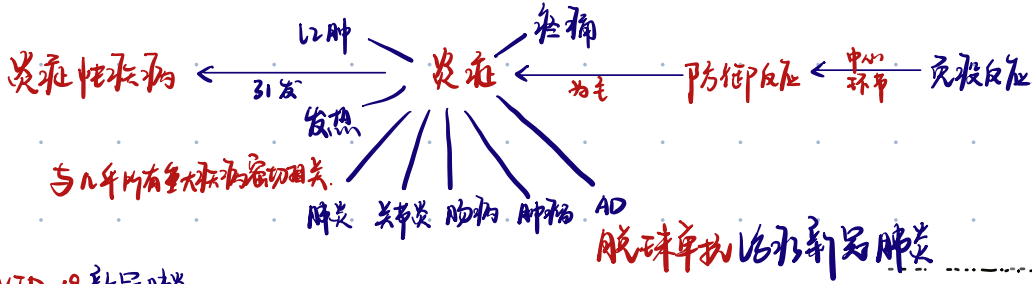
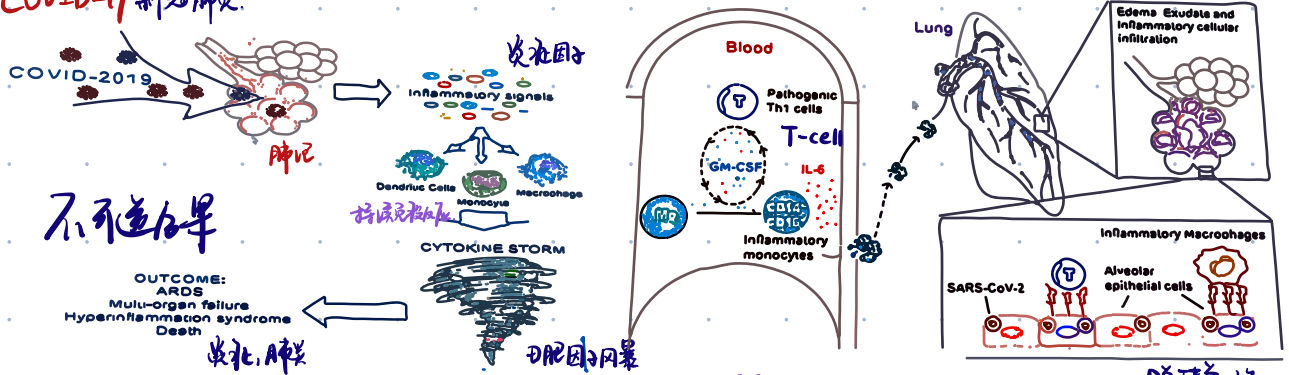


