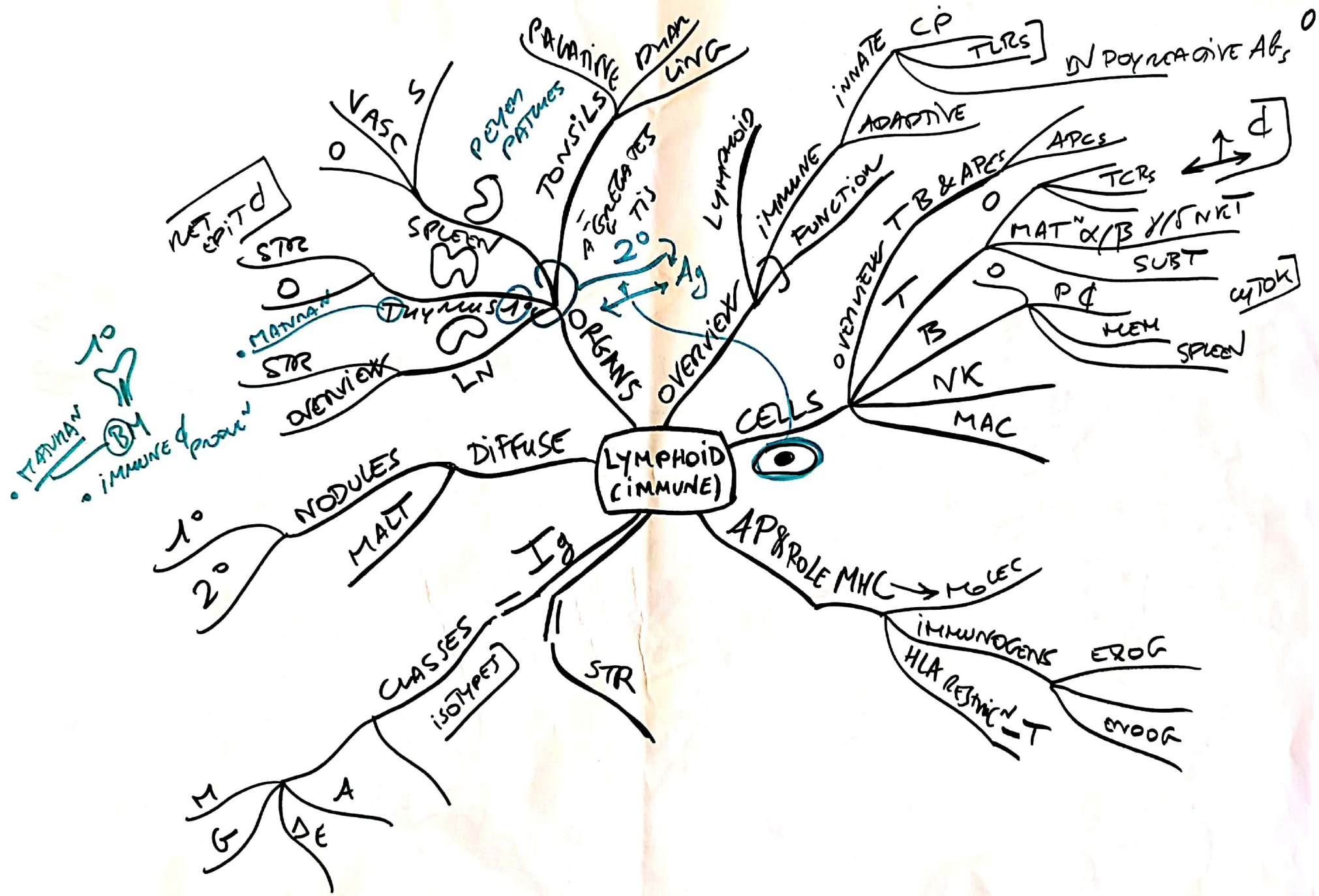
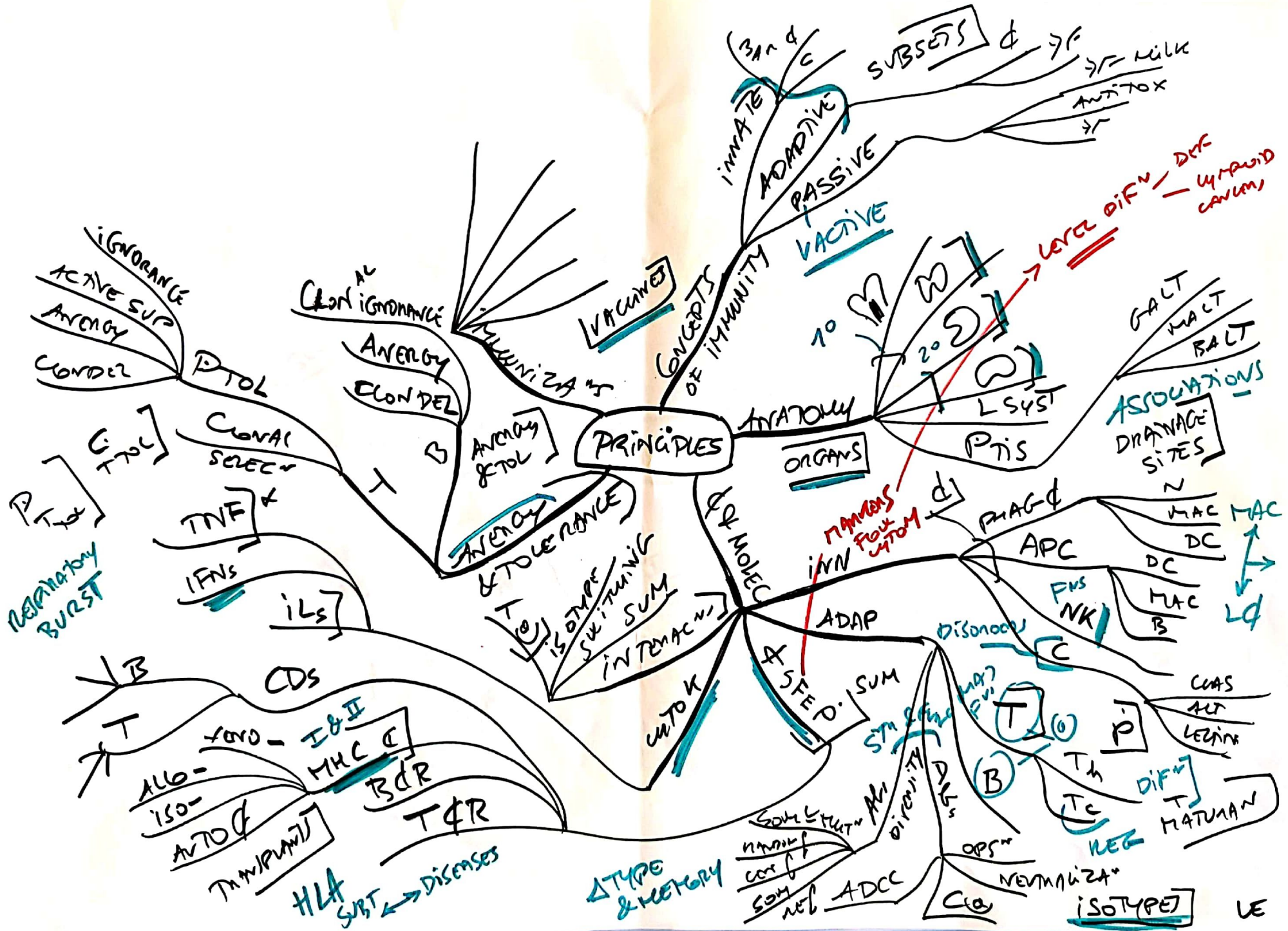


