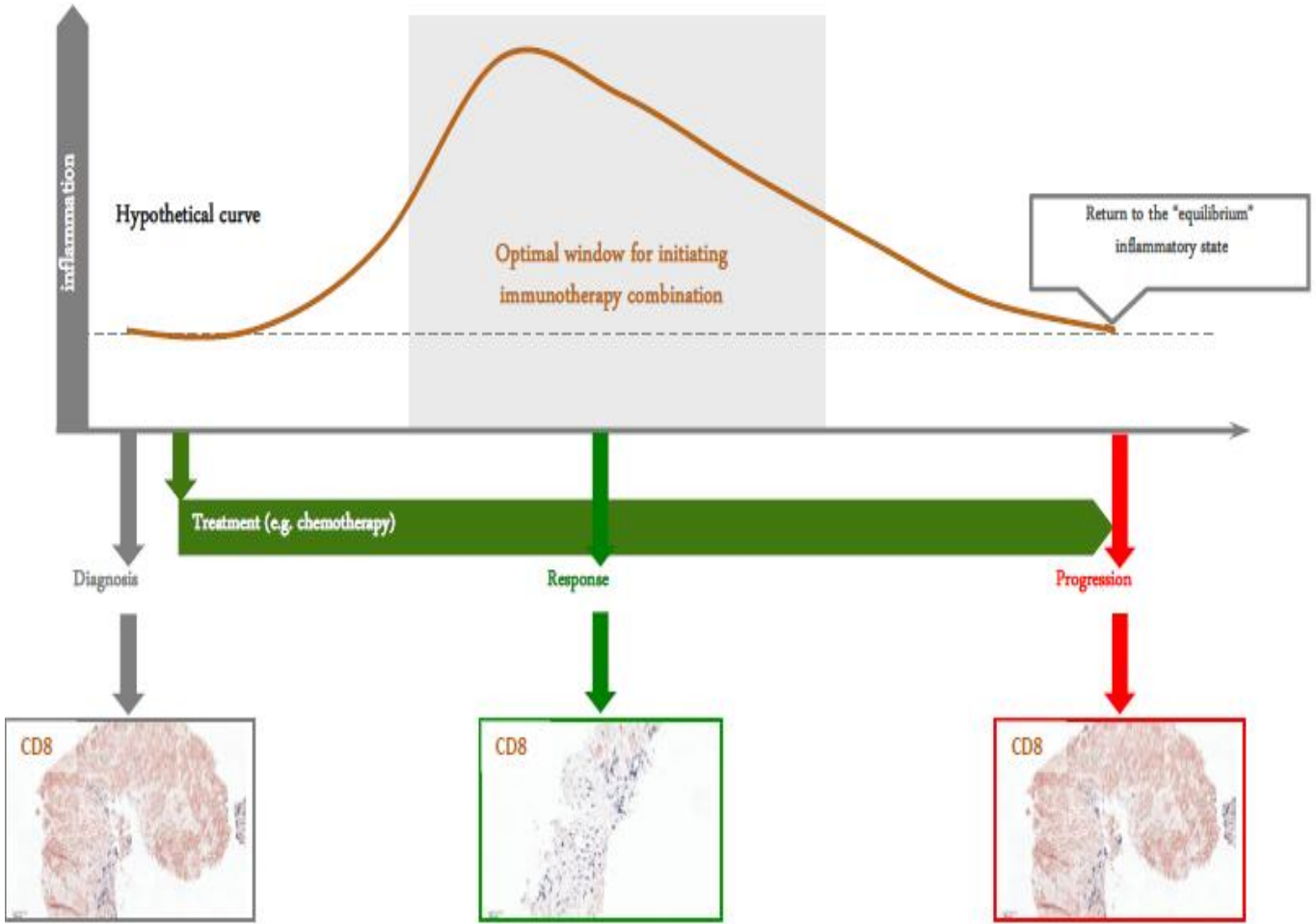
Head and neck cancers have a high rate of somatic mutations

