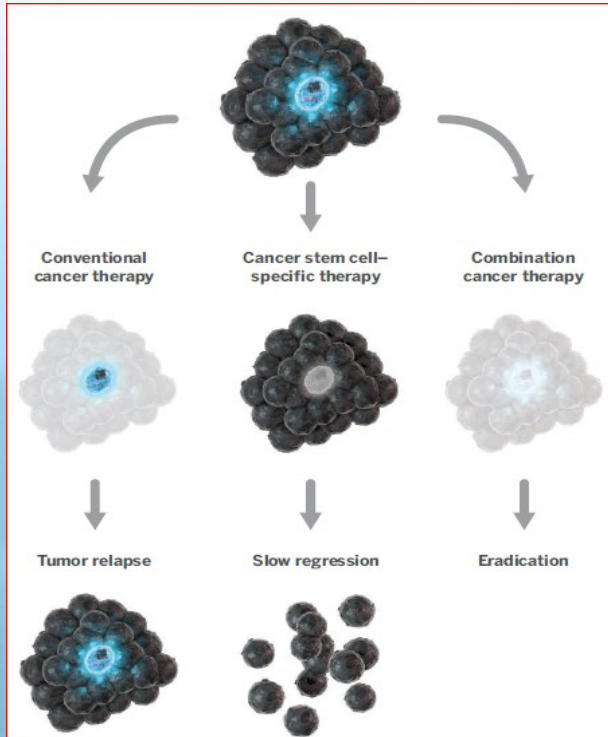
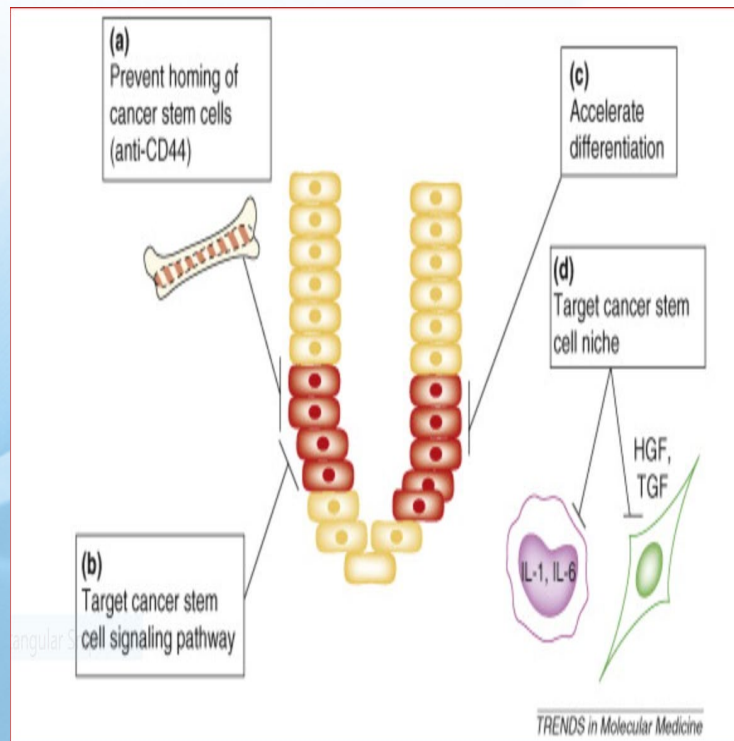
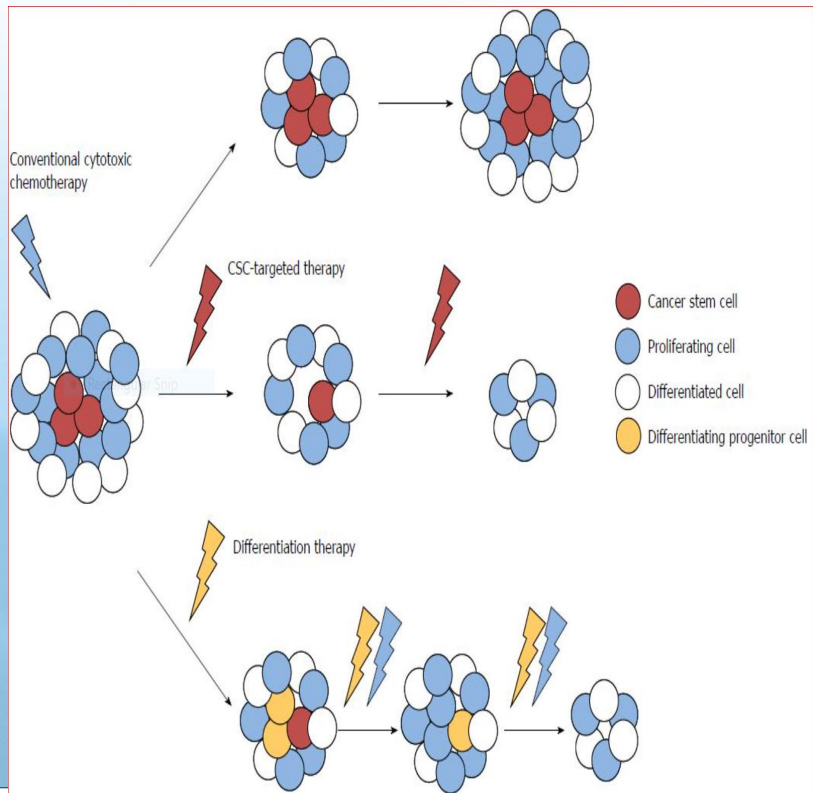
