Source:

1 | sources source

1.1 | assignment: `https://nuevaschool.instructure.com/courses/3087/assignments/56036`

1.2 | reading: Hallmarks of Cancer PDF

2 | Flow

2.1 | Abstract

2.1.1 | hallmarks include

1. sustaining proliferative signaling
2. evading growth suppressors
3. resisting cell death
4. enabling replicative immortality
5. inducing ingiogenesis
6. activating invasion and metastasis

2.1.2 | theese hallmarks are newer

1. reprogramming of energy metabolism
2. evading immune destruction

2.1.3 | underlying

1. genome instability
   (a) genetic diversity that expedites acquisition of hallmarks
2. inflammation
   (a) ”fosters multiple hallmark functions”

2.2 | Introduction

2.2.1 | Cancer cells evolve into cancer cells because they need to be cancer cells??

1. TODO why do tumors have ”the need … to acquire the traints that enable them to become tumorigenic and ultimately malignant”? question

2.2.2 | **tumors are not simple / idle 'insular masses of proliferating cancer cells'**

2.2.3 | **"recruited" normal cells (or 'stromal cells') are active parts of the tumor**

2.2.4 | **'the biology of tumors can no longer be understood simply by enumerating the traits of the cancer cells but instead must encompass the contributions of the "tumor microenvironment" to tumorigenesis.'**

2.2.5 | **purpose is to consider new hallmarks that have been found or note that old ones weren't as general as we thought**

2.3 | **section: 'An Emerging Hallmark: Evading Immune Destruction'**

2.3.1 | **the immune system usually eradicates the 'formation and progression of incipient neoplasias, late-stage tumors, and micrometastases', so why not in these cancers?**

2.3.2 | **'long standing theory of immune surveillance'**

1. 'cells and tissues are constantly monitored'
2. surveillance should elim cancer cells before they grow into tumors
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3 | **Vocab**

3.1 | **TODO neoplastic disease**

3.2 | **ostensibly**

3.2.1 | **maybe 'technically'?'**

3.3 | **tumor microenvironment**

3.3.1 | **presumably inflammation, recruited normal cells, and other stuff that helps the tumor grow**

3.4 | **pathogenisis**

3.4.1 | **evolution of 'pathogen' (cancer)**

3.5 | **ancillary proposition**

3.5.1 | **maybe the starting / base proposition**

3.6 | **insular masses**

3.6.1 | **stagnant or something, simple**

3.7 | **heterotypic interactions**

3.7.1 | **many types of interactions**

3.8 | **tumorigenisis**

3.8.1 | **the growth / development of a tumor?**

3.9 | **neoplasias**

3.9.1 | **neo meaning new, so maybe new tissue?**

3.10 | **micrometastases**

3.10.1 | **small metastatic something, so maybe the tumor microenvironment?**