High mutational rates likely contribute to increased immunogenicity

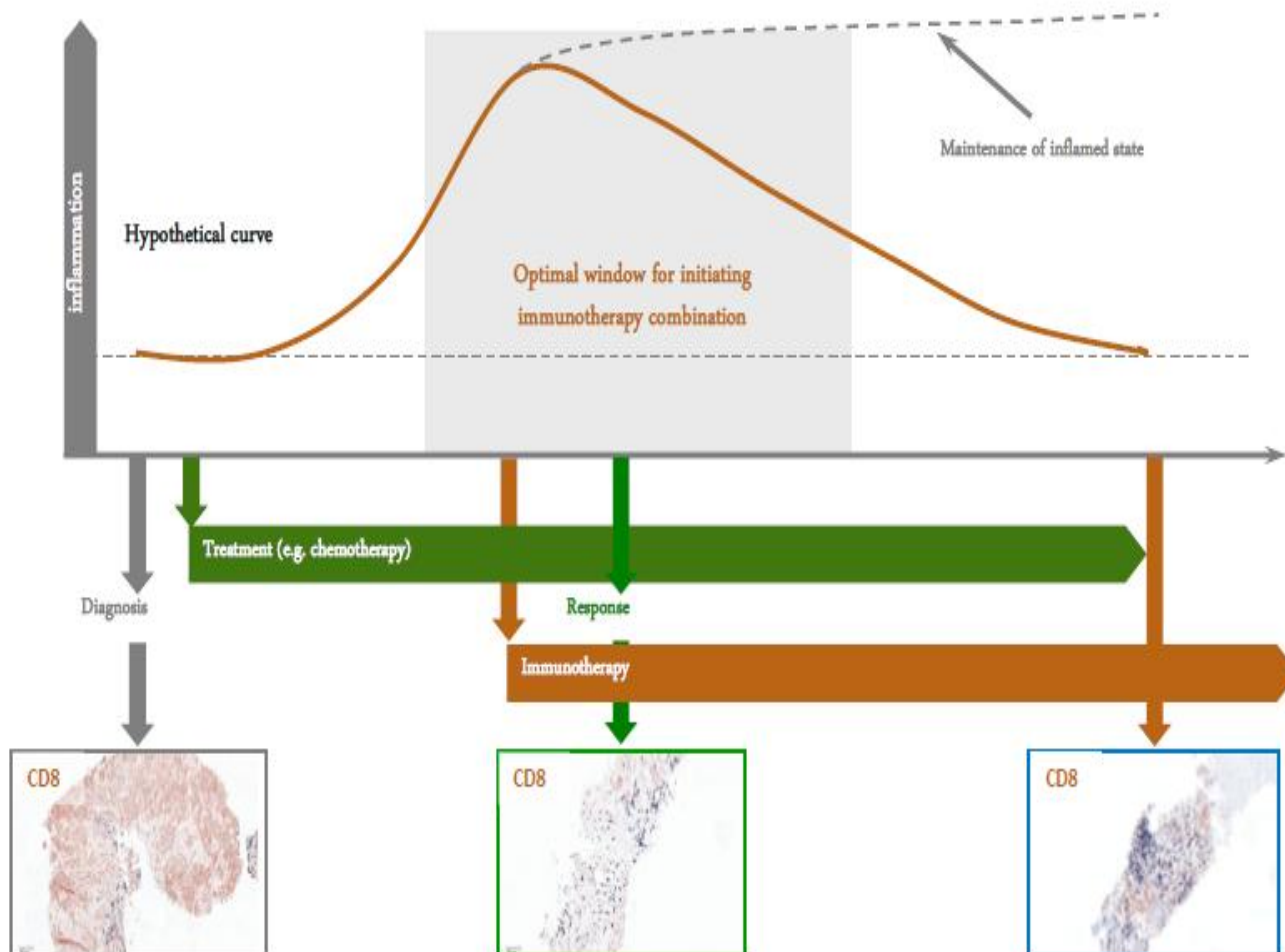
*Lawrence, Nature*

100, 214, 2013

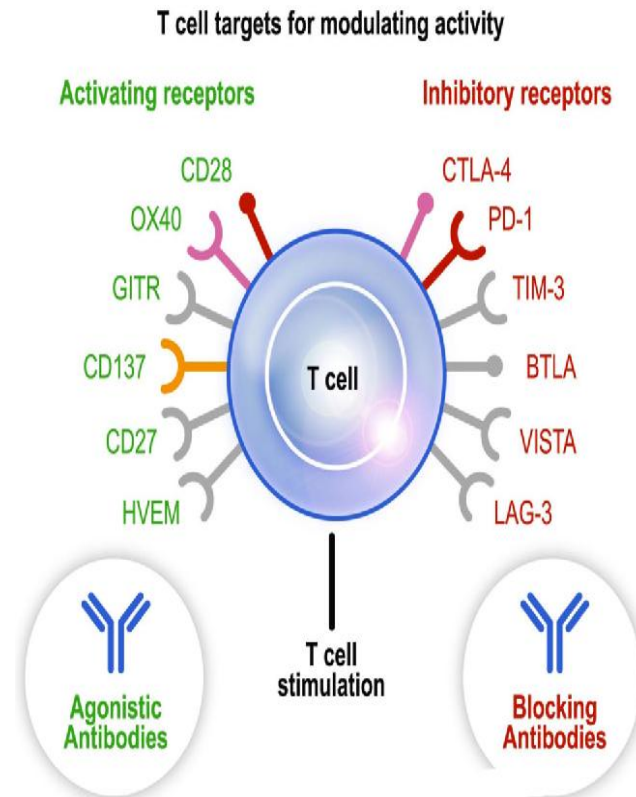
# Modulation of immune status by chemotherapy