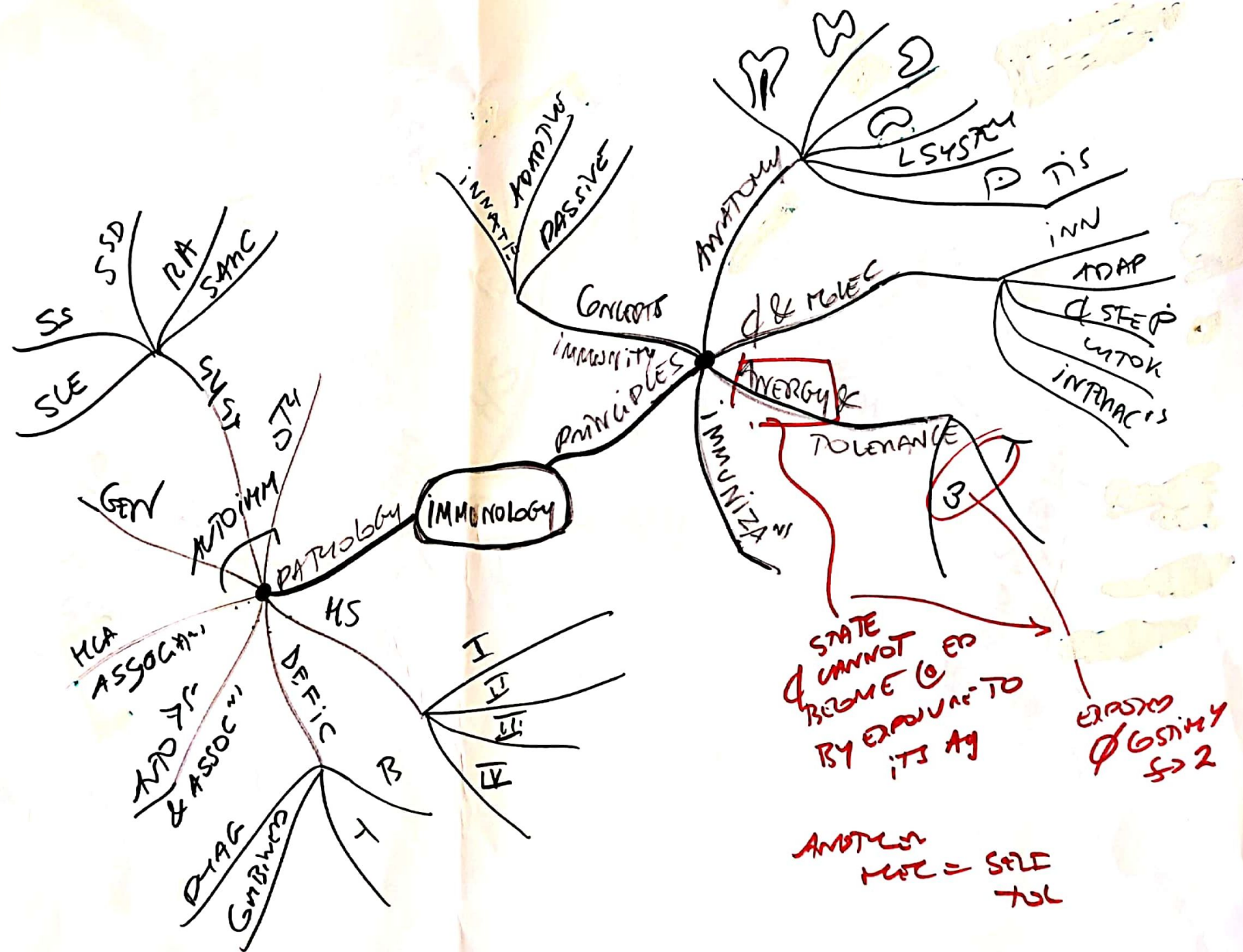
CONTENTS

GARNER 2018

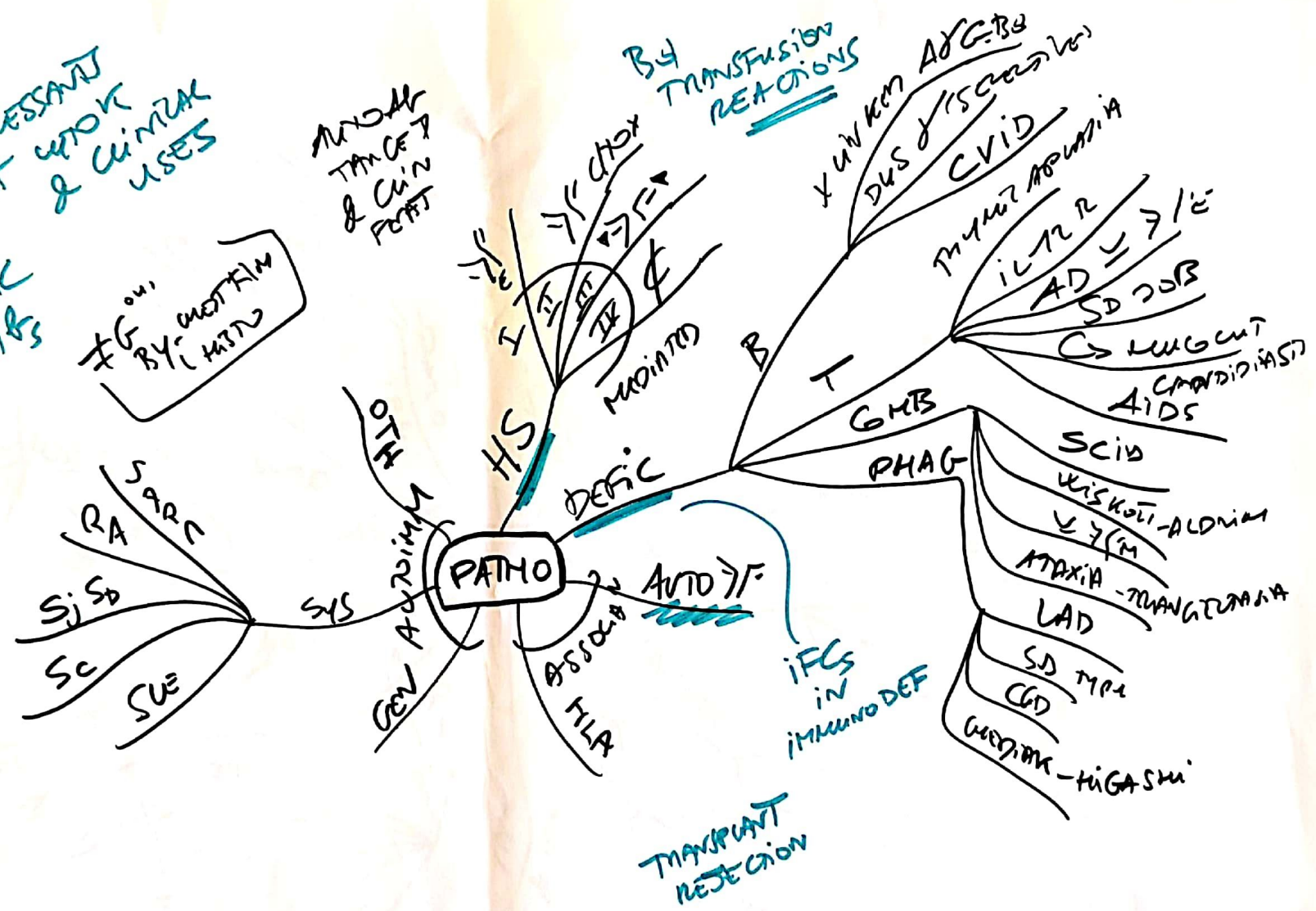


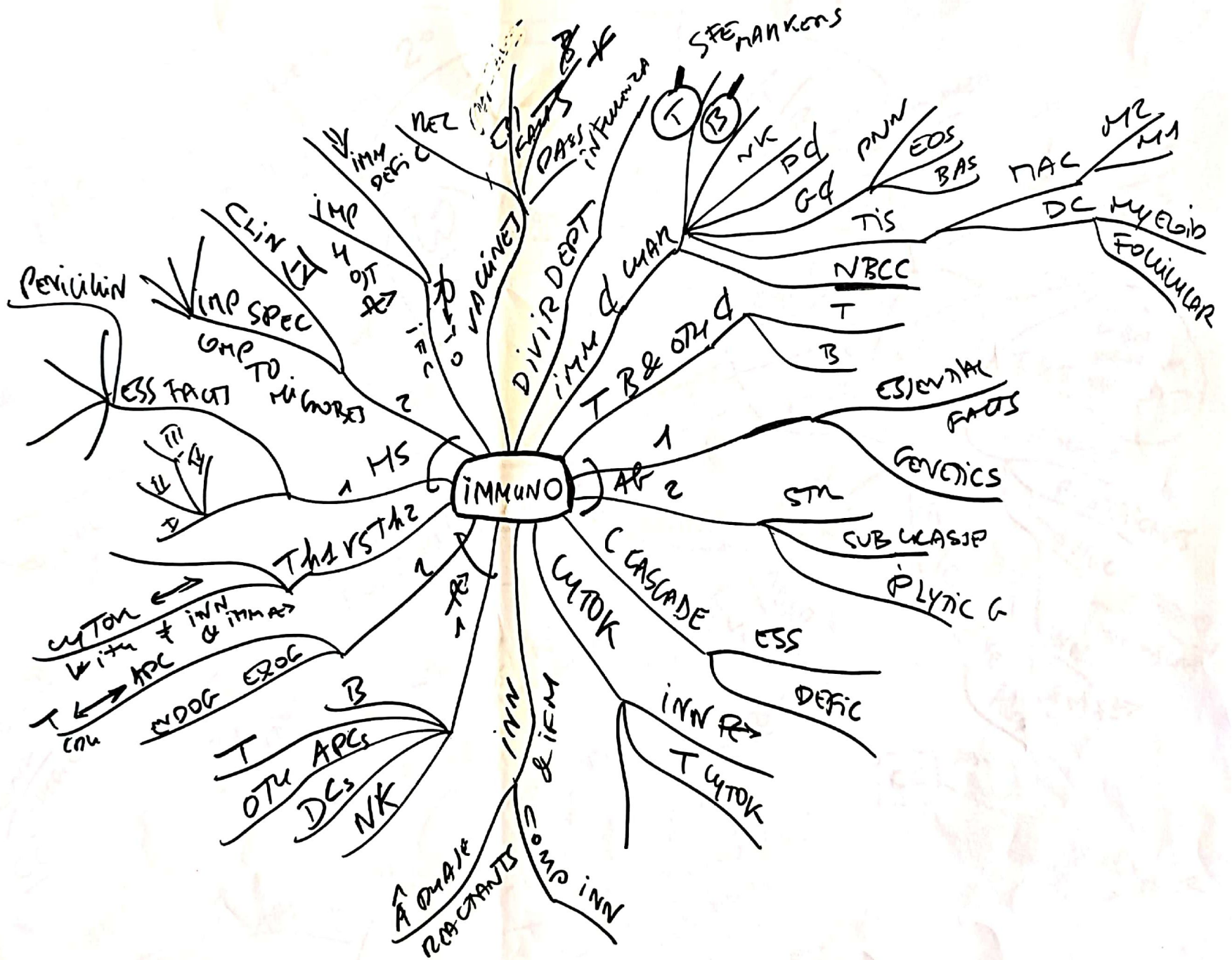
GARNIER 2018



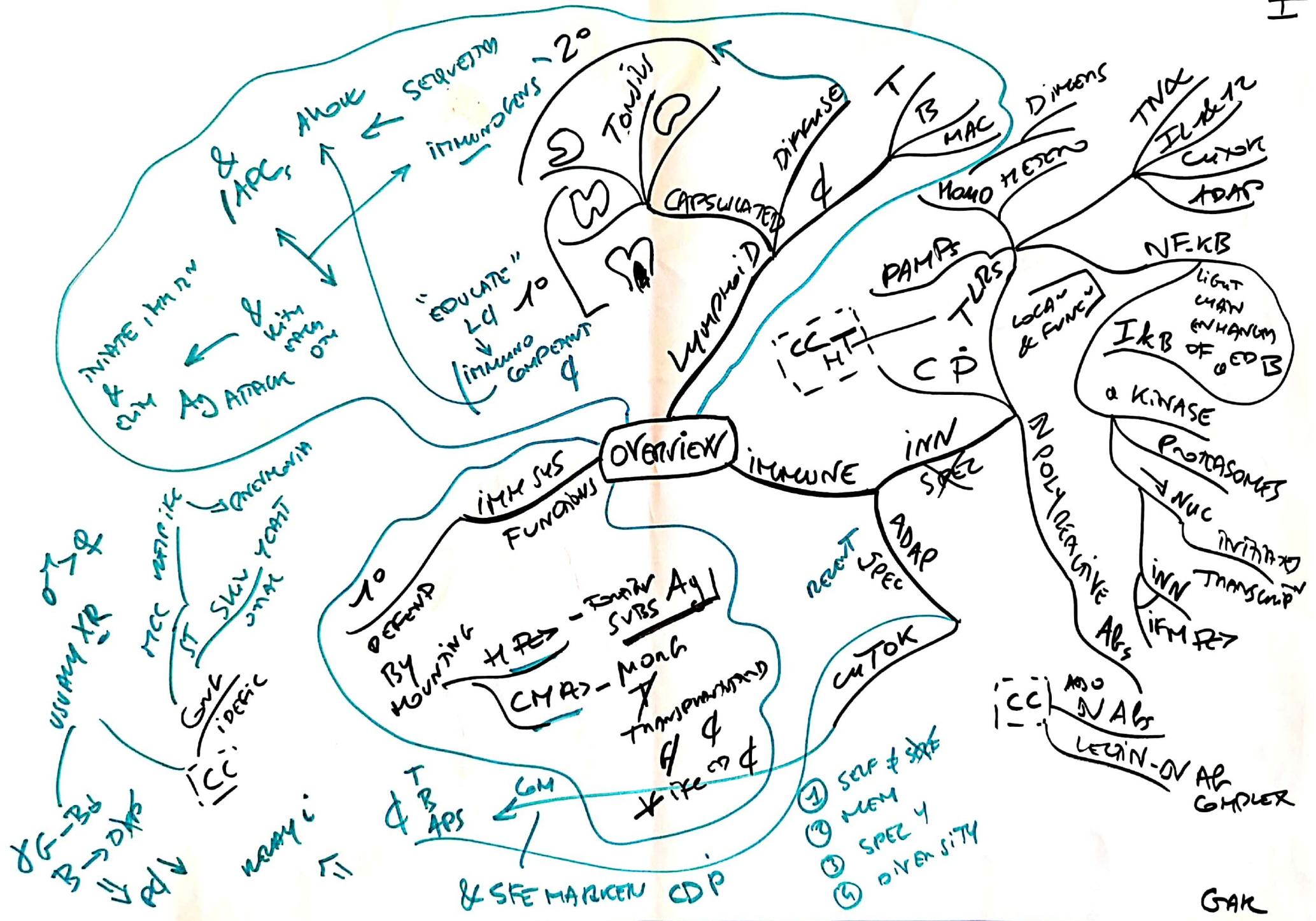


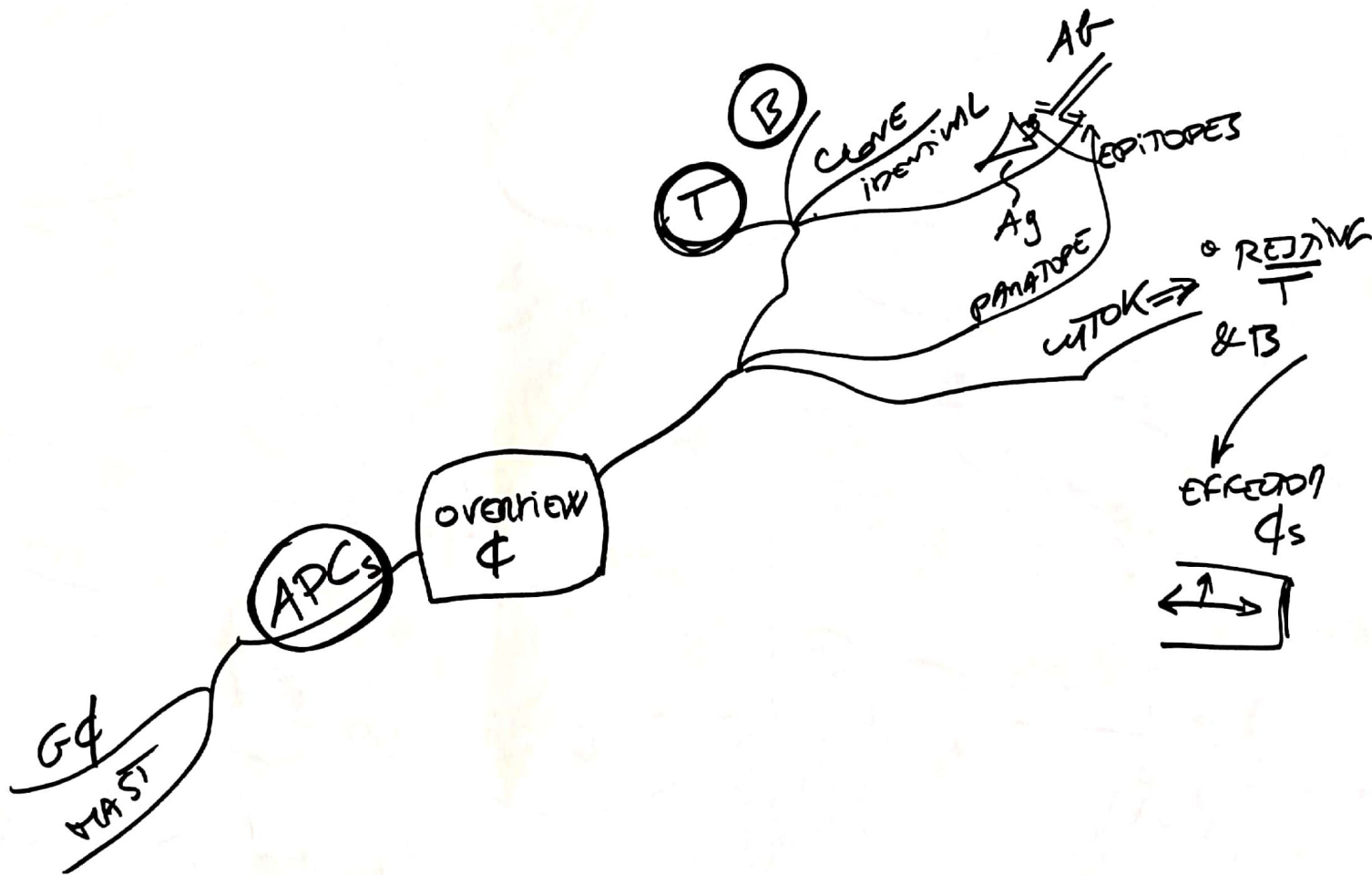
- IMMUNOSUPPRESSANTS
- RECOMBINANT W/O K & CLINICAL USES
