

ES II Hw U

10/20/28

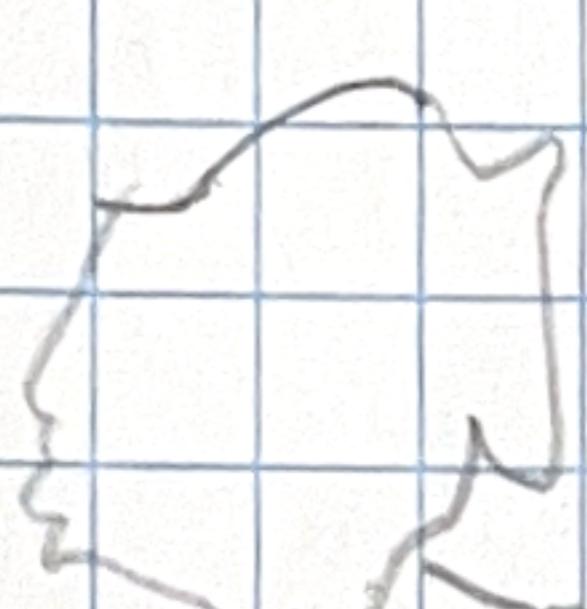
## RANKL/RANK/OPG Pathway!

1)

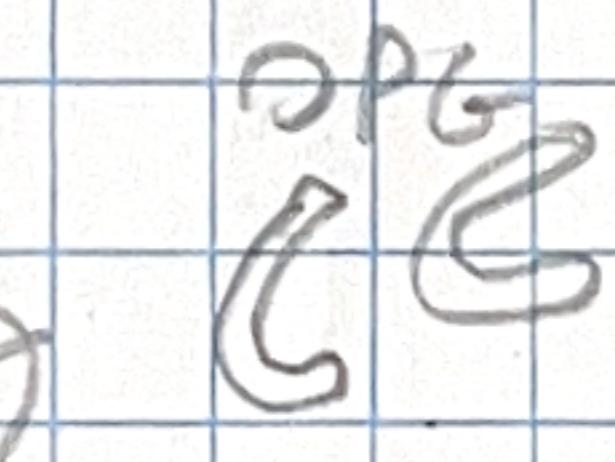
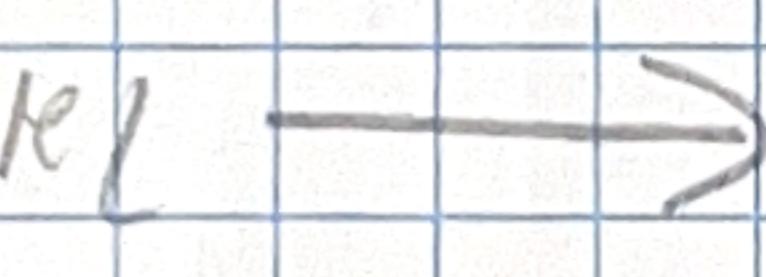
MSC