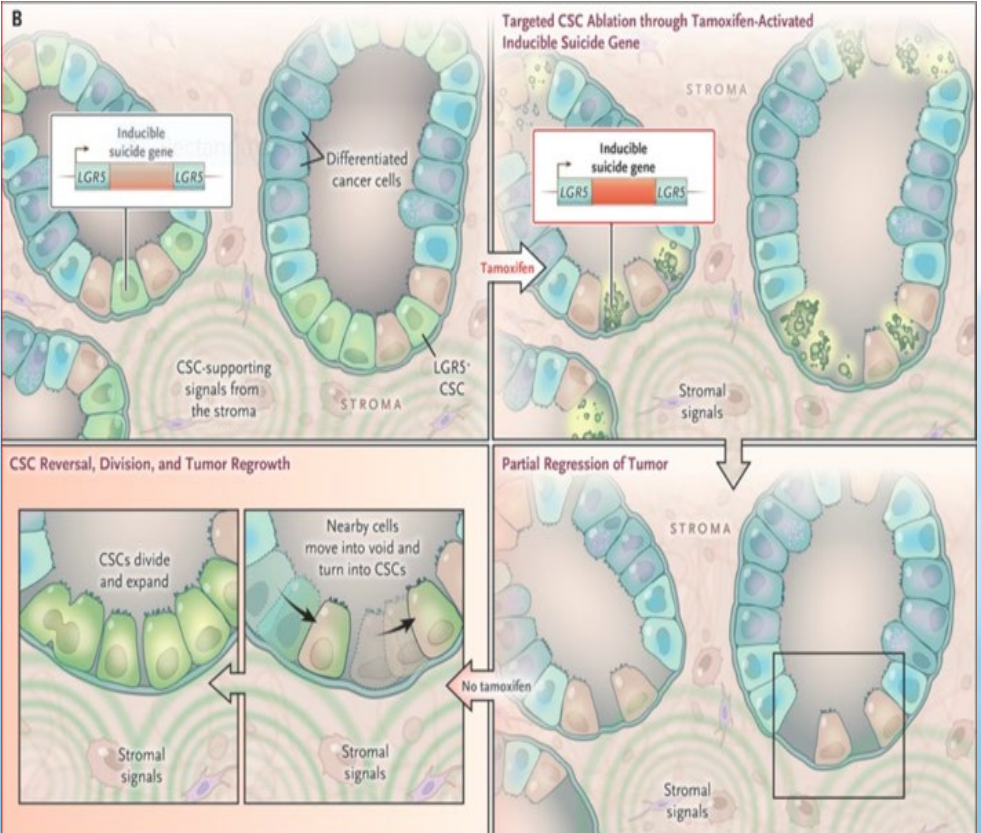
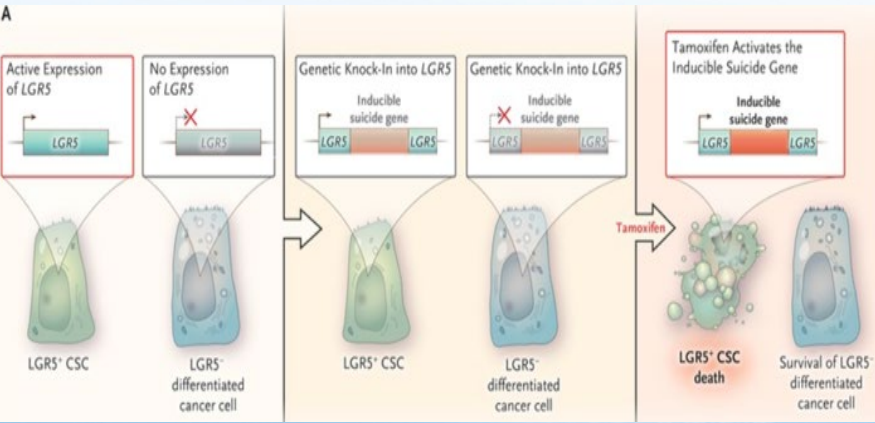