生命科学与医学导论

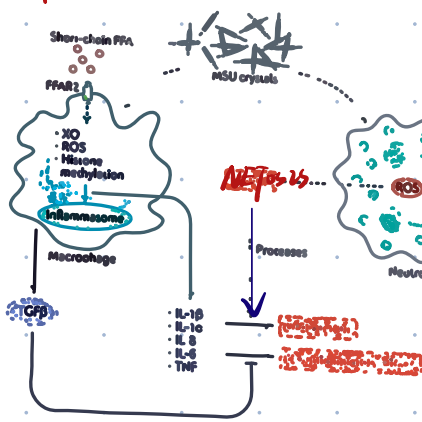
炎症与炎症性疾病 —— 周荣斌教授



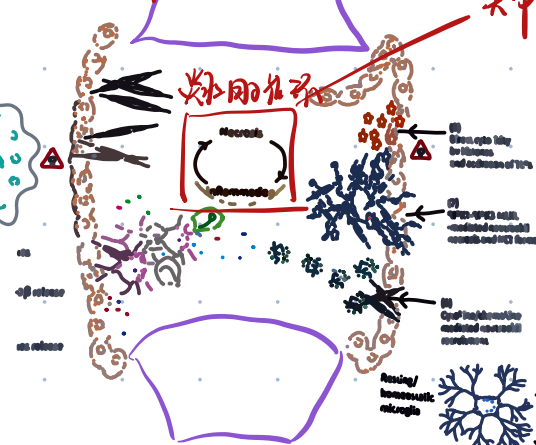
COVID-19 新型冠状病毒



痛风



病理性炎症



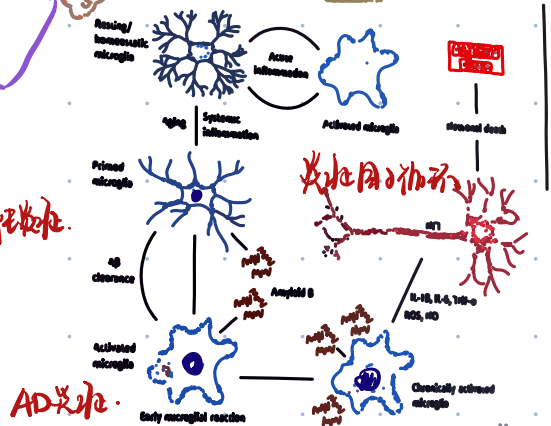
靶向抗炎治疗



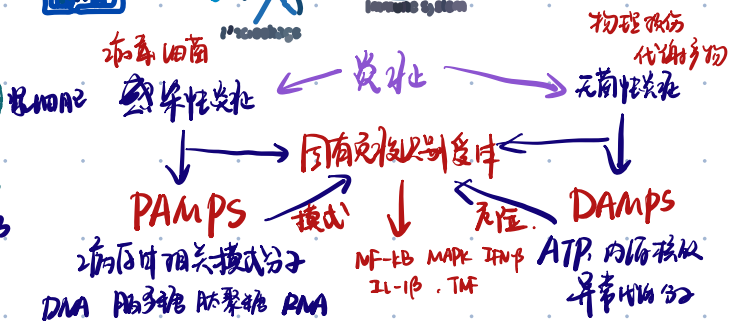
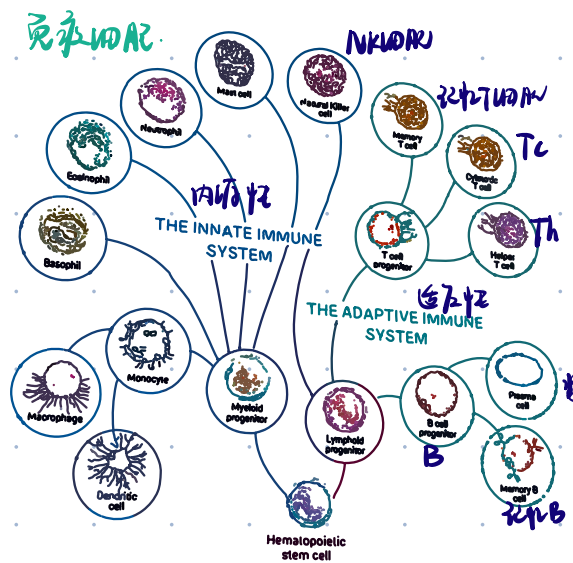
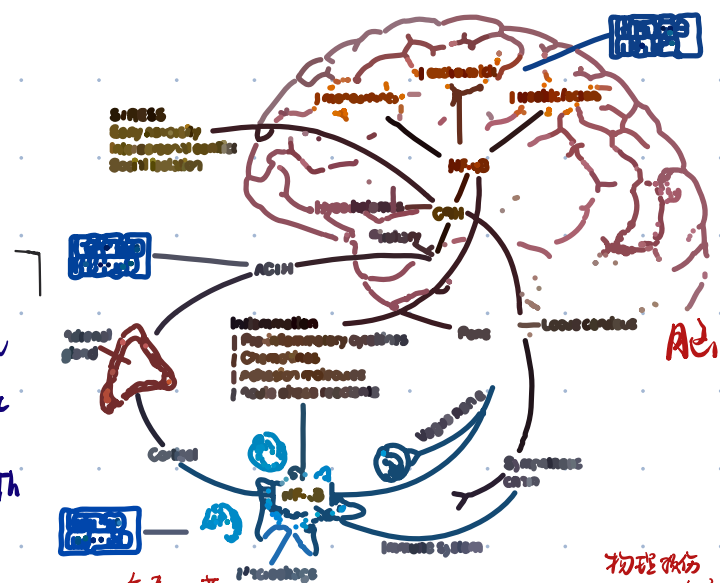
II型糖尿病 胰岛B细胞信号转导通道出现问题