may be transient



# Addition of immunotherapy to chemotherapy may help maintain tumor inflamed state



# Immunotherapy Combinations



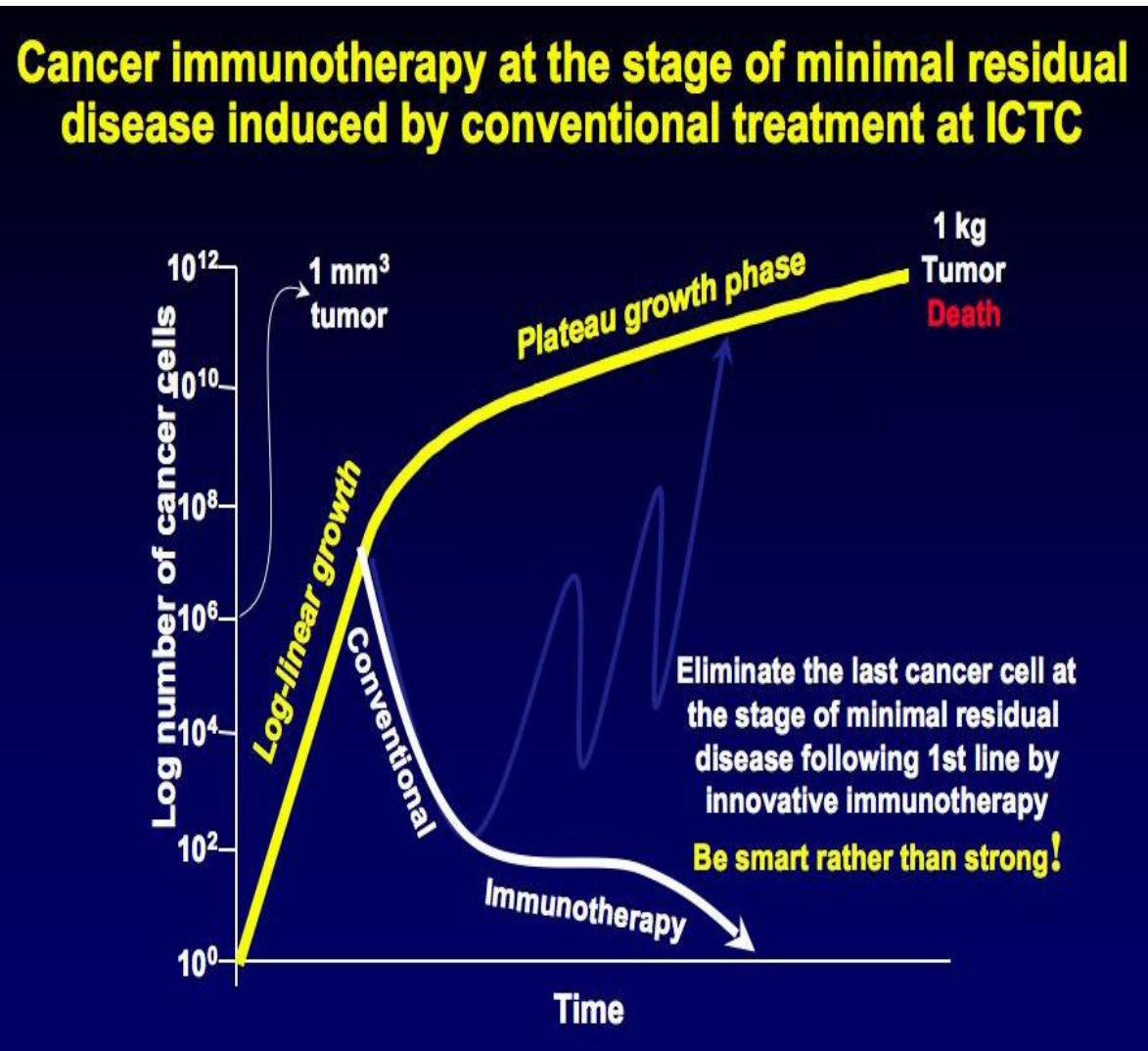
**PD-1/PD-L1 as a  
foundational therapy**