- TROPIC AB₃

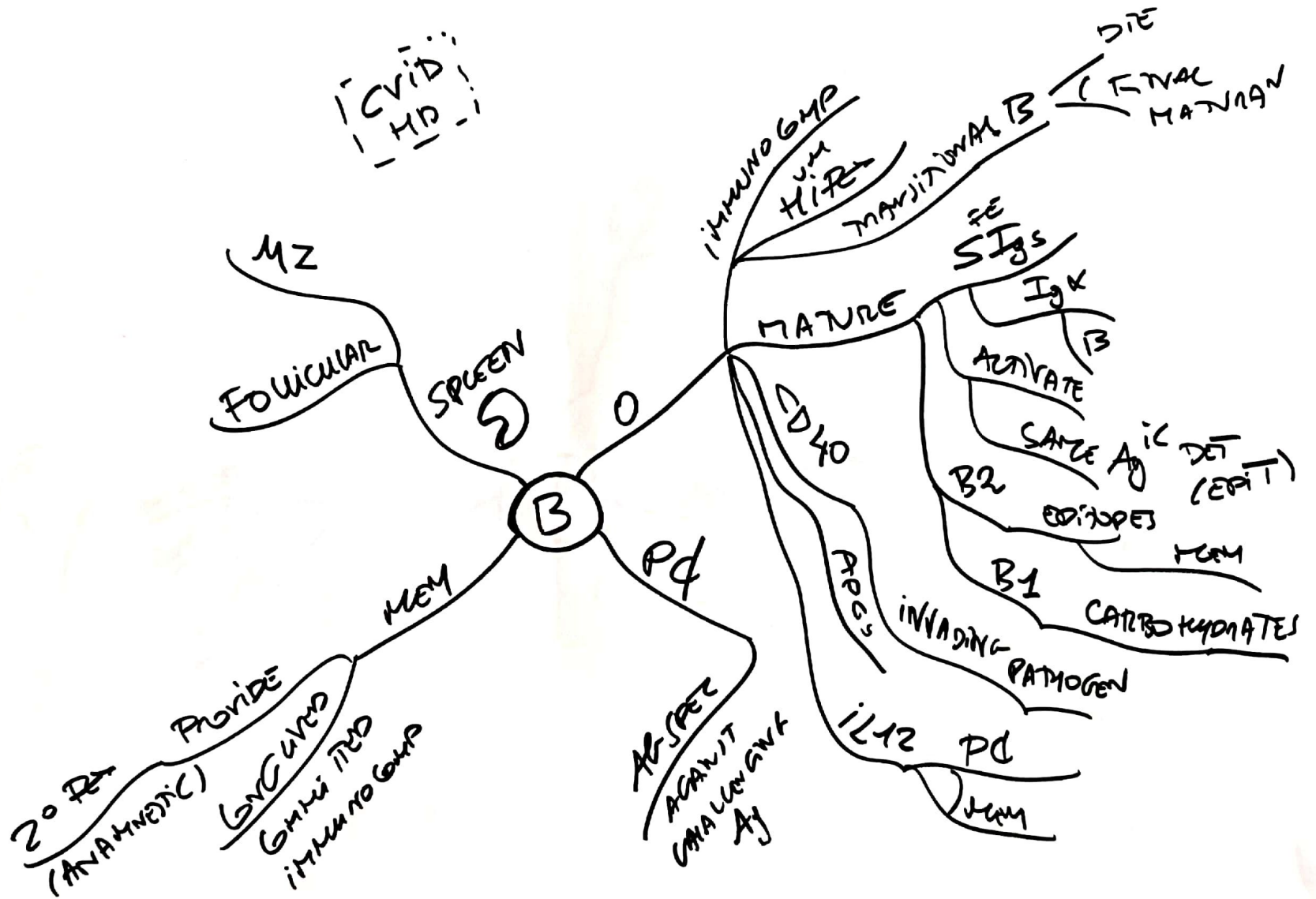


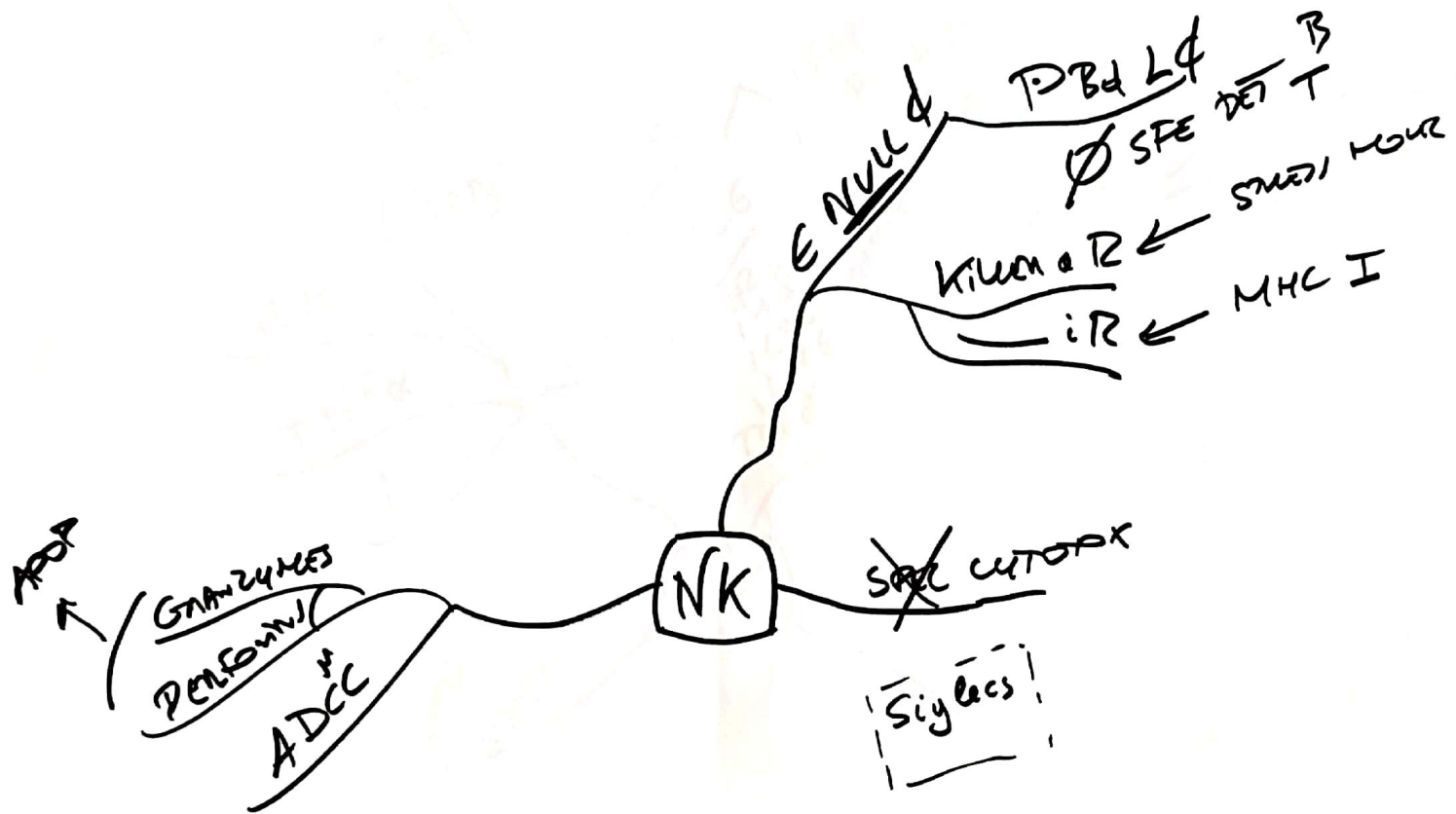


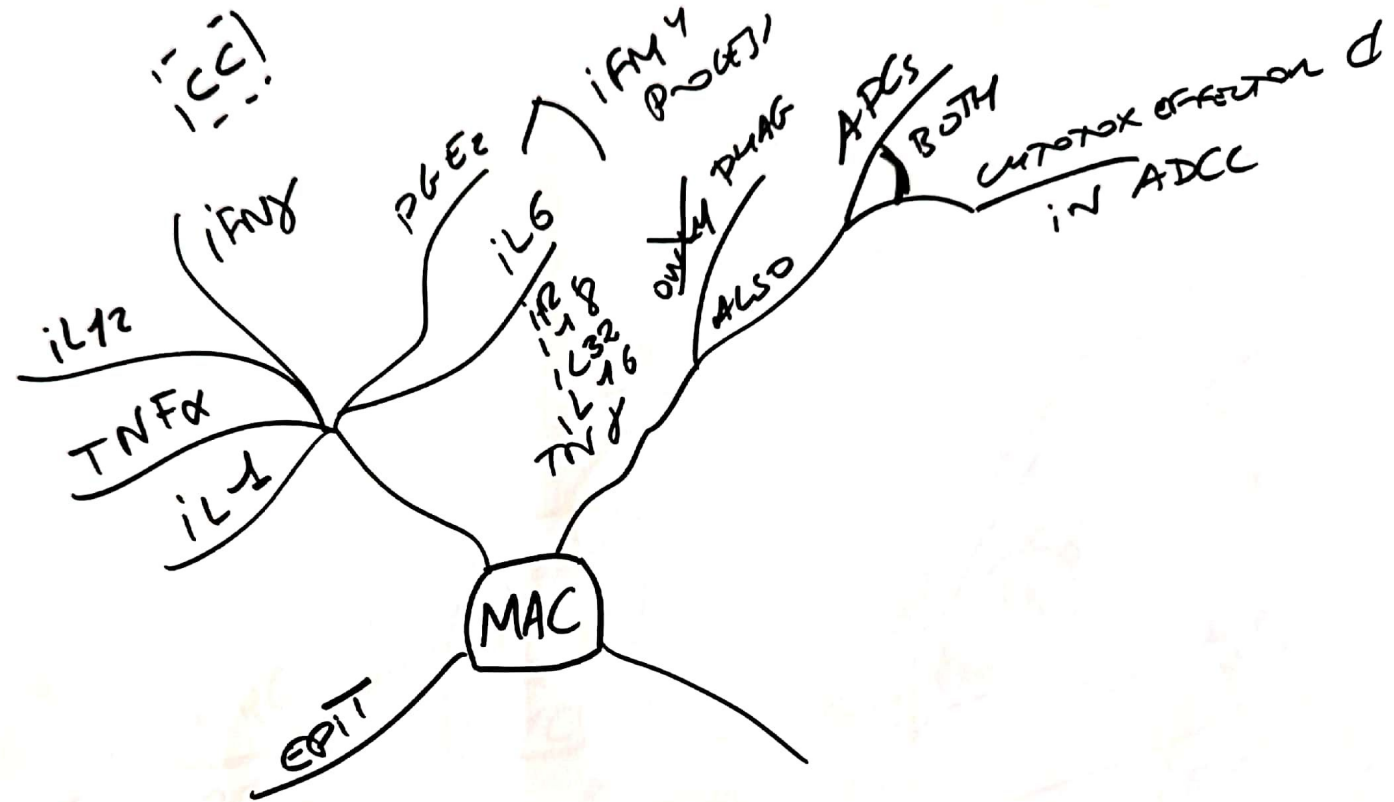
ROSENTHAL
2016

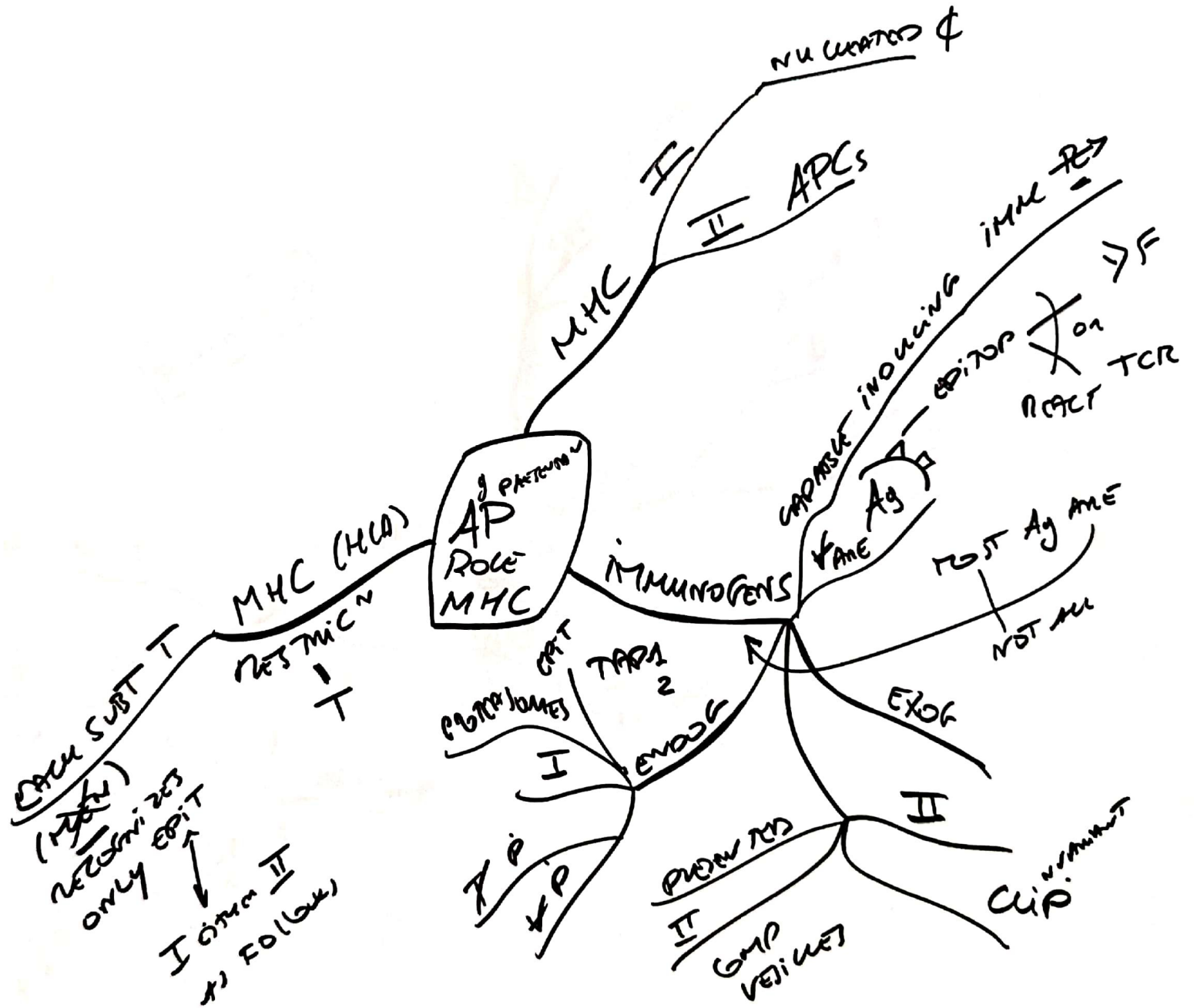


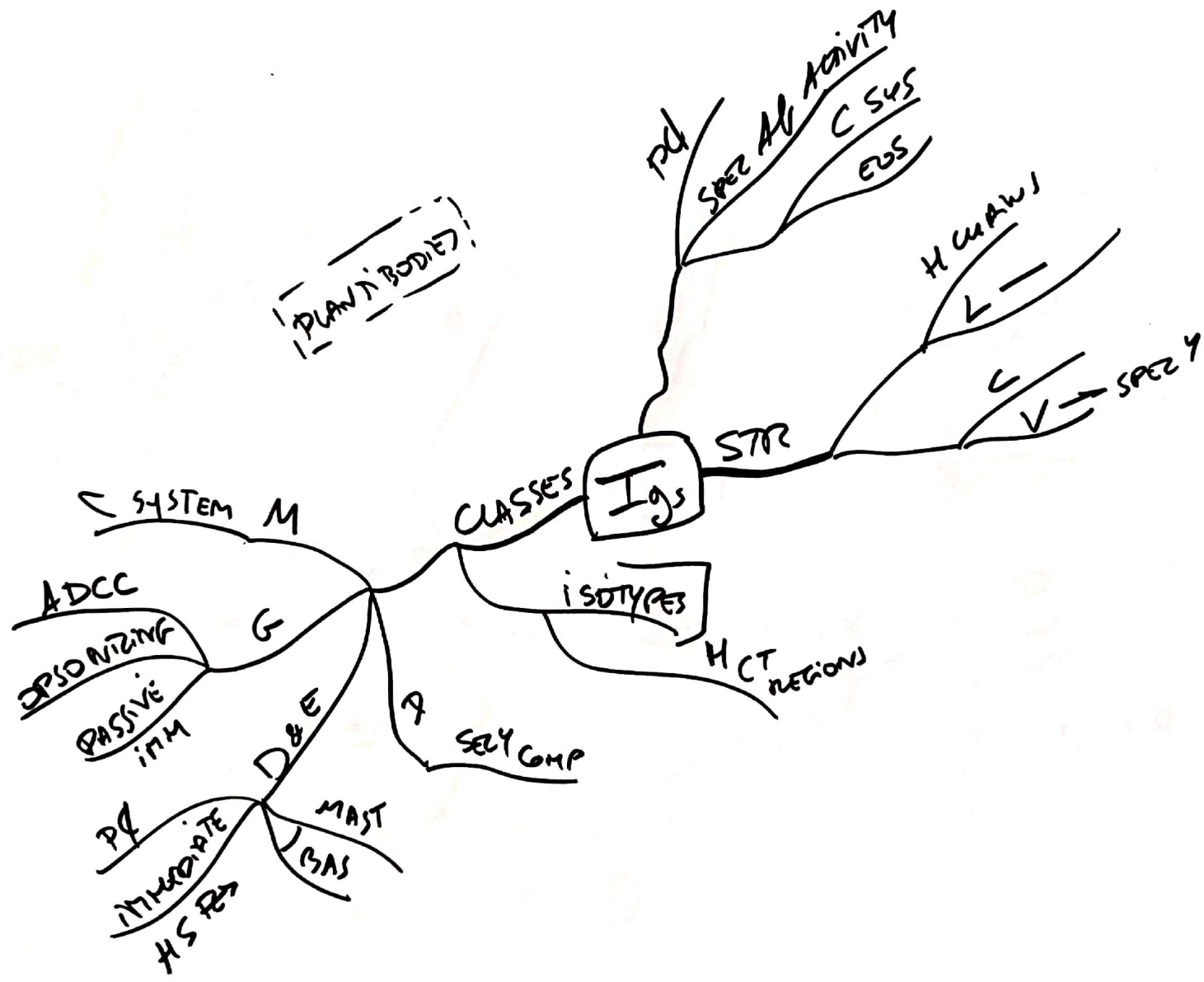


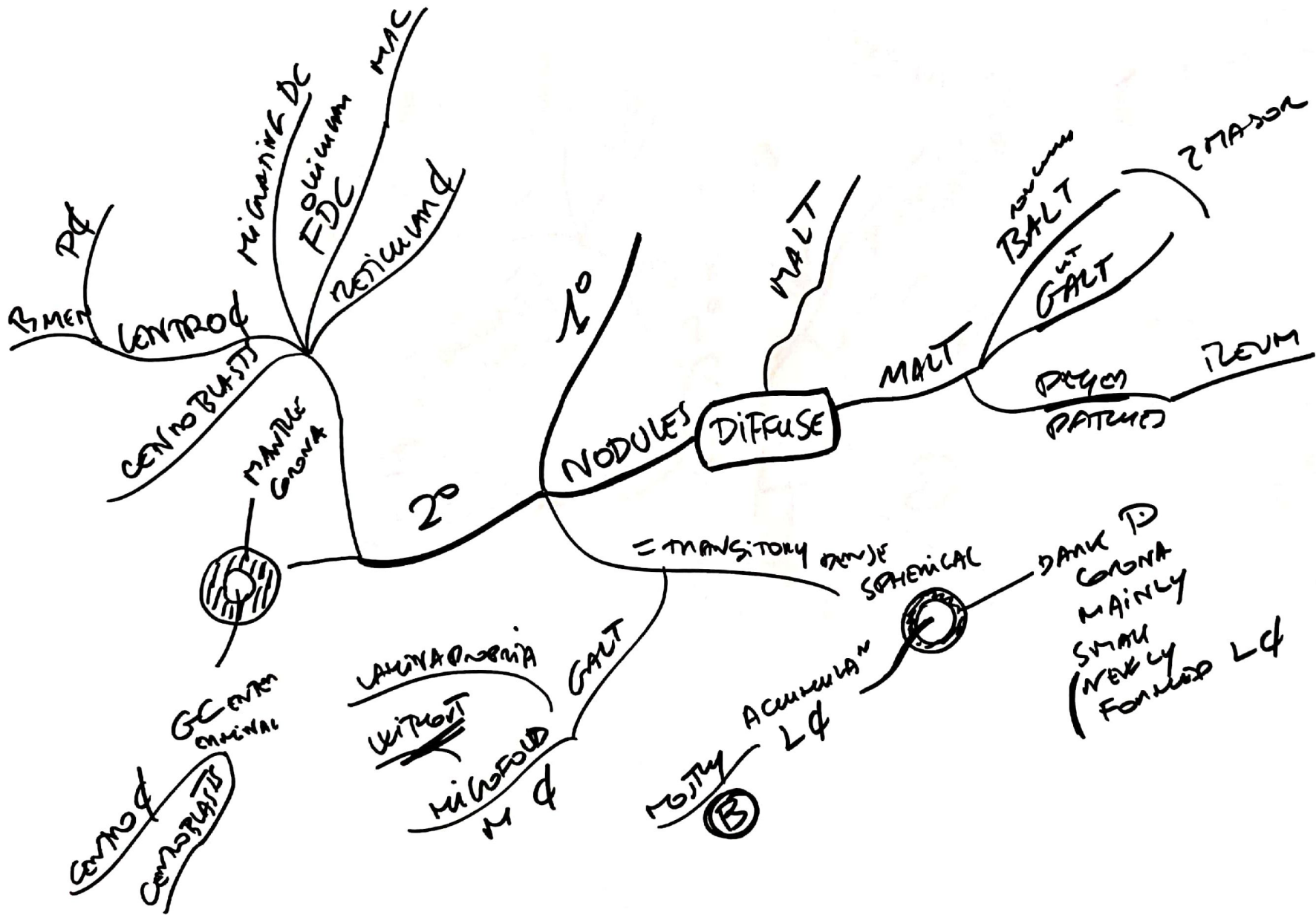