AD (1) Aβ 蛋白异常切割 (2) 小胶质细胞慢性活化

神经细胞出现斑块, 由炎症反应引发



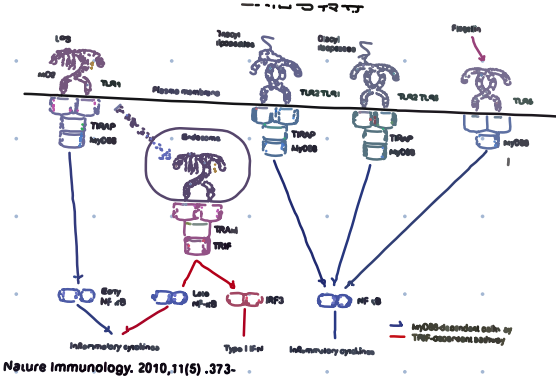
抑郁: 也与炎症反应有密切联系
 小鼠体内慢性炎症参与抑郁情绪改变
 炎症反应如何产生? 免疫系统



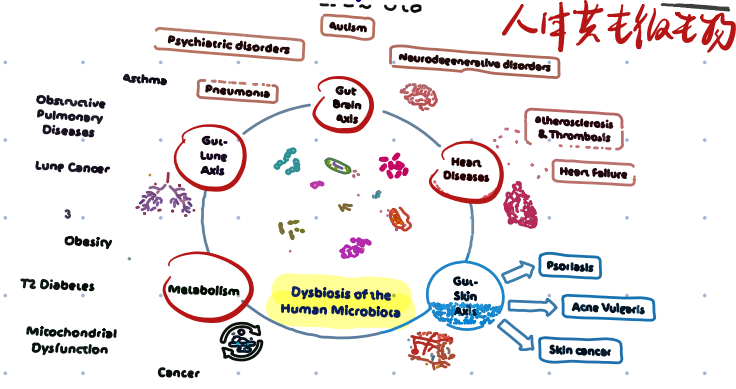
模式识别理论: 来自微生物信号 PAMP
 1999 提出 相对冗余性 PRR

危险模式理论
 1994 提出 机械损伤 → 信号传导 → 免疫系统 → 启动 → 免疫应答 → 二者共存!