# Therapeutic Implication of CSC in CRC



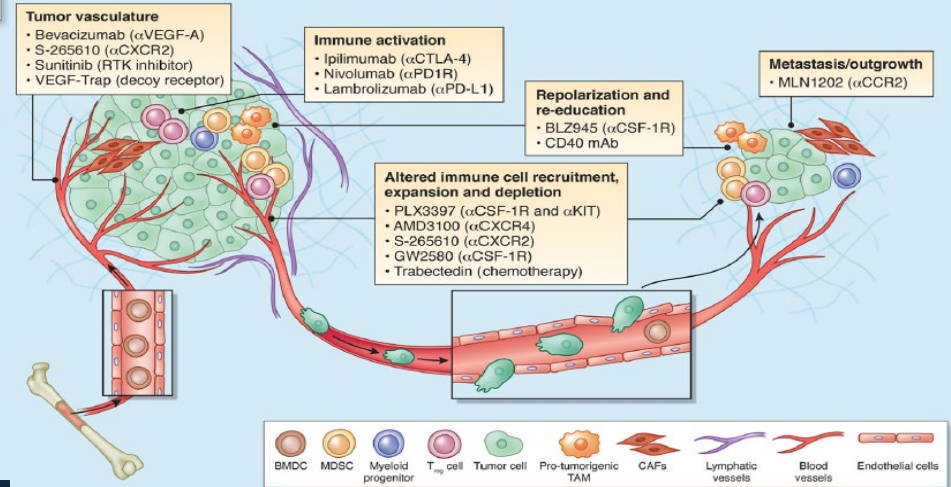
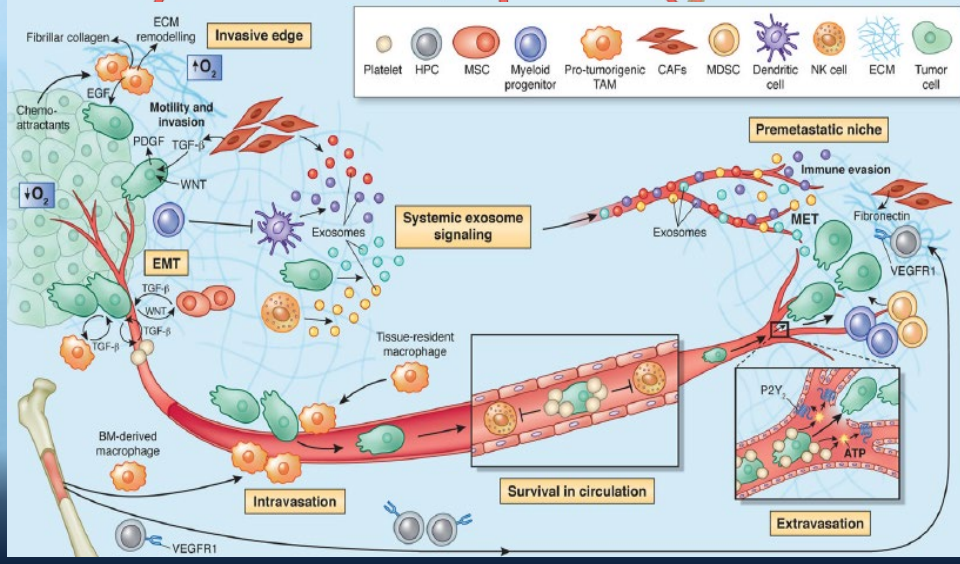
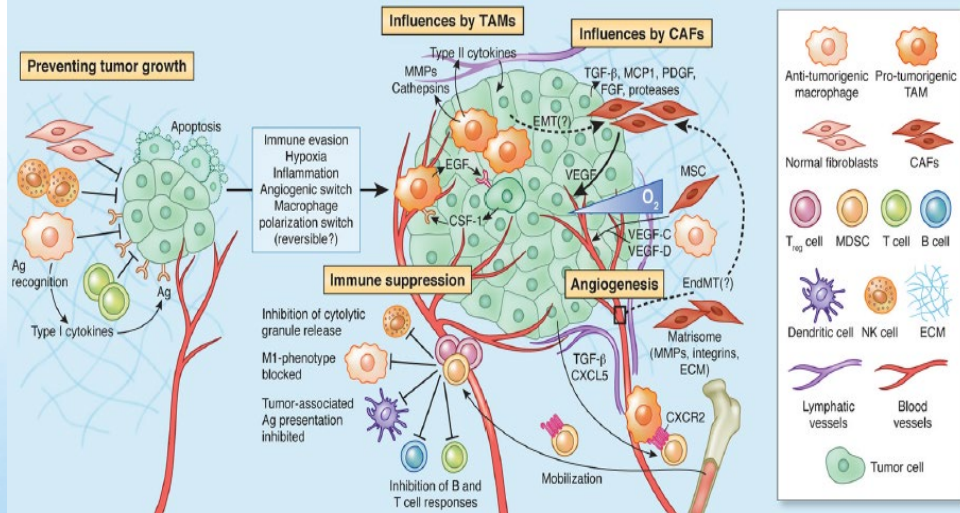
- Eradication of CSCs by Targeting Selective Markers on CRC CSCs (CD 133, CD44, CD 26, CD29, EpCAM)
- Inhibition or Interference of CSC-specific Pathway (Notch, Wnt/ $\beta$ -catenin, TGF- $\beta$ , and Hedgehog, et al)
- Accelerate differentiation
- Genetic Technology (Kock-in Suicide Gene)
- Modify (Blocking & Interrupting Microenvironment)