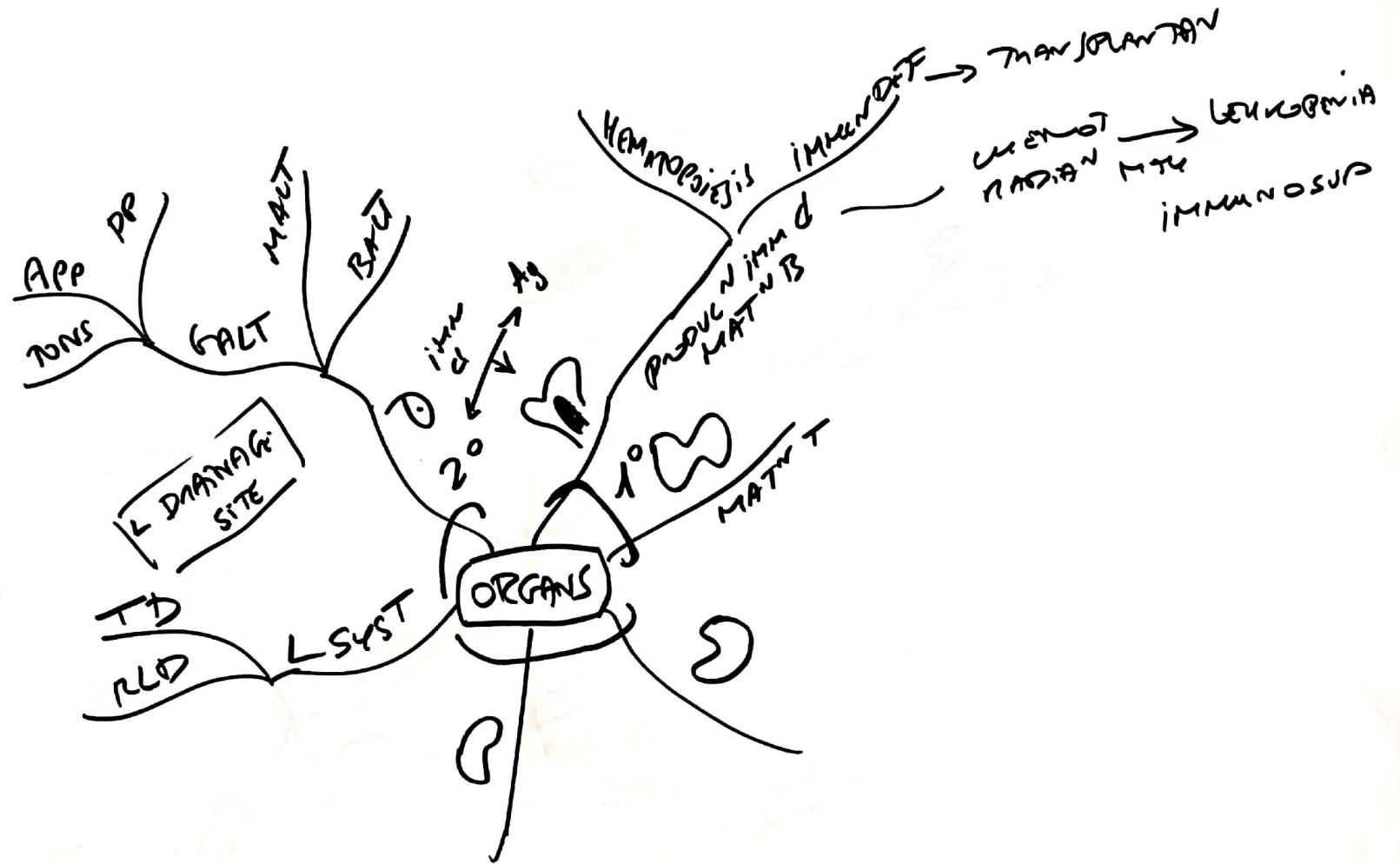


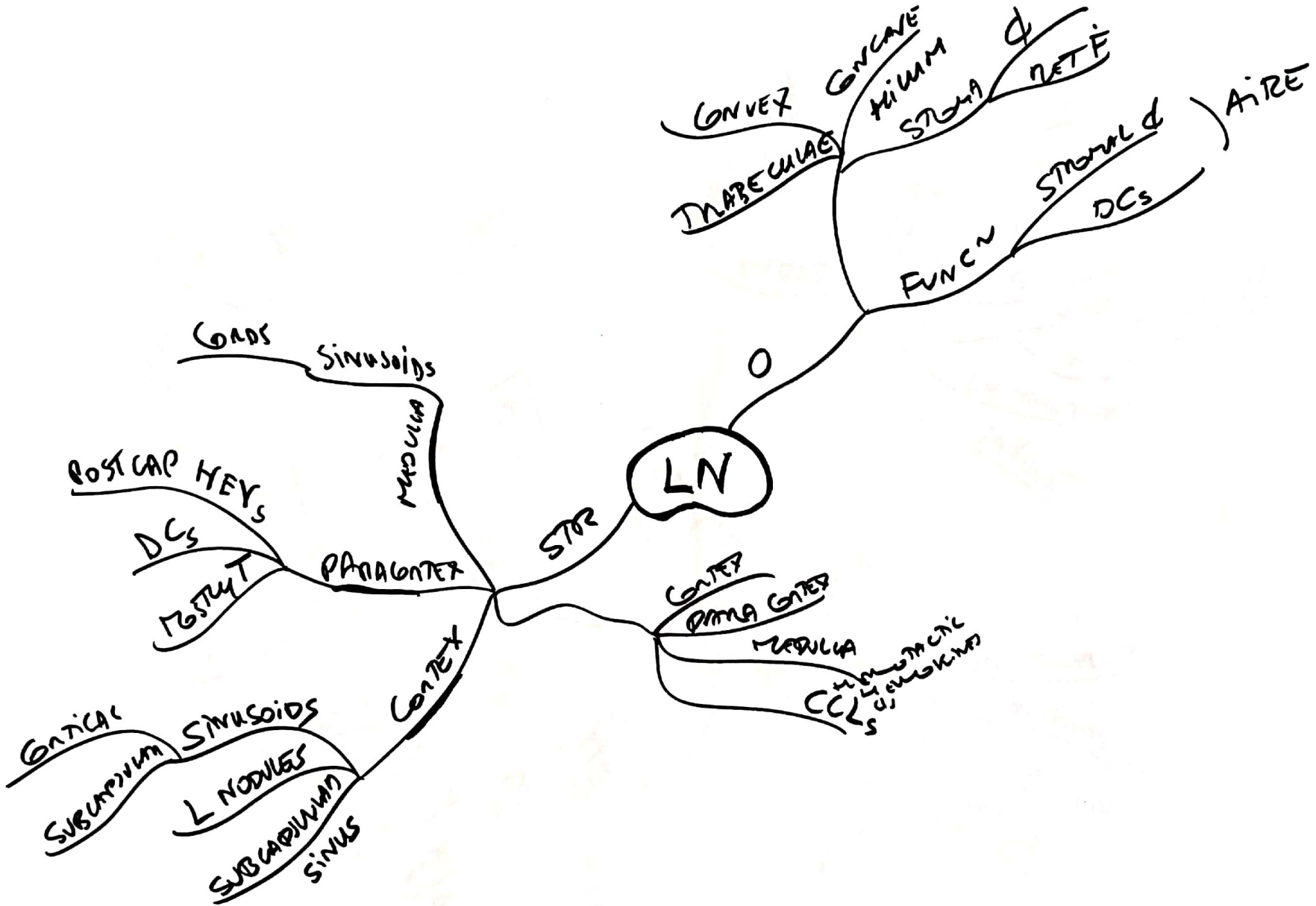


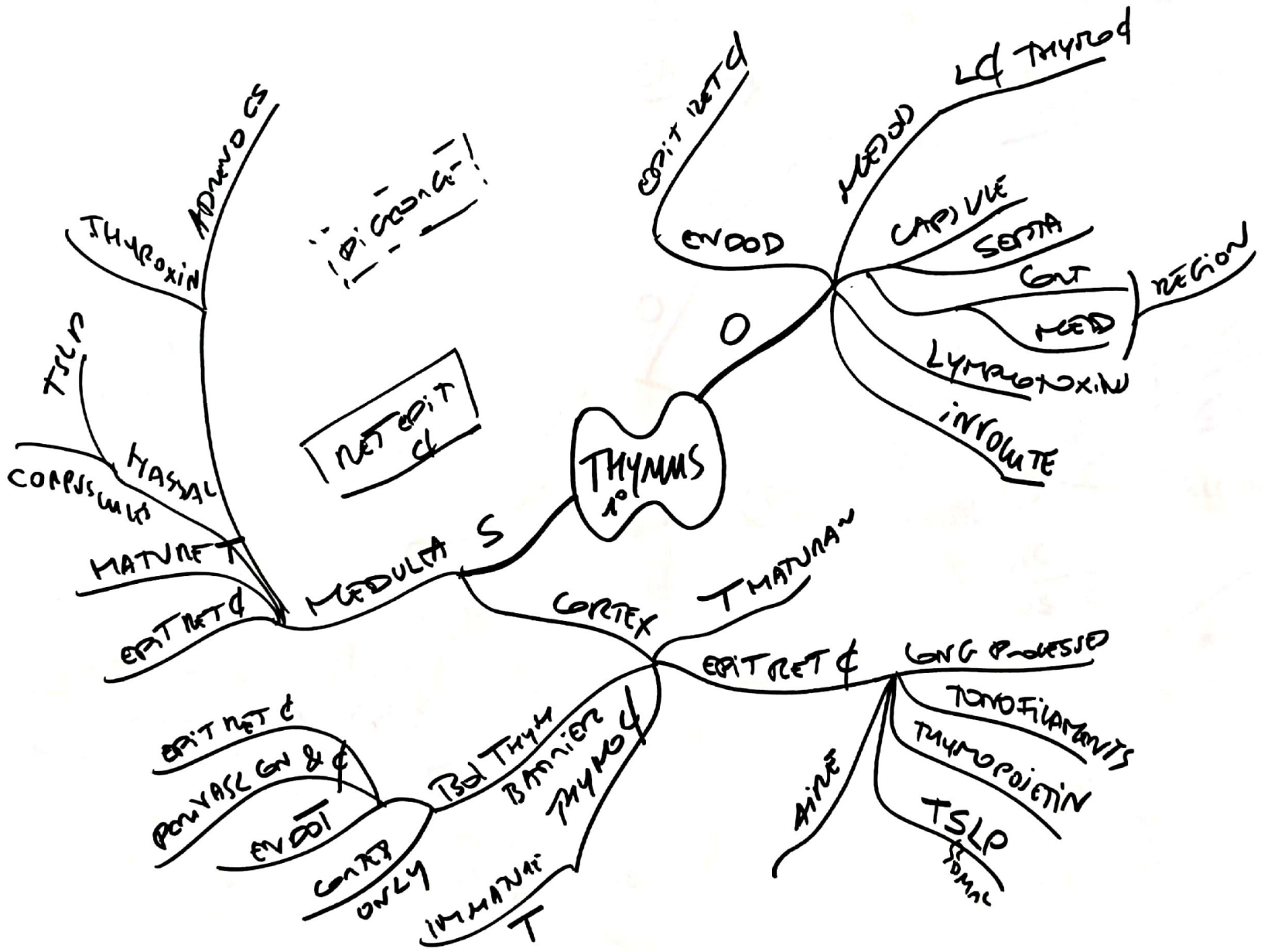


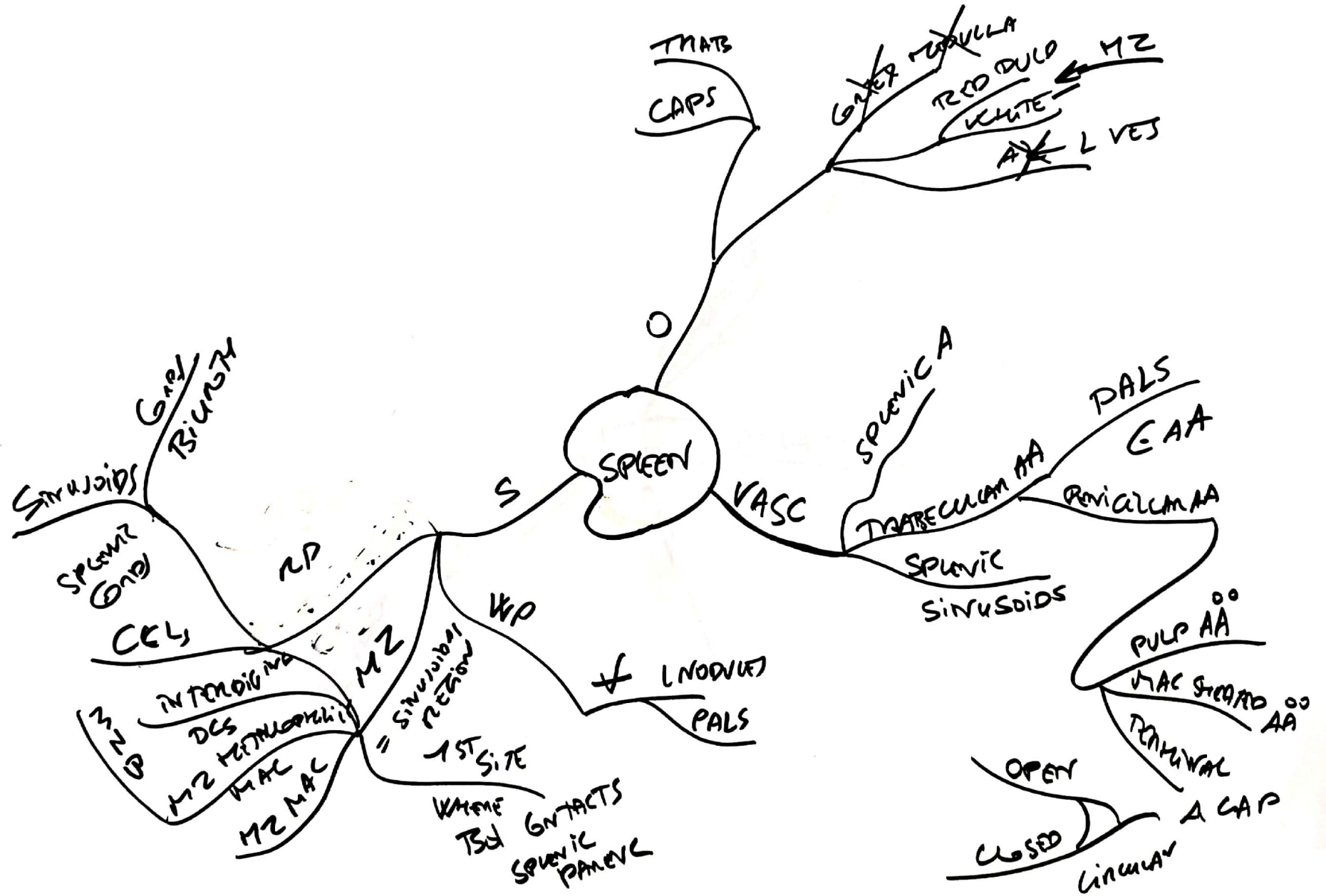


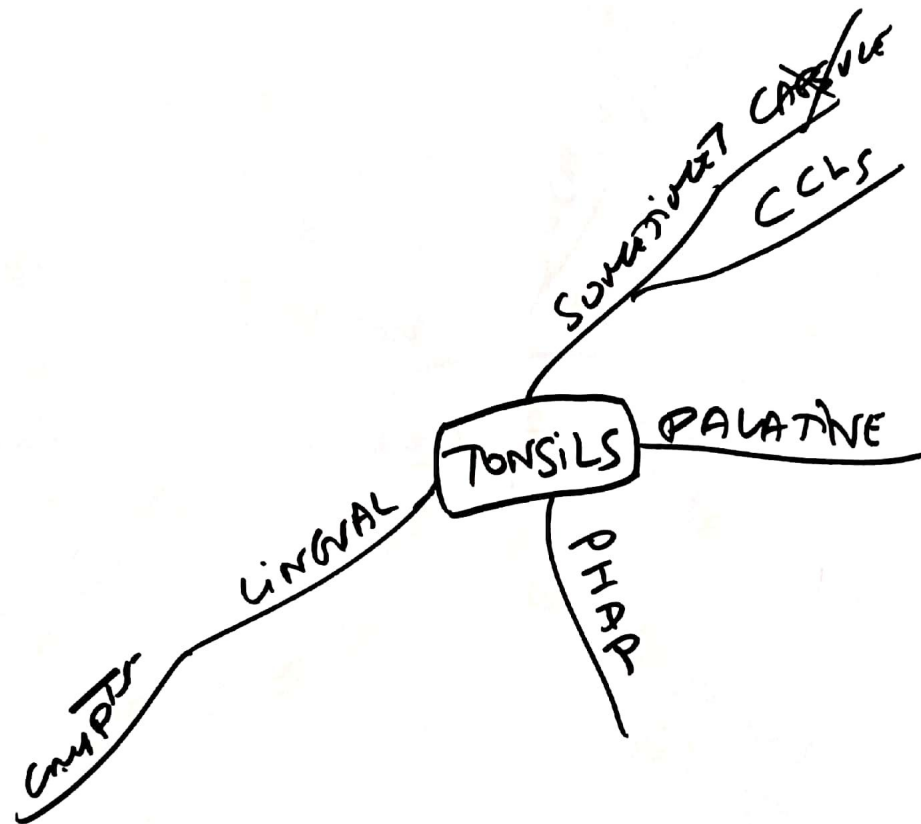


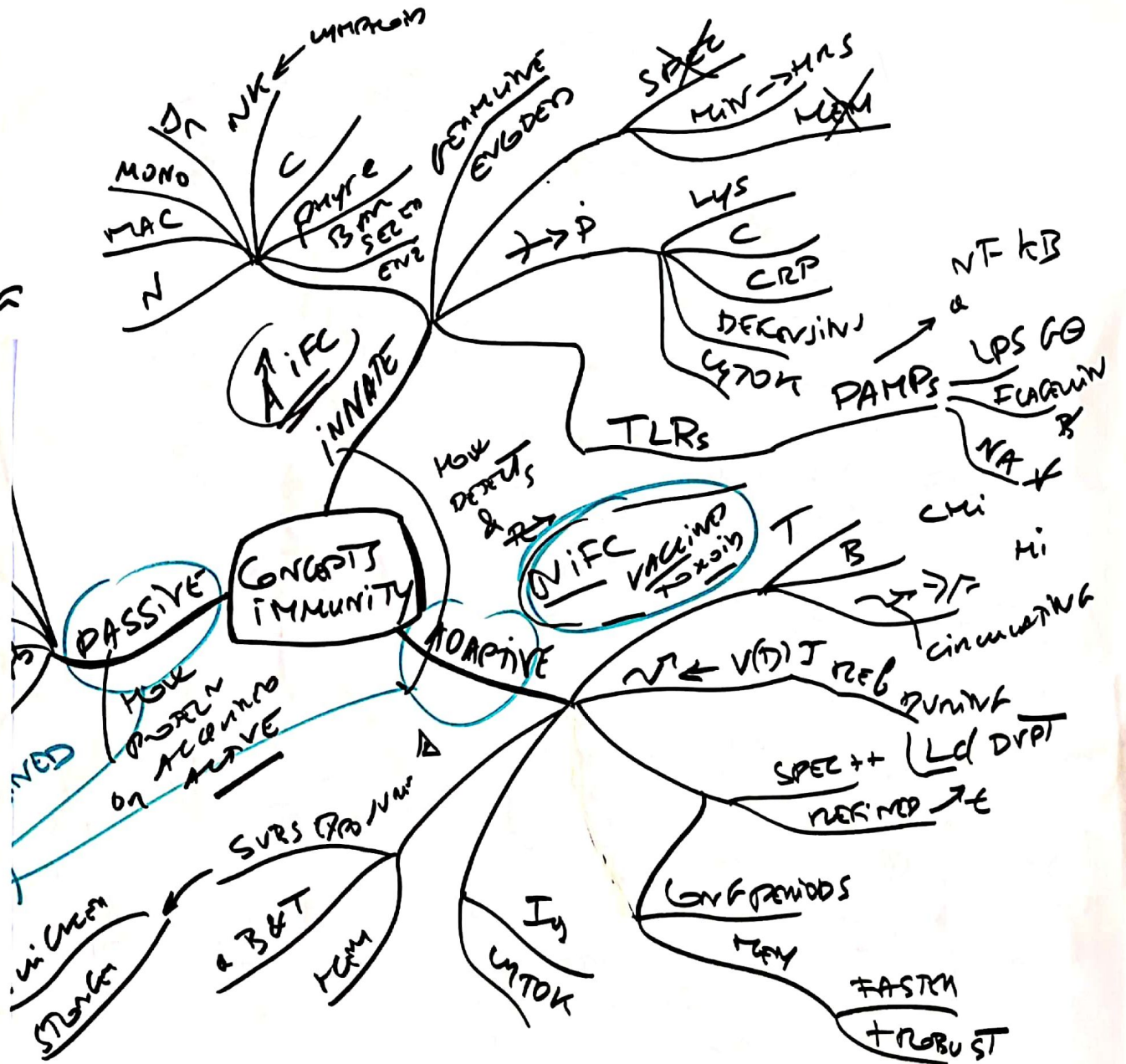
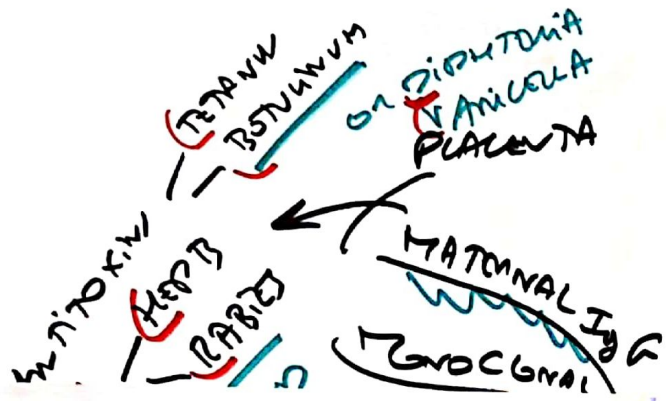