PRRs 是固有免疫细胞用于识别 PAMPs 与 DAMPs 的模式识别受体。例: Toll 样受体 TLRs

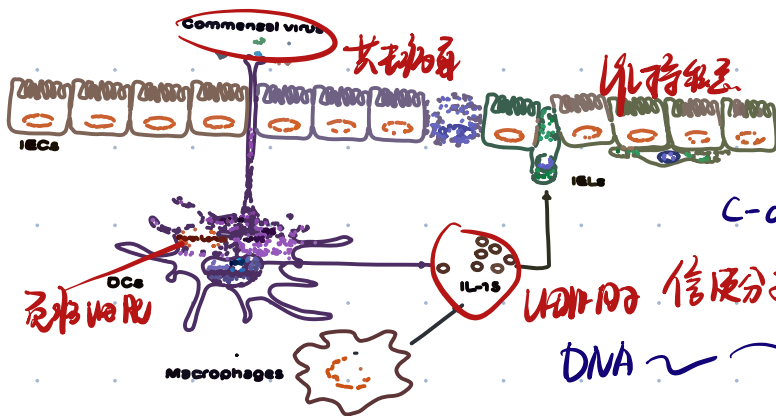


TLRs 表达与炎症反应密切相关。
 肥胖与炎症: 抑制 TLR 介导的信号。



TLRs 缺失会使肠道其微生物失去监控, 使得致肥胖等因素

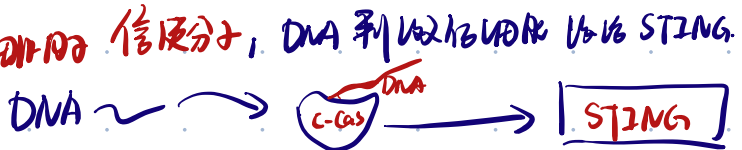
共生病毒通过非经典 RIG-I 信号通路 IEL 激活



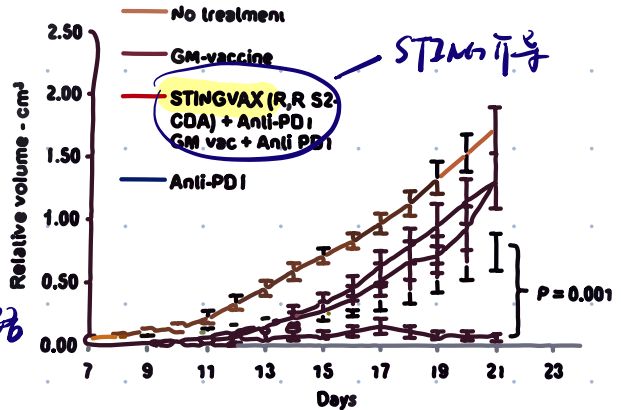
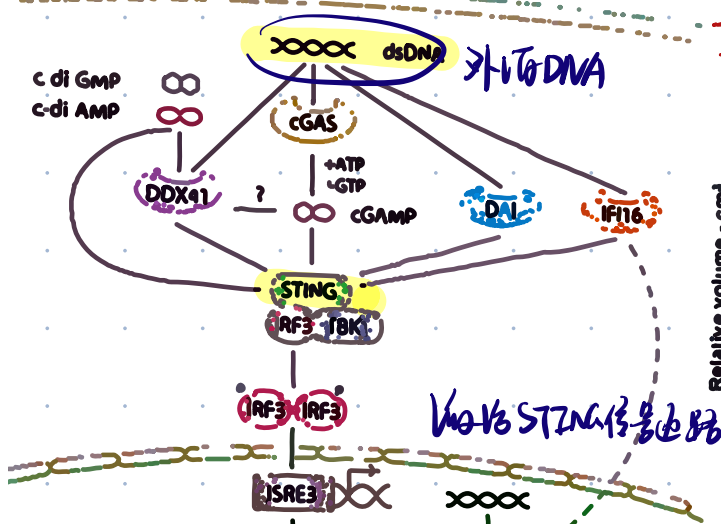
STING Protein

可诱导抗DNA反应, 特异性诱导DNA病毒免疫反应

c-di-GMP 为细菌中普遍存在的第二信使分子, DNA 刺激后由 c-di-GMP 激活 STING



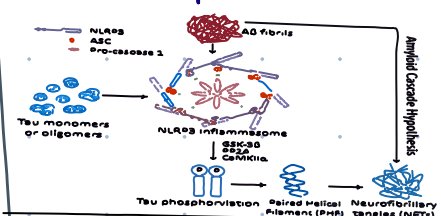
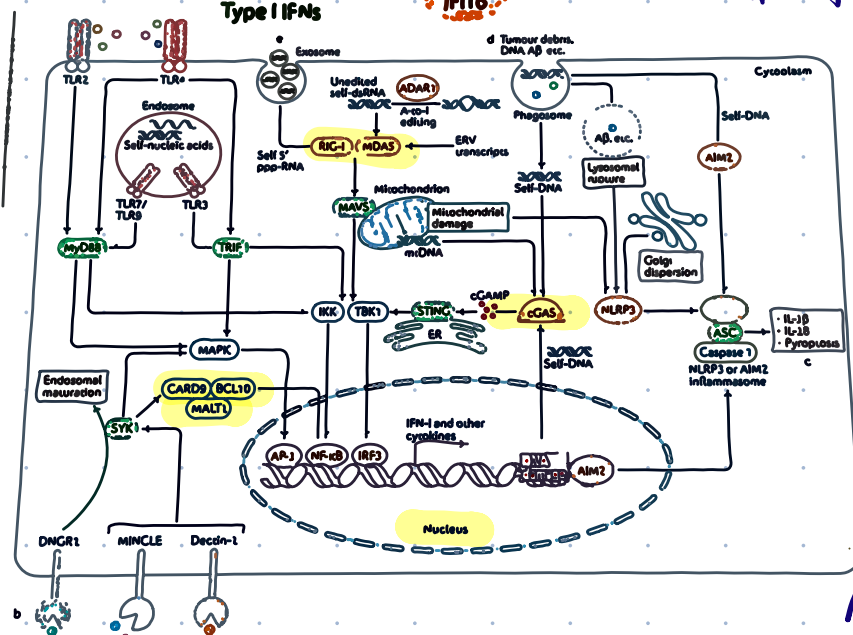
靶向 c-Gas-STING 的肿瘤免疫治疗