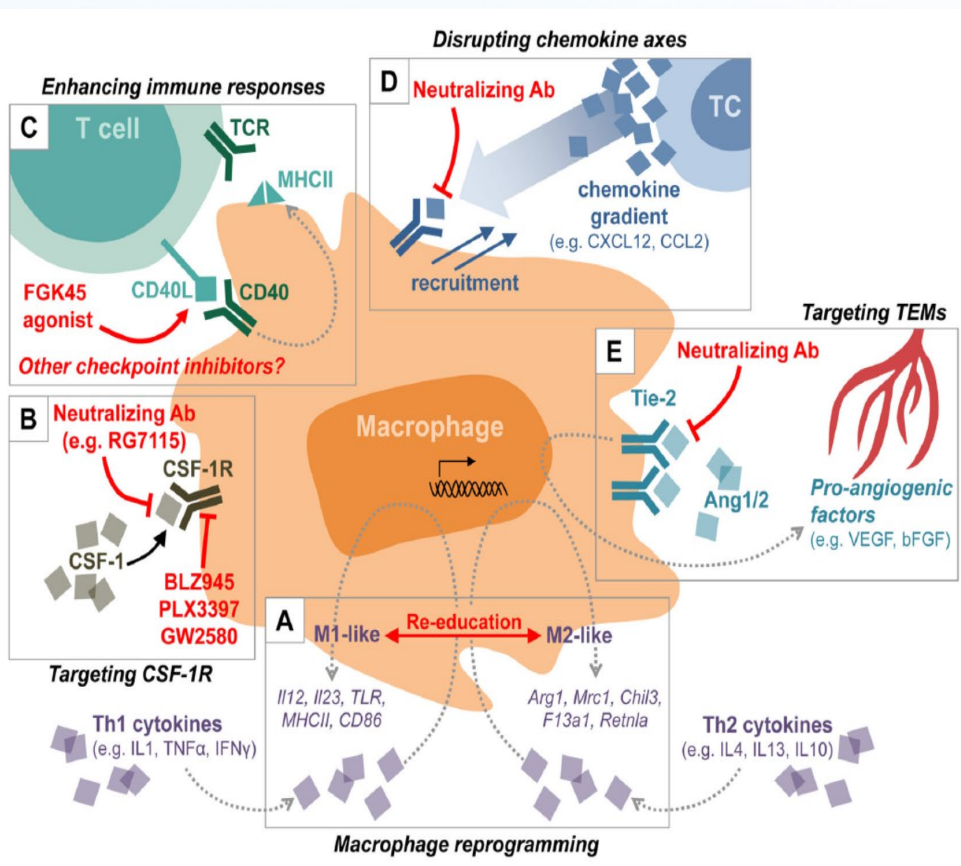


- Multiple Stromal Cell Types Converge to Support a Tumorigenic Primary Niches
- Microenvironment Supports Metastatic Dissemination and Colonization
- Therapeutic Strategies to Re-educate the Tumor Microenvironment