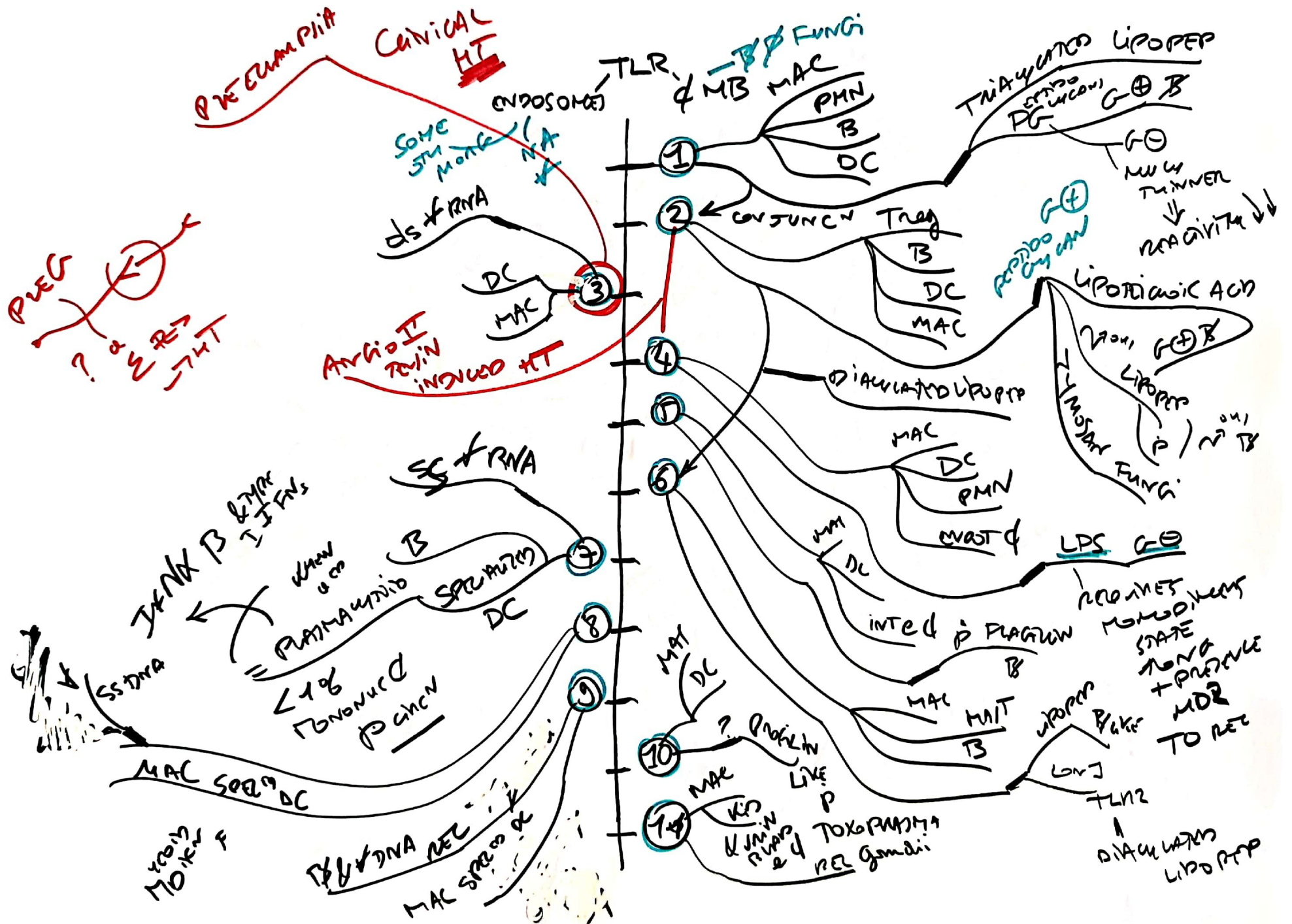


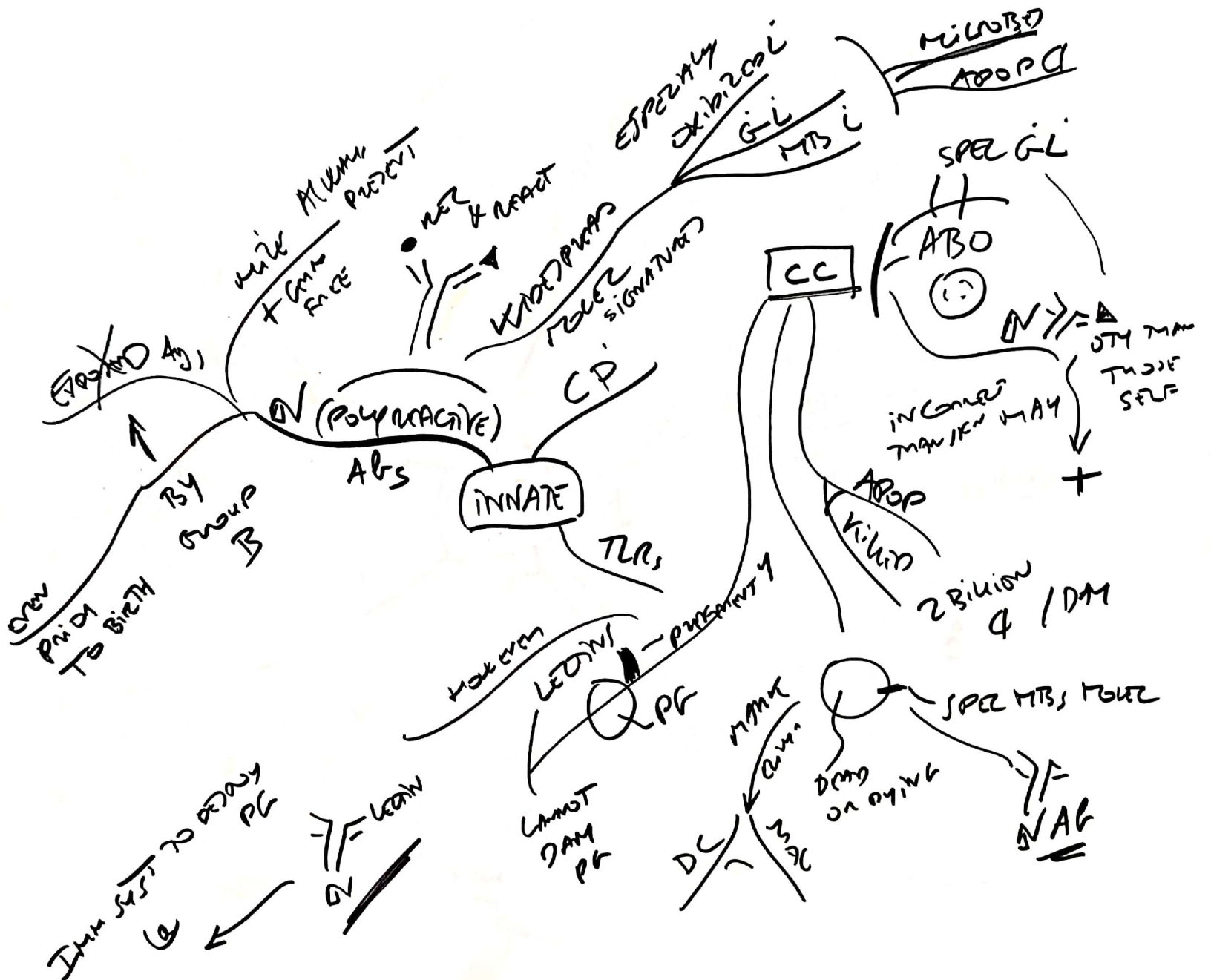
OVERVIEW

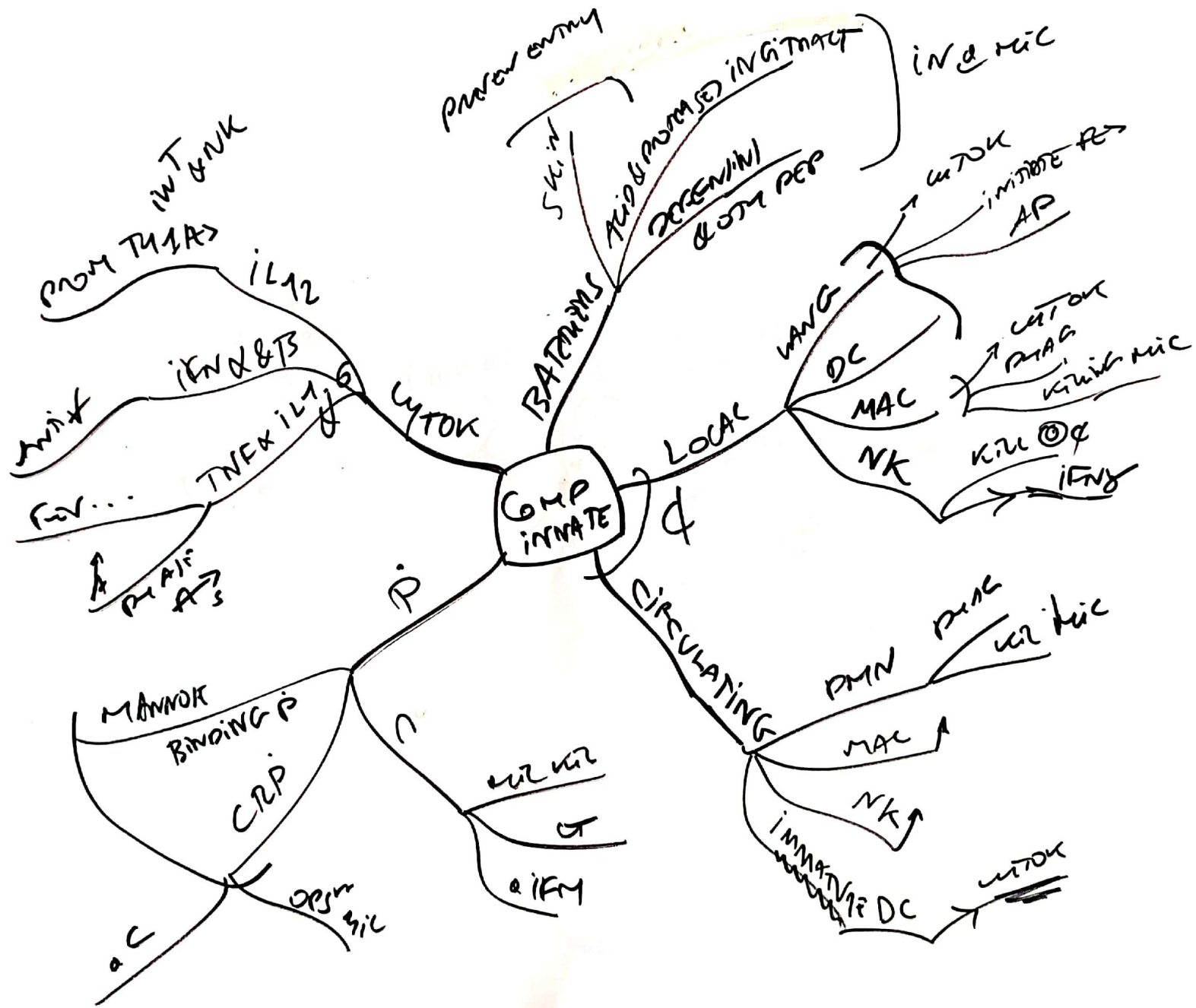
② - ICB & rapid NFB
 -> Ubiquitination
 -> Proteasome
 -> Translocation

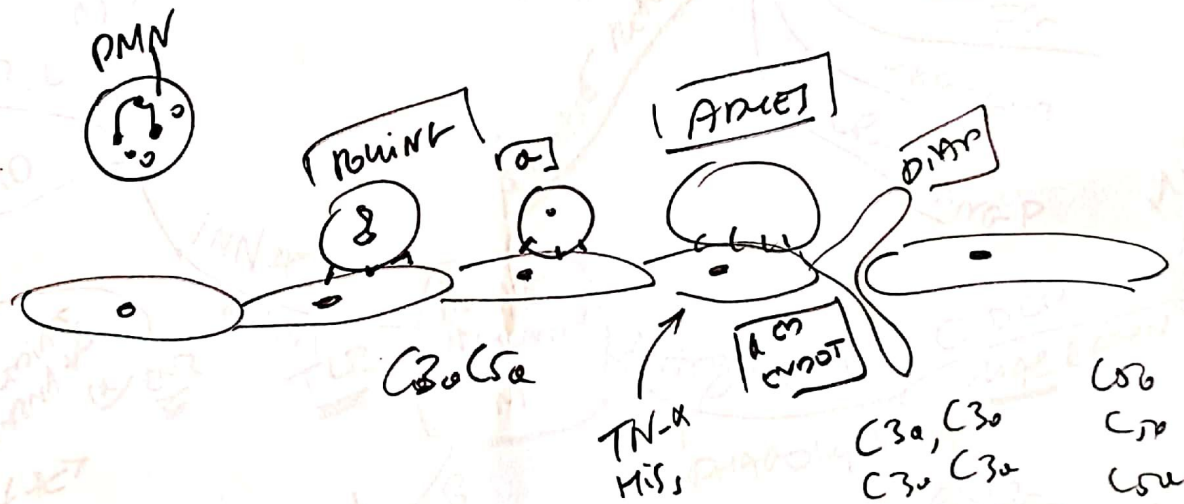


INNATE









INHIBITORS

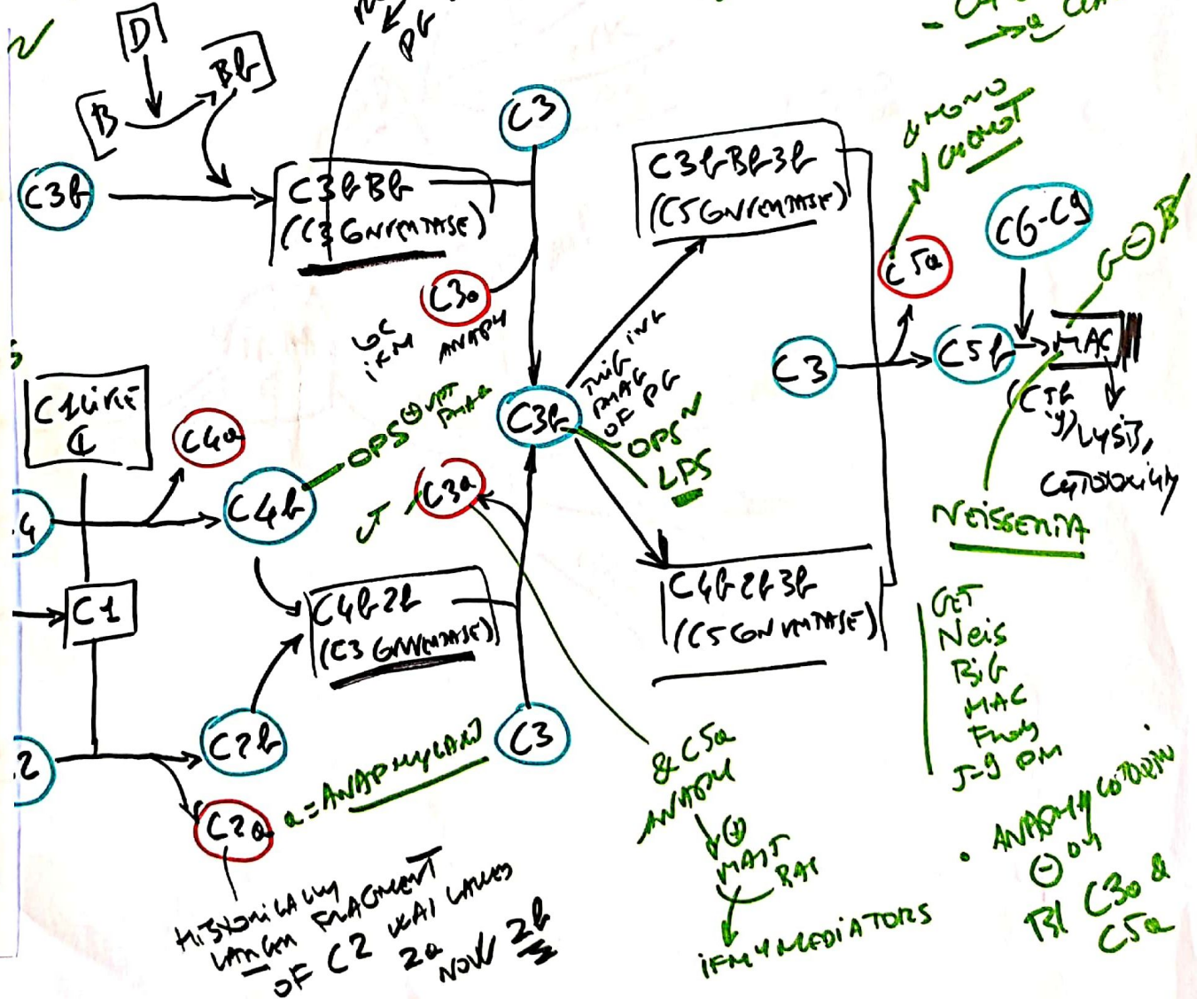
C1 ESTERASE INHIBITOR
 & DAF CD55
 DISRUPTS MANAN C3
 → PREVENTS IN APPROPRIATE &
 BL C3 → C5G (MEMBRANE)
 & F&I