非遗传性研究 仍然处于落后

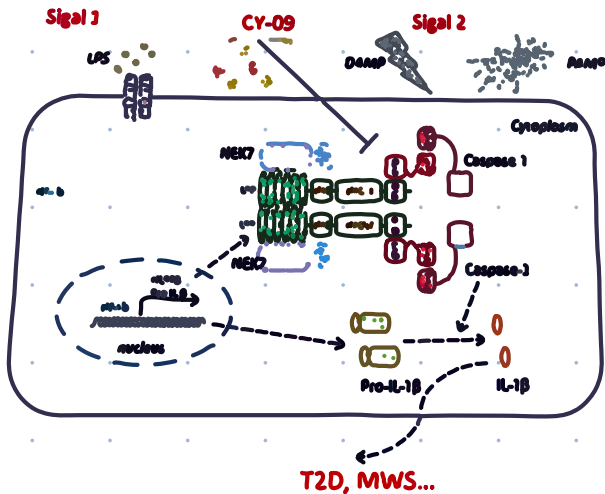
非遗传性研究 NLRP3

结石病, 粉尘吸入慢性炎症
在导致肺部呼吸不能耐受
动脉粥样硬化 AD



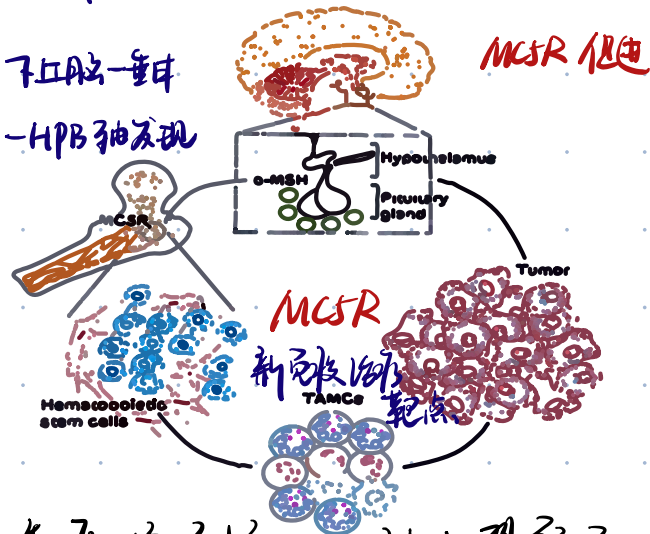
NLRP3 也会参与 PD 进展过程

CY-09 直接靶向 NLRP3 抑制炎性小体发挥保护作用 RRX-001 可直接激活 NLRP3



MCSR 或/及神经炎症促进骨密度下降和肿瘤免疫抑制 Science

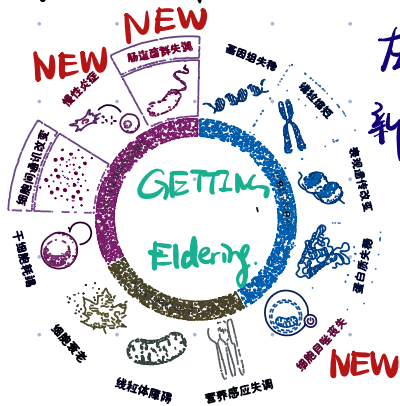
下丘脑-垂体-HPB 轴失调



免疫治疗前景广阔 (多种多样)

本节课主要探讨了炎症与炎症性疾病的区别 让人想起了施惠瑜院士之前做过的线粒体与人类退行性疾病的报告。我们给出施院士之前给出的论文, 探讨炎症与人类退行性疾病之间的关系。

左则是 Cell 在 2022 年给出的人衰老的几个生理特征, 其中新加入的特征包括慢性炎症等三项指标



Cell
Leading Edge
Review
Hallmarks of neurodegenerative diseases

CellPress
OPEN ACCESS

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<https://doi.org/10.1016/j.cell.2022.12.032>

右侧论文指出, HDD 研究在衰老特征, 生物标志物与作用; 而炎症为 ND 特征的一个主要组成部分 (English: Hallmarks of neurodegenerative diseases)