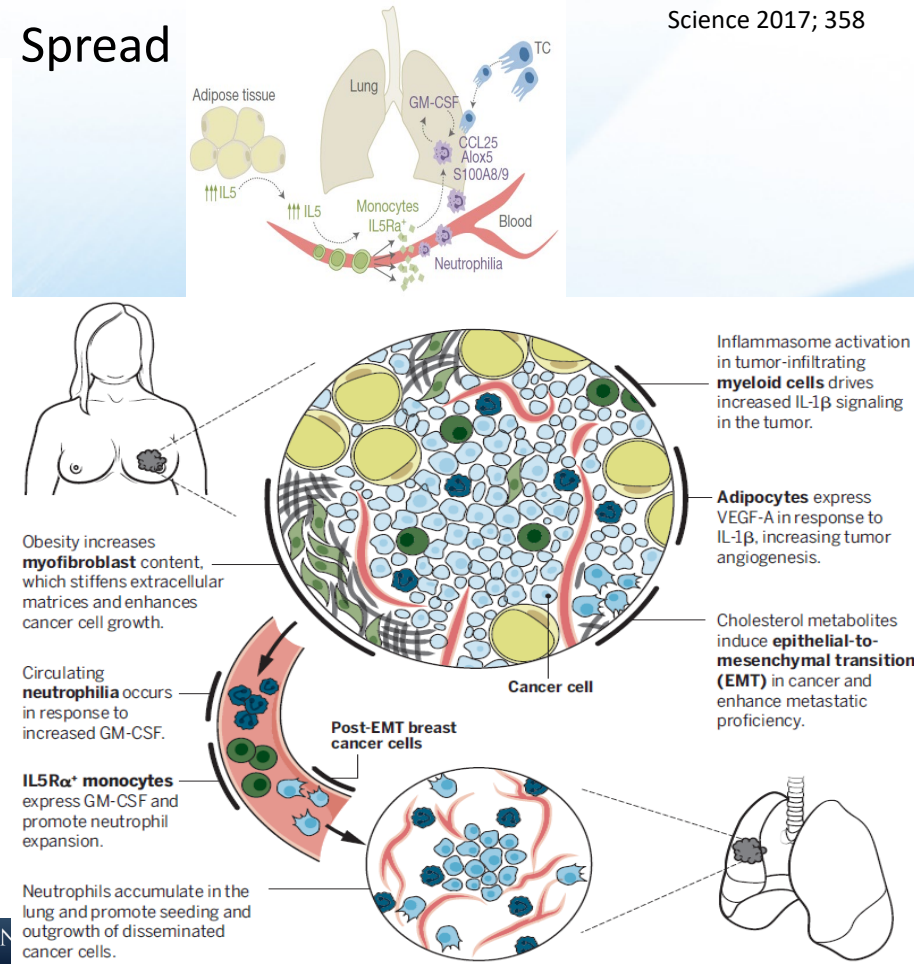
# Diversity of Macrophage-Targeting Strategies in Cancer

*Clin Cancer Res.* 2017 February 15; 23(4): 876–884.