SFE
 SPECIFIC
 ON MICROBES
 → SFE

KEY POINT!
 DEMAND WITH SFE OR SFE

C3d → B
 & HAVES IT
 R ON B WITH EBV

C
 → P
 INN & IAN
 - CH50 TEST
 → CLASSICAL



INHIBITORS

C1 ESTERASE INHIBITOR → PREVENTS INAPPROPRIATE & DISRUPTS REMAIN C3
 & **DAF** → DISRUPTS REMAIN C3
 & **CD55** → DISRUPTS REMAIN C3
 & **CD59** → DISRUPTS REMAIN C3
 & **CD55** → DISRUPTS REMAIN C3
 & **CD59** → DISRUPTS REMAIN C3

600 LPS

ALTERNATIVE
 - SPONT & MIC SPECIFIC
 - AMPHIBOLIC GROWTH OF C3B

KEY TURNING POINT!

C3d → B
 & **INHIBITS** IT
 & **ON B**
 WITH EBV

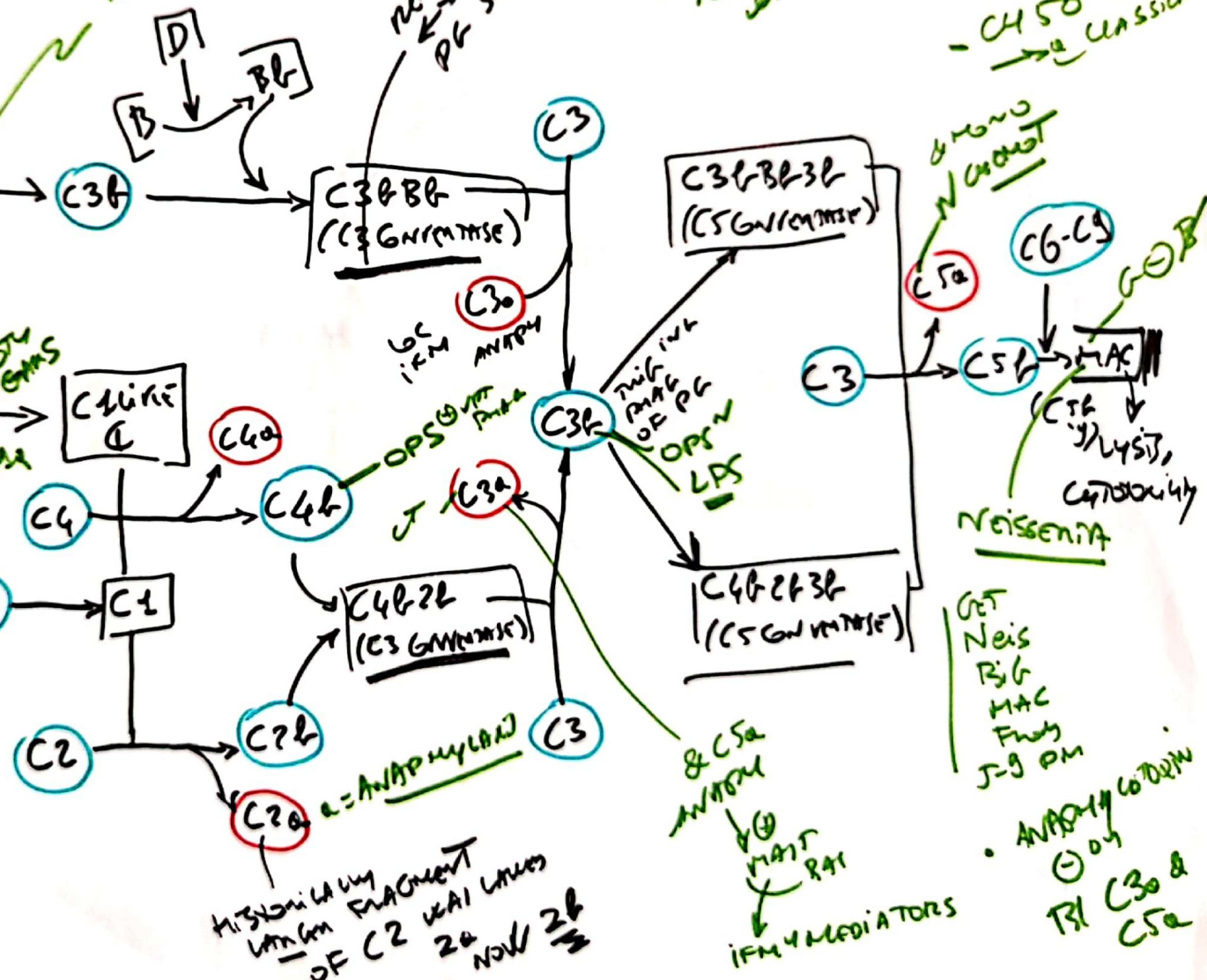
C
 - **CH50 TEST**
 → CLASSICAL

encaps B on x
SeP

LEPTIN
 MIC SPECIFIC
 (B-MANNOSE)
 BINDING
 (MANNOSE)
 ON JM SWAINS

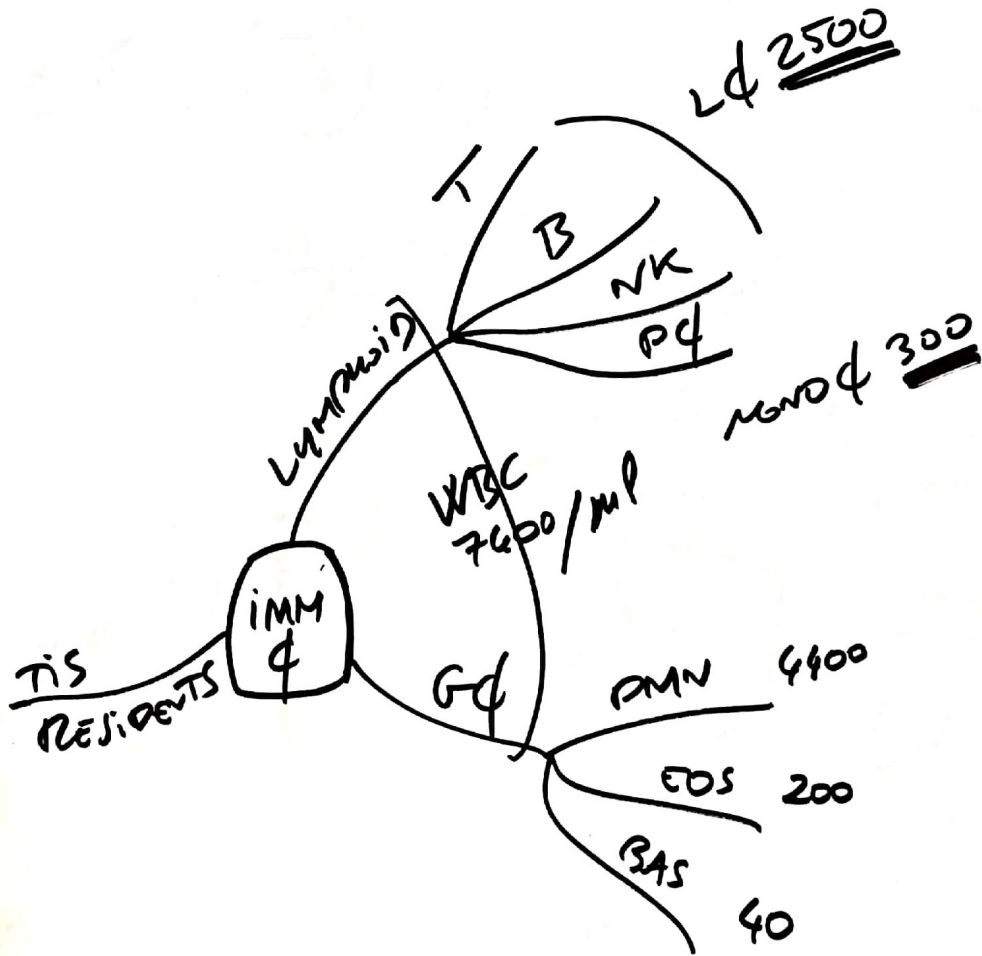
OPSONINS
 IN B DEF
 → **OPAC**

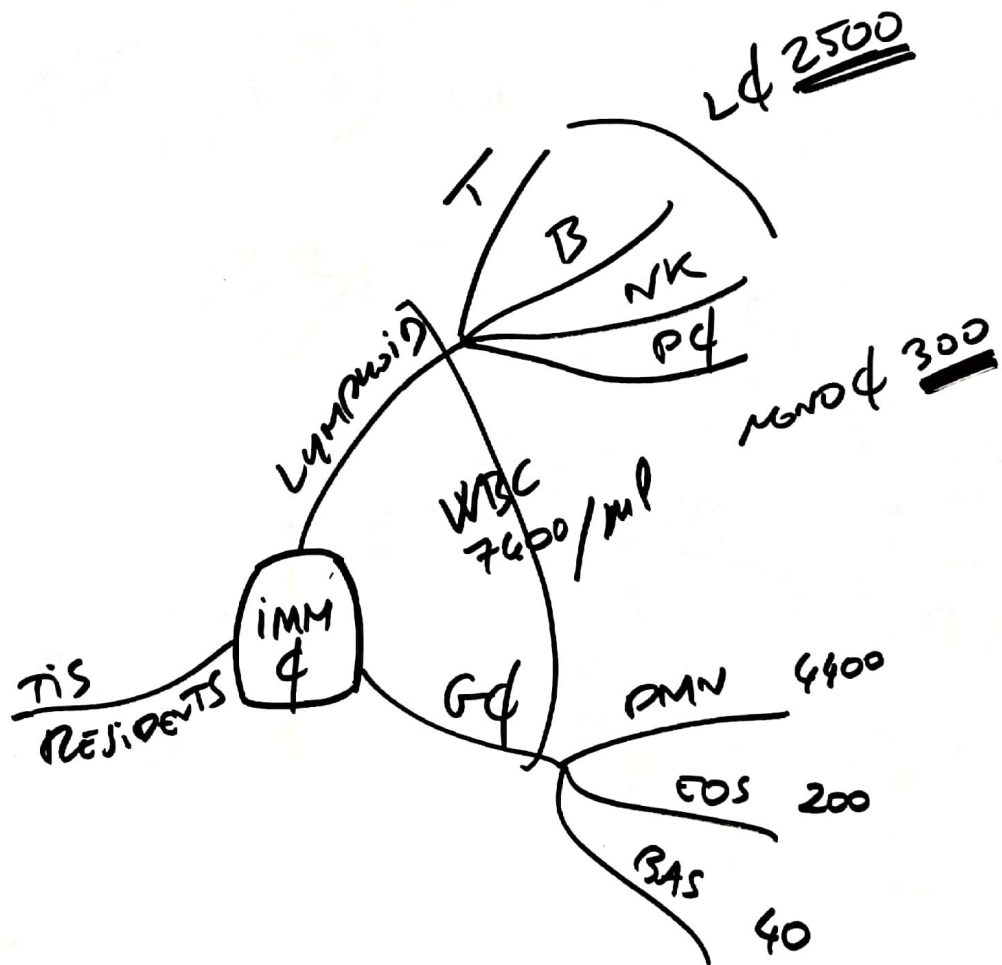
ALSO HELPS WITH IMM

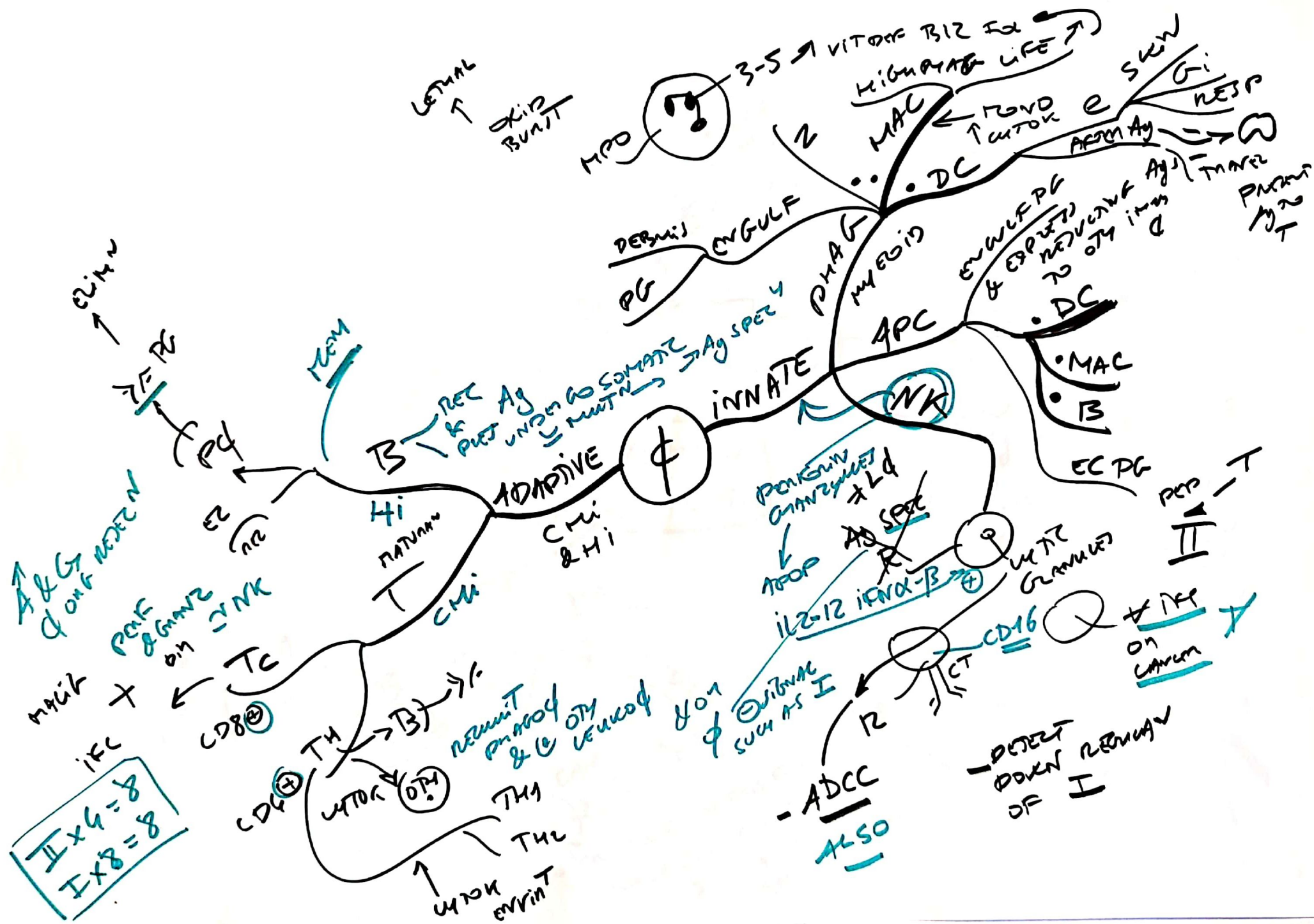


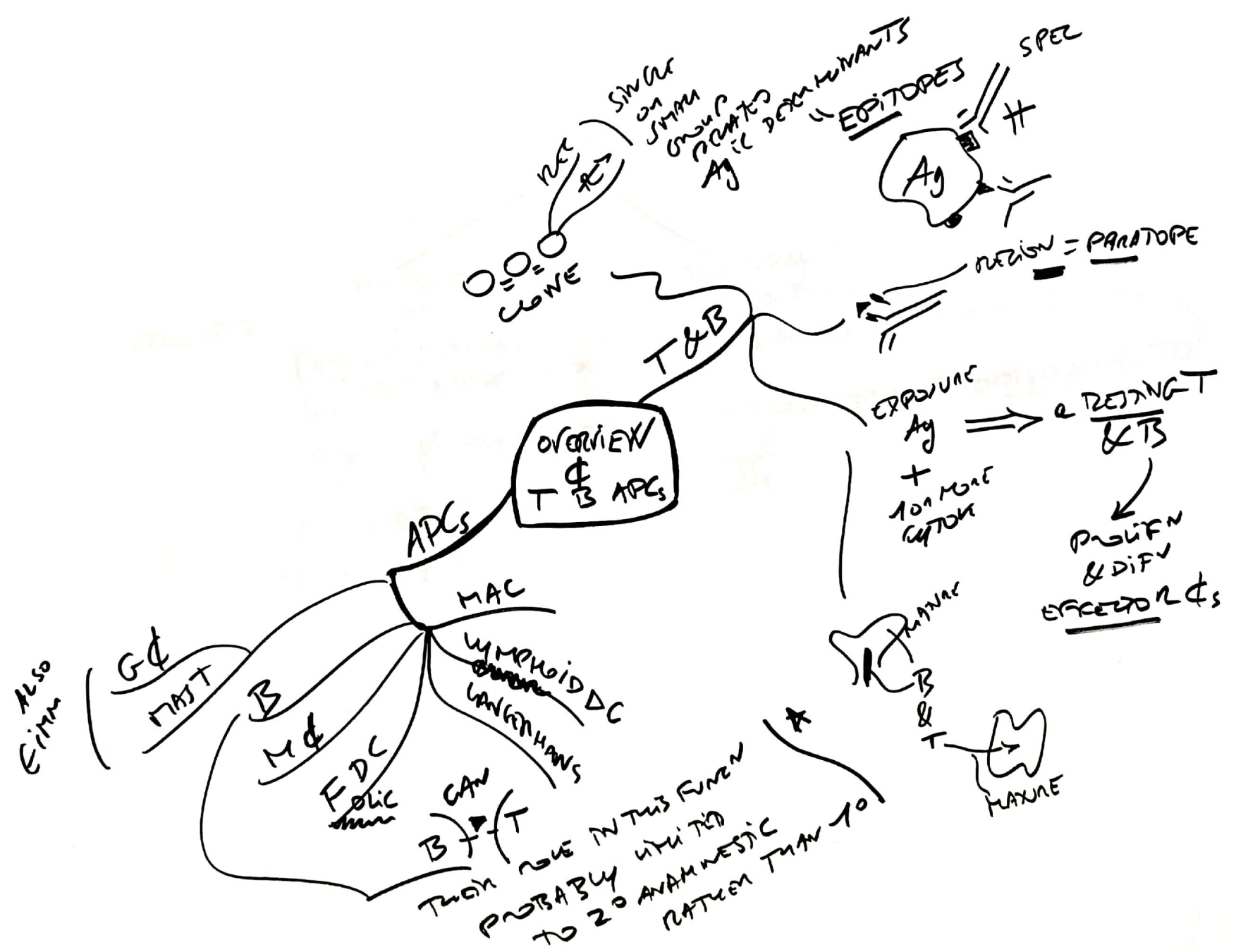
GET Neis Rtg MAC Fruq J-9 PM
 • **ANAPHYLAXIS**
 ○ on
 TRI C3a & C5a

CELLS OVERVIEW









DCs