*Adapted from Mellman I (2011)  
Nature*



## T-cell invigoration to tumour burden ratio associated with anti-PD-1 response

Alexander C. Huang<sup>1,2,3,4</sup>, Michael A. Postow<sup>5,6,\*</sup>, Robert J. Orlowski<sup>1,2,3,4,\*</sup>, Rosemarie Mick<sup>3,4,7</sup>, Bertram Bengsch<sup>2,4,8</sup>, Sasikanth Manne<sup>2,8</sup>, Wei Xu<sup>1,3</sup>, Shannon Harmon<sup>1,3</sup>, Josephine R. Giles<sup>2,4,8</sup>, Brandon Wenz<sup>1,3</sup>, Matthew Adamow<sup>9</sup>, Deborah Kuk<sup>10</sup>, Katherine S. Panageas<sup>10</sup>, Cristina Carrera<sup>5,11</sup>, Phillip Wong<sup>9,12</sup>, Felix Quagliarello<sup>2,8</sup>, Bradley Wubbenhorst<sup>1,3</sup>, Kurt D'Andrea<sup>1,3</sup>, Kristen E. Pauken<sup>2,8</sup>, Ramin S. Herati<sup>1,2,3</sup>, Ryan P. Staupé<sup>2,8</sup>, Jason M. Schenkel<sup>13</sup>, Suzanne McGettigan<sup>1,3</sup>, Shawn Kothari<sup>1</sup>, Sangeeth M. George<sup>2,4,8</sup>, Robert H. Vonderheide<sup>1,2,3,4</sup>, Ravi K. Amaravadi<sup>1,3</sup>, Giorgos C. Karakousis<sup>3,14</sup>, Lynn M. Schuchter<sup>1,3</sup>, Xiaowei Xu<sup>3,15</sup>, Katherine L. Nathanson<sup>1,3,4</sup>, Jedd D. Wolchok<sup>5,12</sup>, Tara C. Gangadhar<sup>1,3,§</sup>, and E. John Wherry<sup>2,3,4,8,§</sup>



# ΣΥΜΠΕΡΑΣΜΑΤΑ

- Η ΑΝΟΣΟΘΕΡΑΠΕΙΑ ΕΦΕΡΕ ΕΠΑΝΑΣΤΑΣΗ ΣΤΟΝ ΚΑΡΚΙΝΟ
- ΕΝΑ ΜΙΚΡΟ ΠΟΣΟΣΤΟ ΑΣΘΕΝΩΝ ΑΠΟΚΟΜΙΖΟΥΝ ΟΦΕΛΟΣ ΑΠΟ ΤΗΝ ΑΝΟΣΟΘΕΡΑΠΕΙΑ
- ΟΙ ΒΙΟΔΕΙΚΤΕΣ ΘΑ ΒΟΗΘΗΣΟΥΝ ΣΤΗΝ ΣΩΣΤΗ ΕΠΟΛΟΓΗ ΑΣΘΕΝΩΝ
- Η ΕΙΣΑΓΩΓΗ ΤΗΣ ΑΝΟΣΟΘΕΡΑΠΕΙΑΣ ΣΕ ΠΡΩΙΜΑ ΣΤΑΔΙΑ ΘΑ ΑΥΞΗΣΕΙ ΤΑ ΠΟΣΟΣΤΑ ΙΑΣΗΣ