# Obesity-Associated Inflammation Promotes Tumor Growth and Metastatic Spread

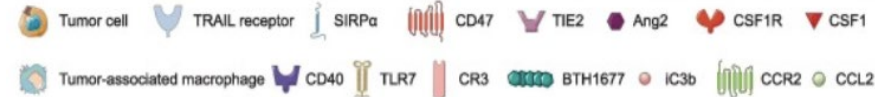
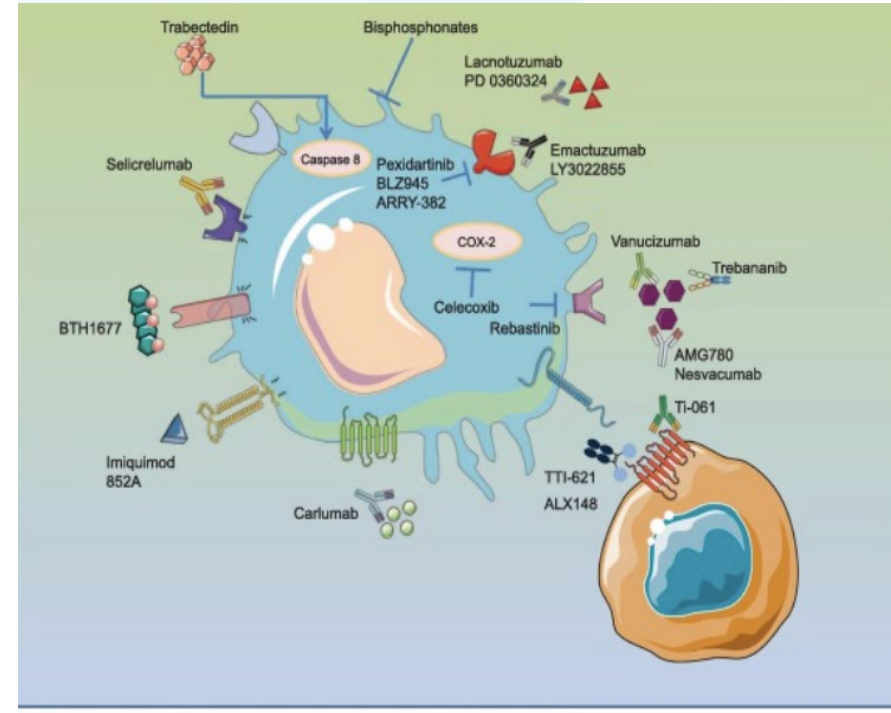
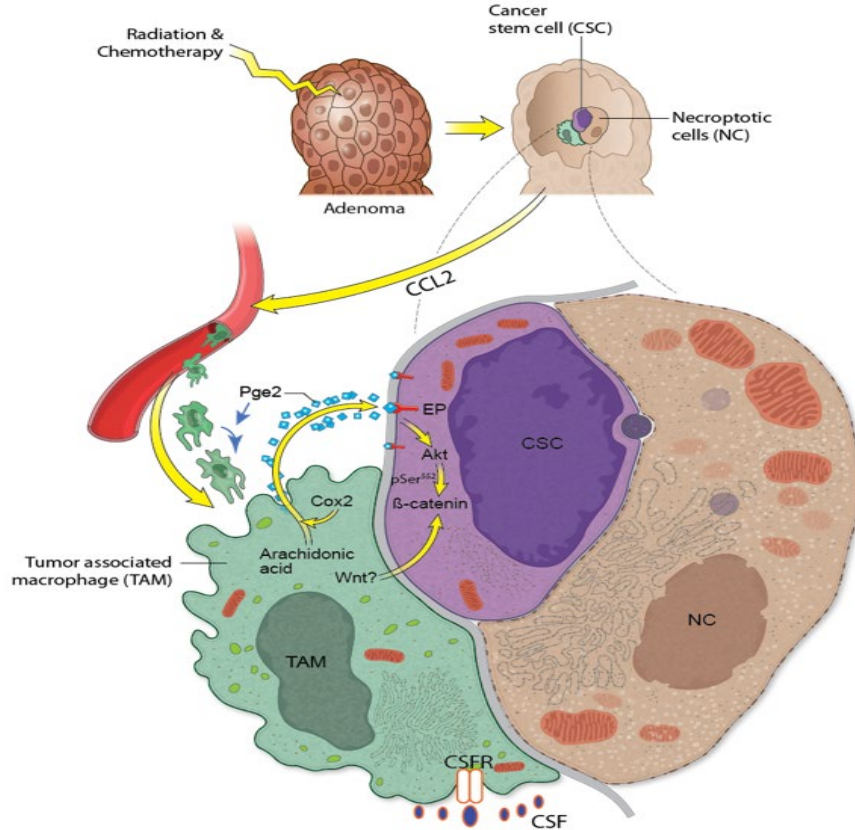
Science 2017; 358