MYELOID

FOLLICULAR
B

PRESENTO

[ONLY ϕ THAT CAN
INITIATE A NEW TREE

IN B AREAS LYMPHADENITIS

PROCESS ϕ FOR PRESENTATION



EXPRESS STICKY IZ TO DISPLAY Ag TO

I : CD8 T

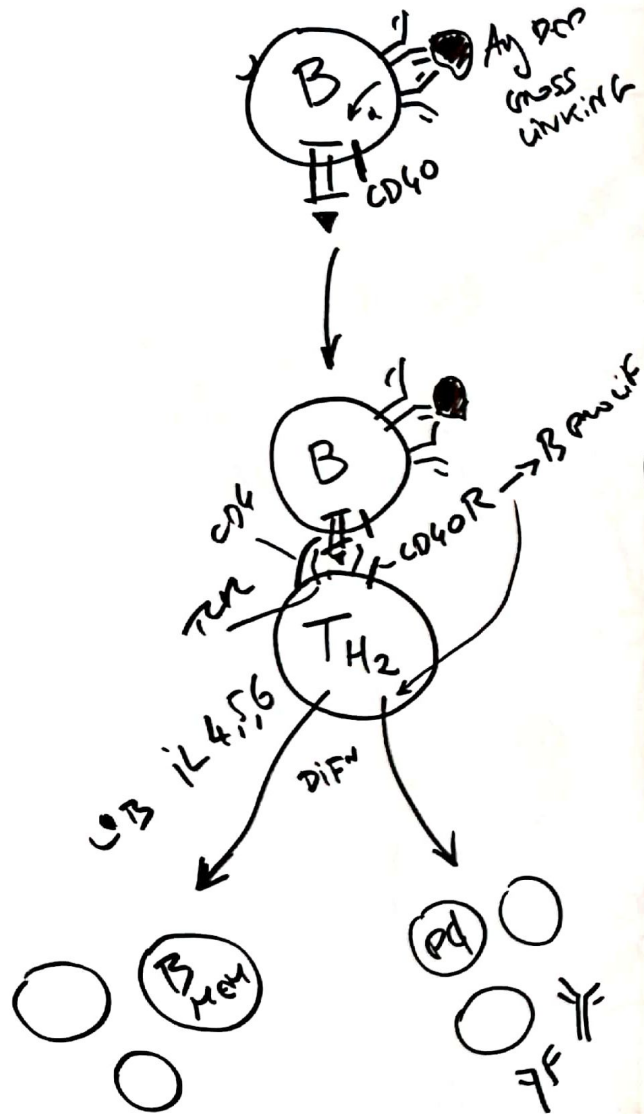
II : CD4 T



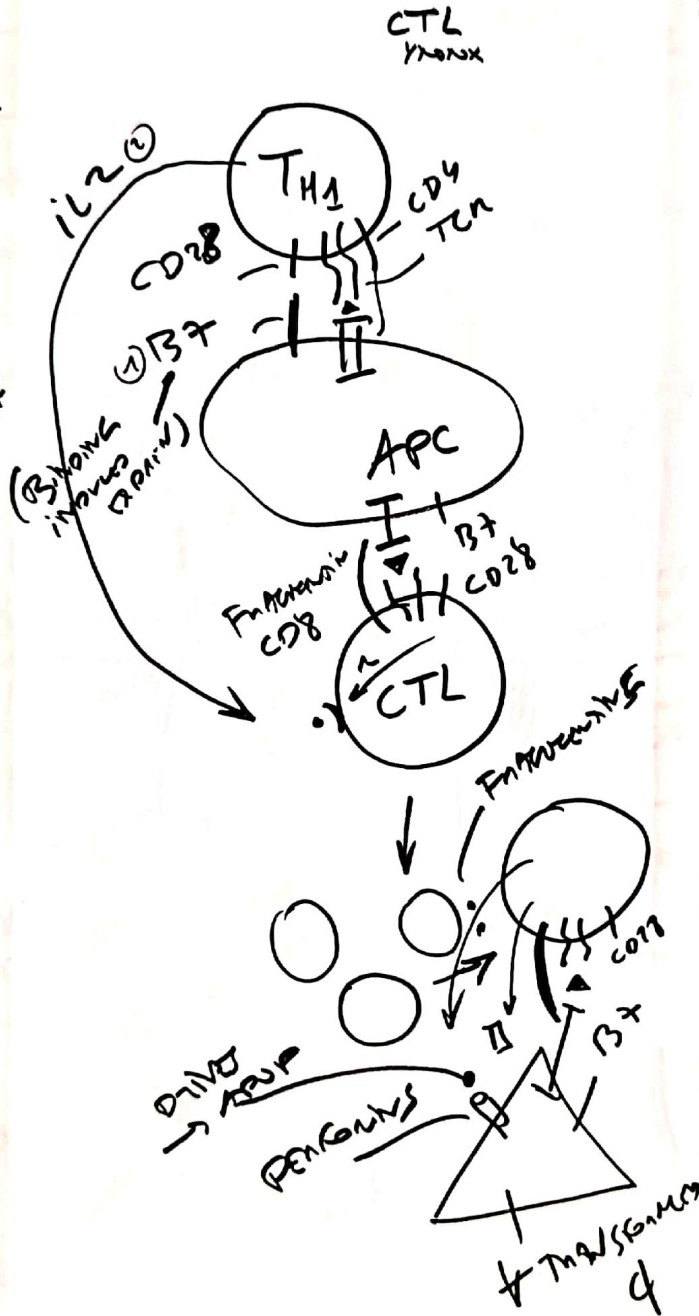
THYMIC DEP Ag-INDUCED | CYTOTOX T_H & CD₈ T_H | MACs BY TH₁

	T	B
ORIGIN		
MEANS		
FNS	H: cytokine initiation & promotion — portion of MAC & IFM C: direct killing	γ/δ production AP to T
SUBSETS	CD4: cytokine, TH, killing through FasL CD8: — CTL — — perform lymphotoxin on FasL, sup	B: Ab production PC: — factories
PROTECTIVE	NKT & γ/δ: innate like cells Treg resistance to B & T & FUNGAL anti V Klebsiella is reduced	anti B limp splenic →: GALT & TSD DPS cell for phagocytosis
Ag REC	CD4+TCR: IIp ^α Ag ^β PEP proteins by each route 8 I endoc	if SIg_A → γ/δ Ag spec Ab

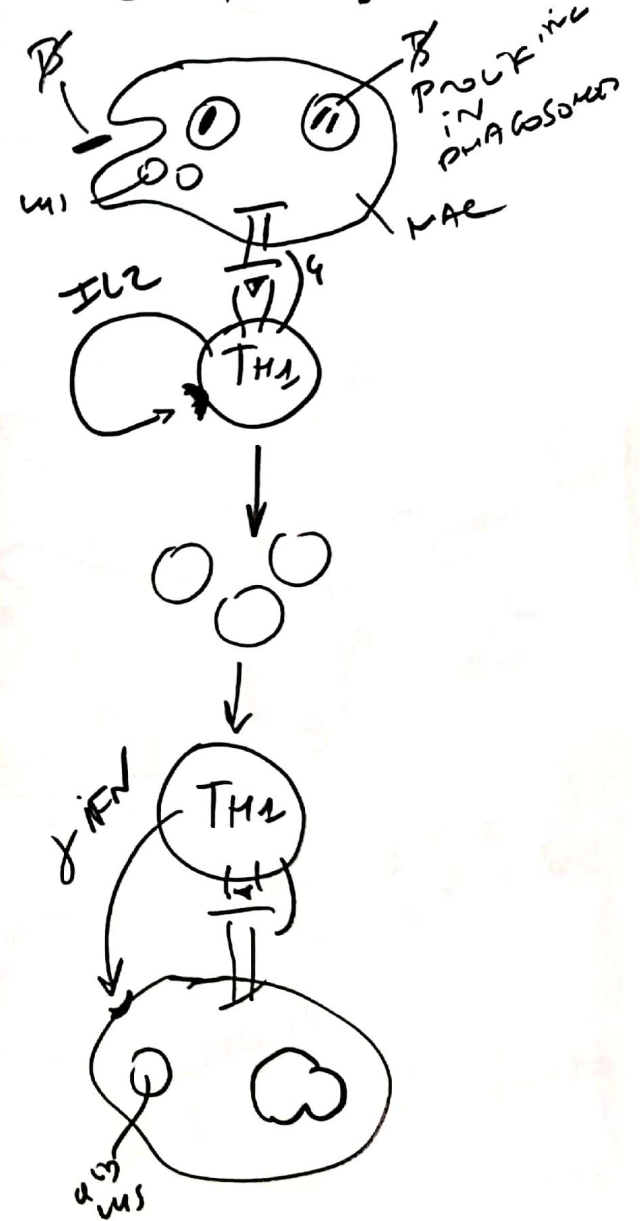
THYMIC DEP Ag-INDUCED B MEM & PD FORMATION



CYTOTOX Tc & q + ing

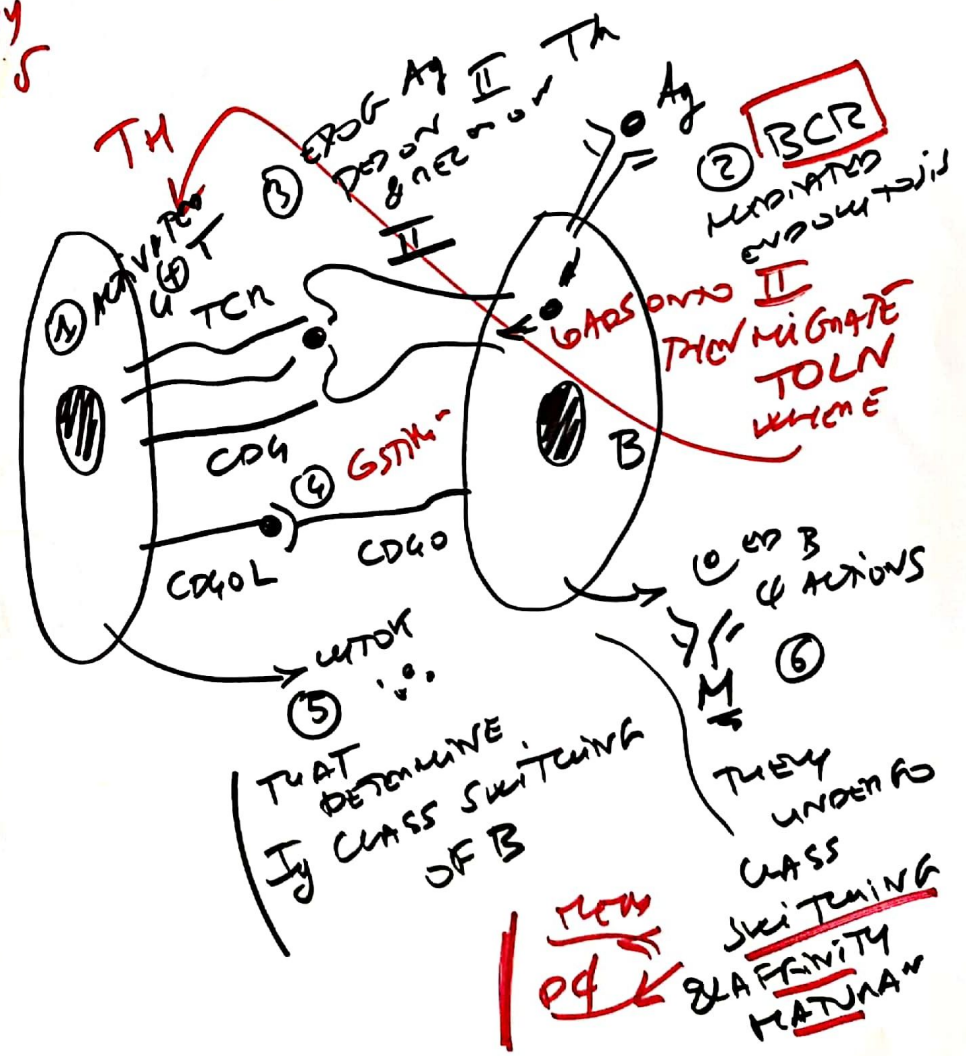
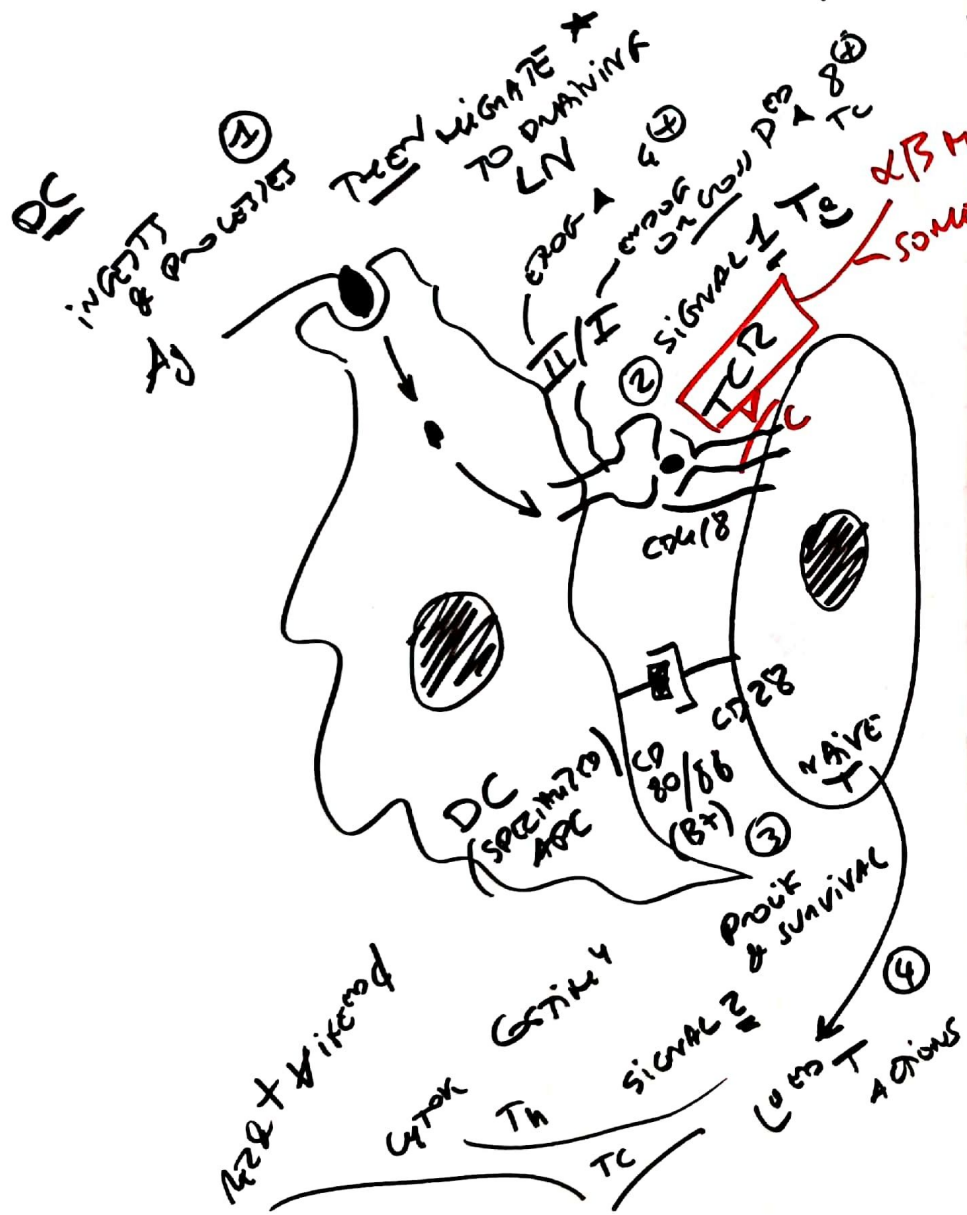