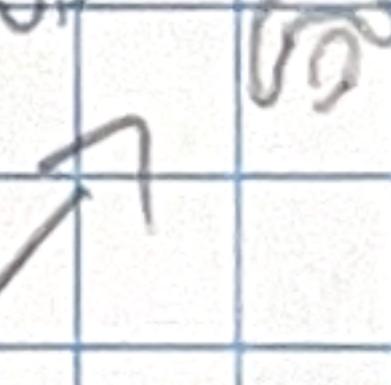
Osteoblasts



RANKL



OPG/RANKL  
binds to



RANKL

RANK

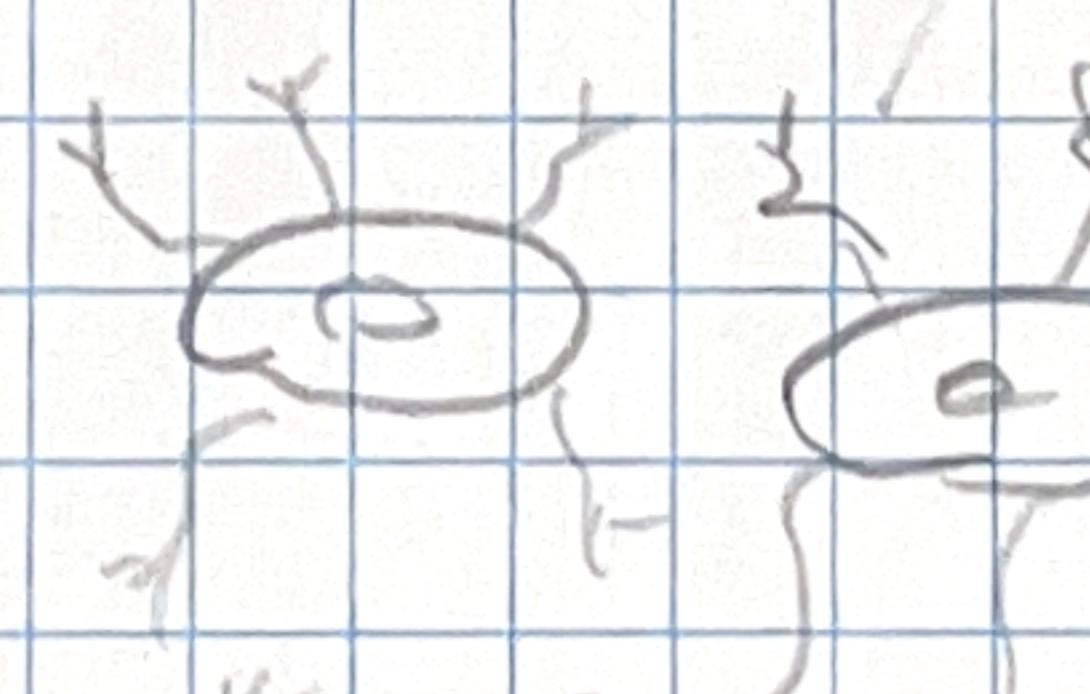


HSC

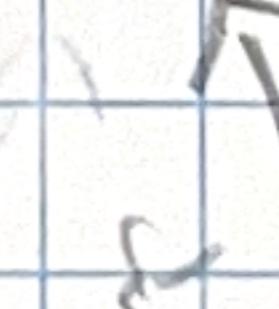


preosteoclasts

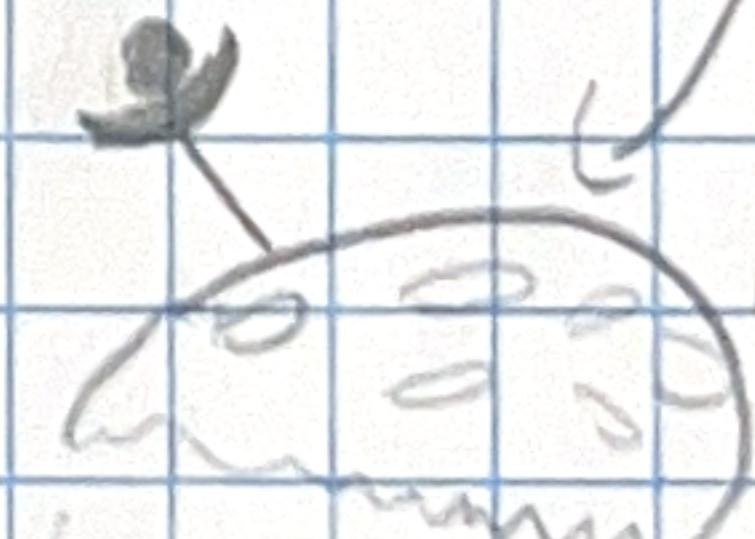
Osteocytes



RANKL



RANKL



osteoclasts

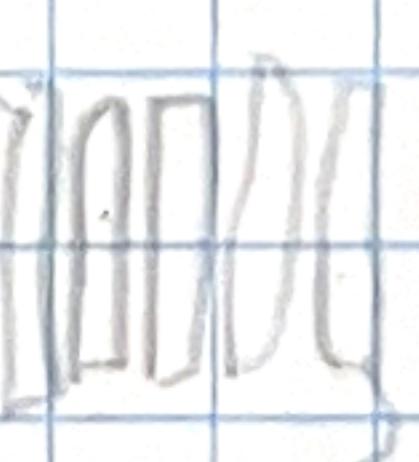
## WNT/ $\beta$ -catenin Pathway!

2)

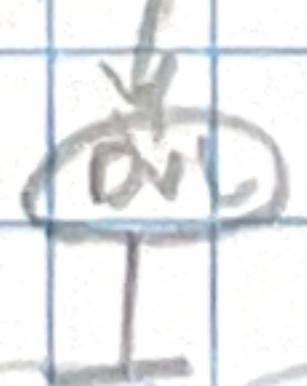
WNT

On.

LPR/SLE



CD40

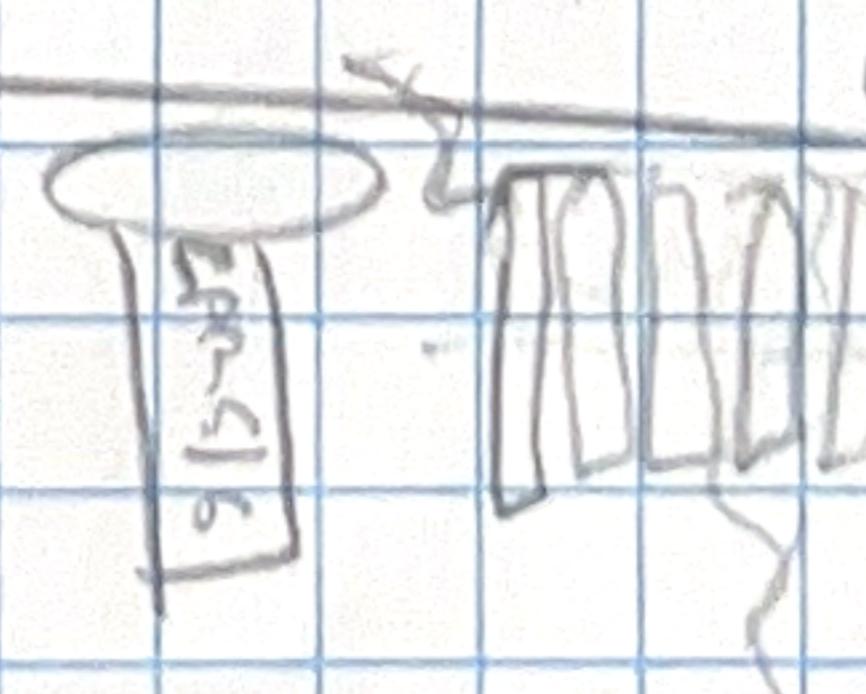


(AXIN) (CK1 $\alpha$ )  
(GSK3 $\beta$ ) Apc

Beta-tub

$\rightarrow$  Beta-tub, one  
Reticula, one  
mitoph

(GSK3 $\beta$ /CK1 $\alpha$ ) Axin/Apc



Fizzed

off

$\beta$ -catenin

Cytosol

(CK1 $\alpha$ )  
Axin/ $\beta$ -catenin-APC  
(GSK3 $\beta$ ) APC

Protein degradation

(CK1 $\alpha$ )

Axin/ $\beta$ -catenin-APC

Proteasome

Ubiquitin-mediated

proteolysis

GPT (F10FF)  
Protein synthesis

No gene  
transcription