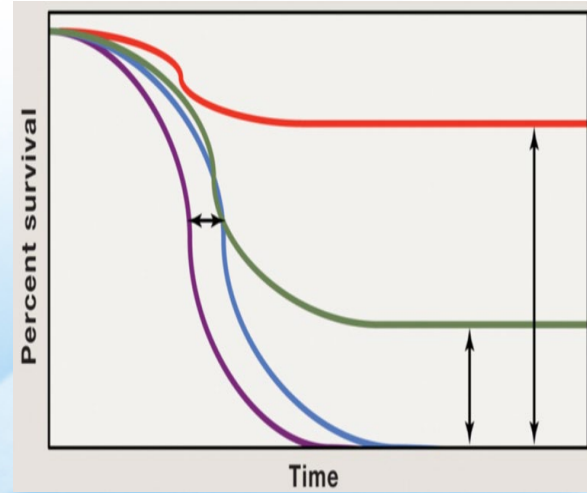
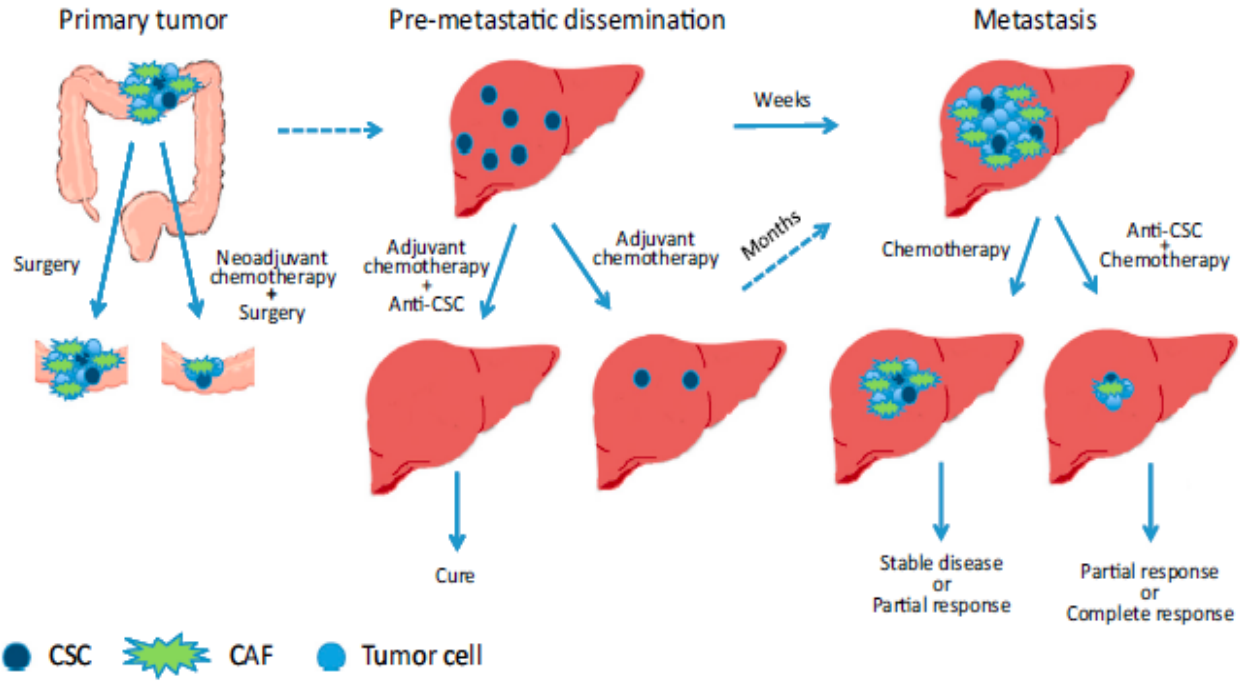




# Targeting Macrophages that Form a Chemotherapy-induced Niche Significantly Reduces Cancer Stem Cells and Tumors

Li, L and He XC, AACR 2019





- Cytotoxic Chemo
- TKIs & Chemo
- TKIs & Chemo & IOs
- Treatment of CSC

# Summary

- The significance of Cancer Stem Cell has been realized and recognized in the most recent years
- CSCs are most critical for the cancer Recurrence, Resistance, and Replication
- Eradication of CSCs will cure cancer from fundament
- Colon Cancer Stem Cells (CCSC) have Characteristics and Advantages of both CSC and Intestinal System (ISC)
- Future clinical strategies and success will be tightly linked to a deeper understanding of the dynamic, adaptable, and evolving nature of CCSC





# Summary

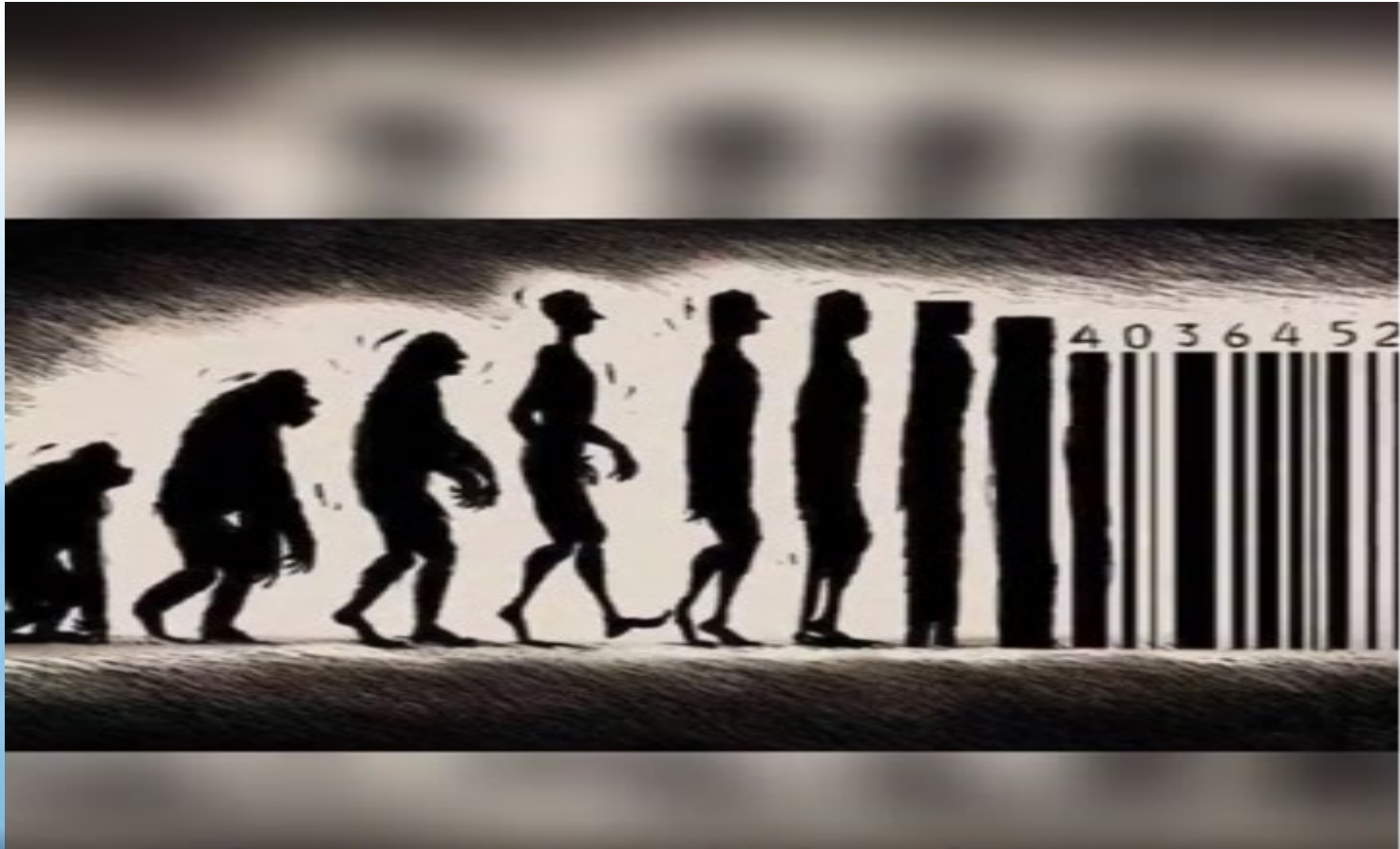
## Comprehensive/'Cross Discipline'/Concept approval Studies

- Patient selection (based on the genetic characteristics) -- **Standard**
- Monitoring the treatment timely fashion -- **Should be built in**
- Prediction the recurrence Early with cfDNA et, al -- **As an endpoint**
- Pre-early phase: approve of concept (e.g. window trial) -- **Main focusing of the future 'Early Phase Study'**
- 'Cross discipline' -- **New tech, Industry ↔ Academia**
- *Targeting the tumor microenvironment (TME): stroma, stem cells...*
  - *macrophages, immune suppressor cells, fibroblasts, the vasculature, various other components of a tumor-supportive TME.*
  - **'Re-education', 'Modification' the Microenvironment**

# Summary

- The Combination of Modern Technology and Biologic/Genetic Based Treatment makes Cancer Diagnosis, Treatment and Patient Care to a Different Level Completely.
- The Advances and Challenges are ‘Exciting’ – Needs/Demands all Sub-specialties Work Together Closer than Ever. (*‘May soon be beyond Our Imaginations’.*)





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