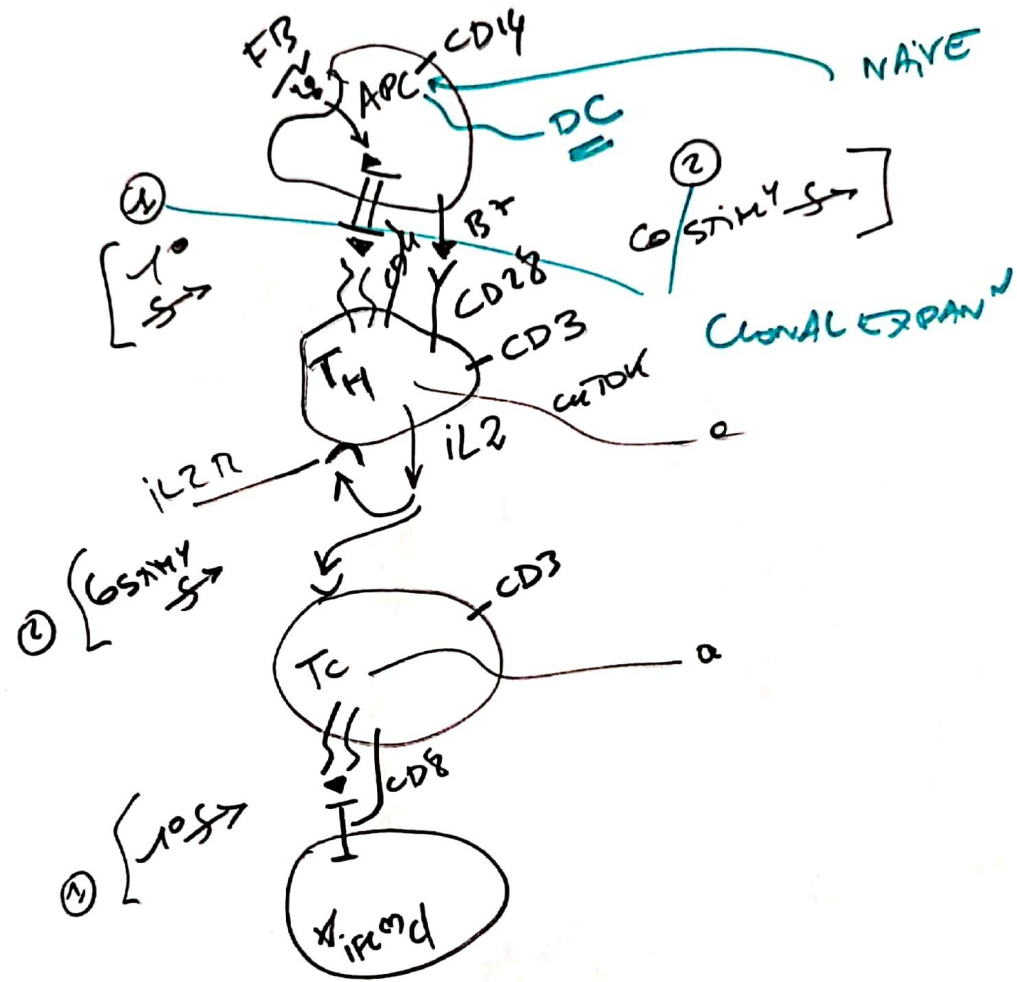
MAC BY TH1



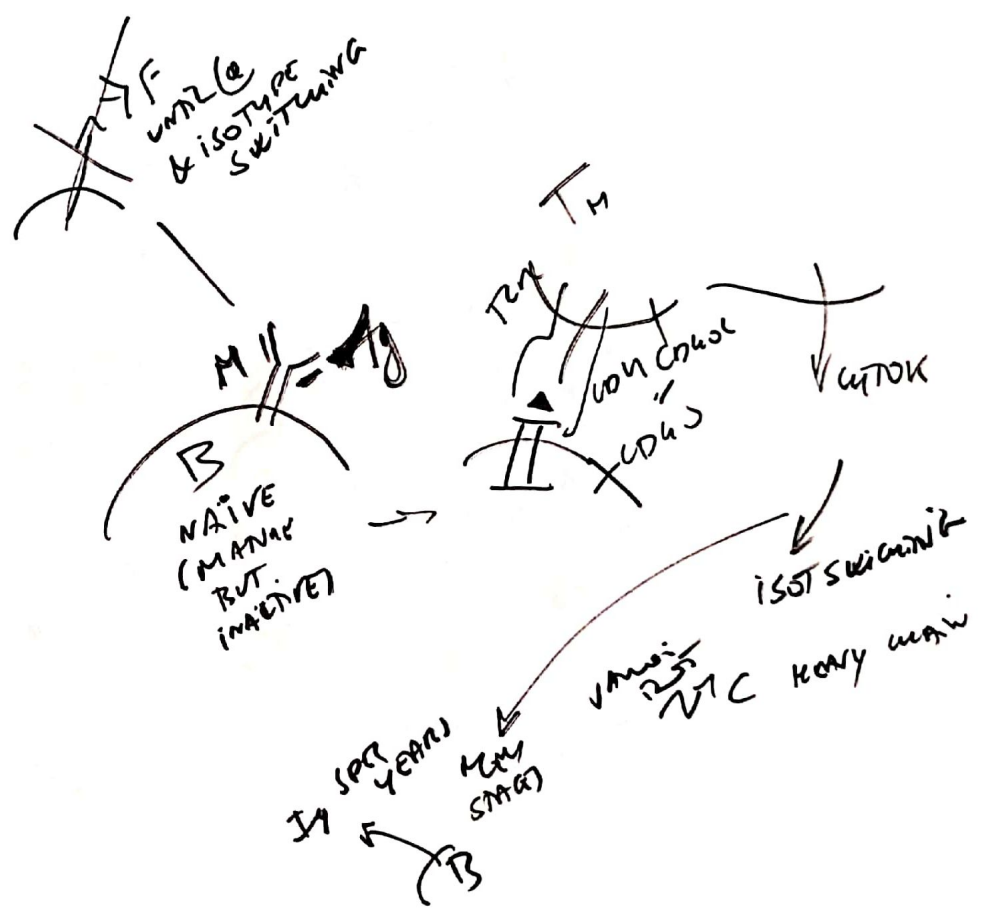
APCs (DC LANG LTRAC)

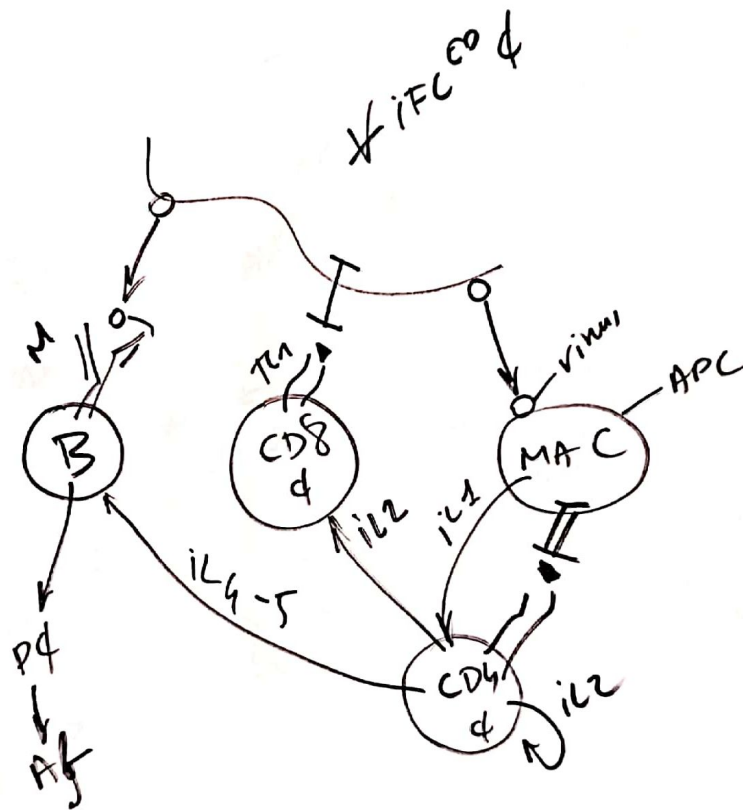
T_H ← 2 SIGNALS ARE REQUIRED FOR → B₂ & CLASS SWITCHING





T_H
2 signals
required



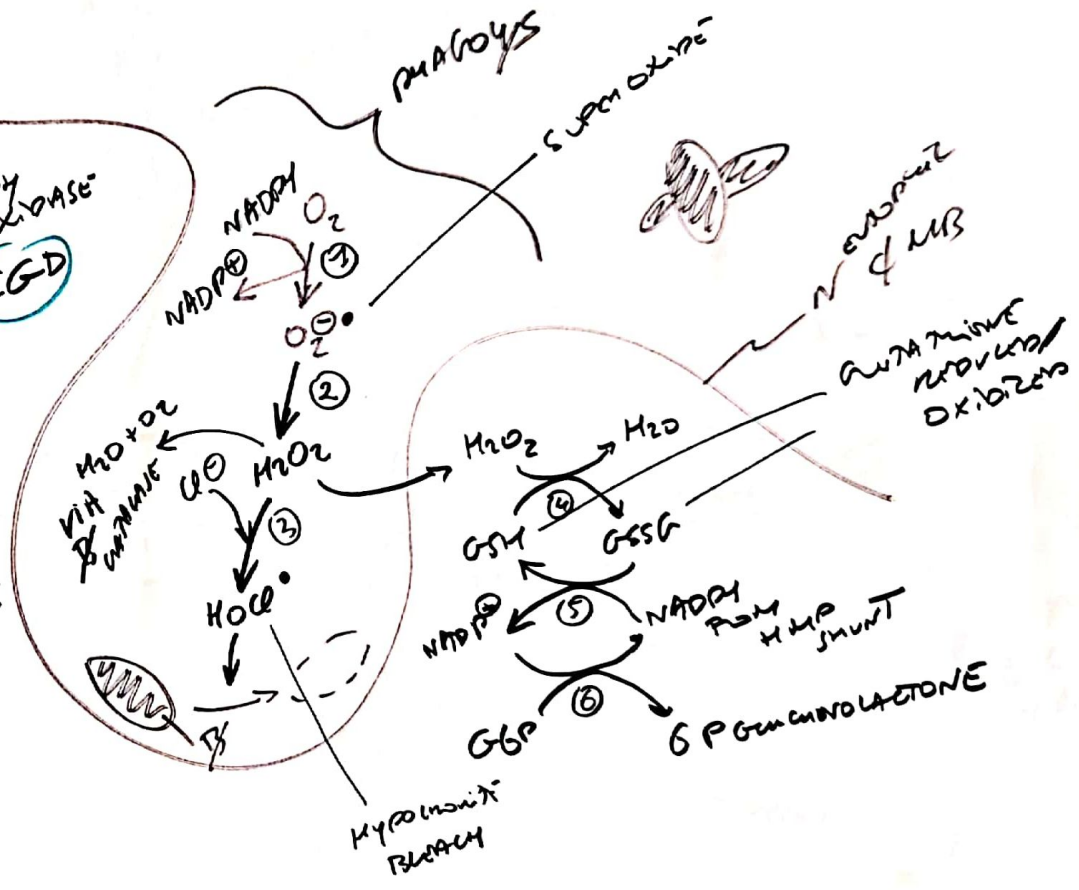


RESPY
BURST
= OXIDATIVE

→ LEAVING PHAGOC WITHOUT ROS
 → NORMALIZING THEIR OWN H₂O₂
 → INVADING ORGANISMS GENERATED ROS
 → SAME AS (MORPHOLOGY)
 → SAME AS (MORPHOLOGY)

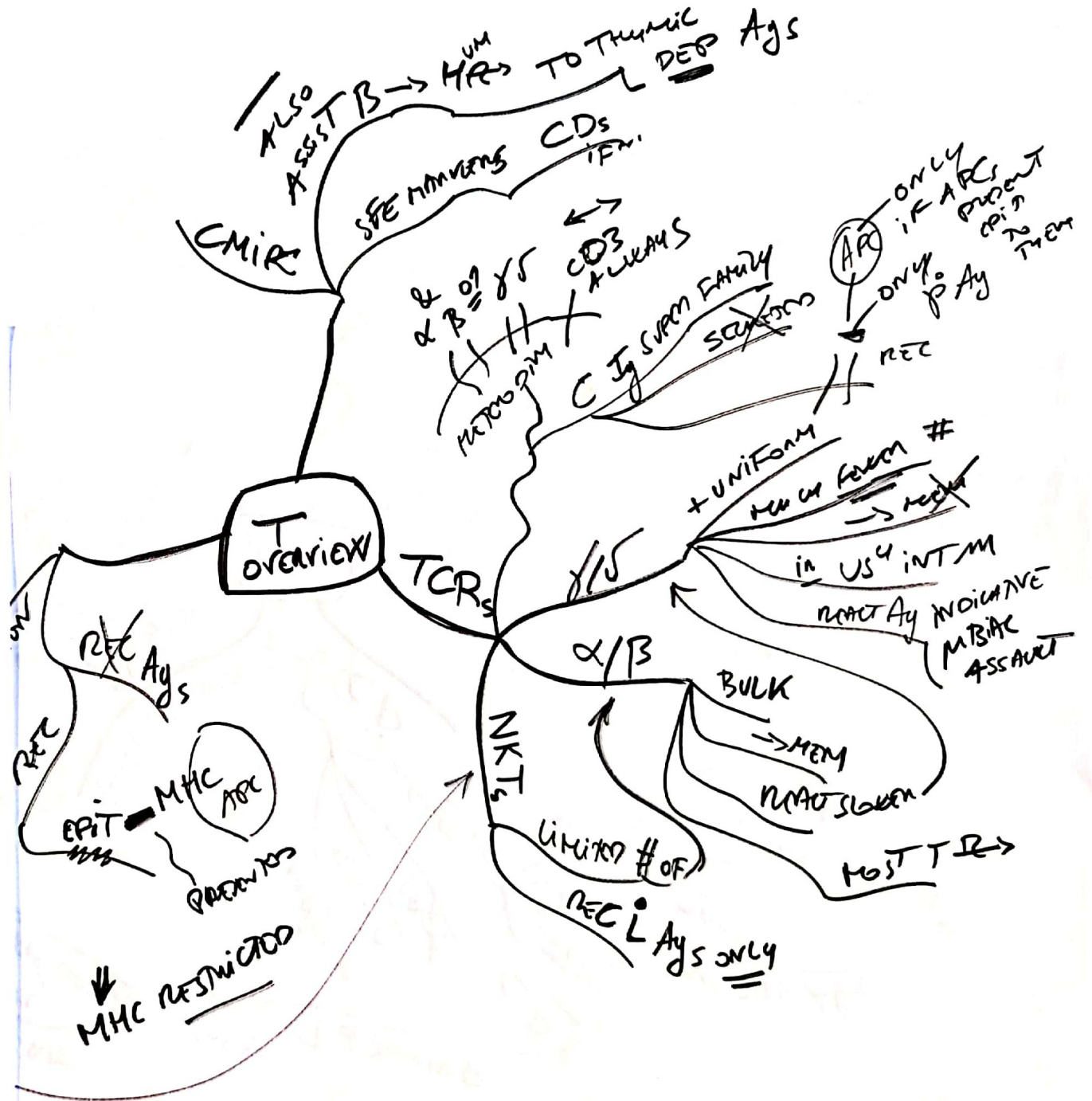
PHAGOC CAN USE
 H₂O₂
 ↓
 ROS

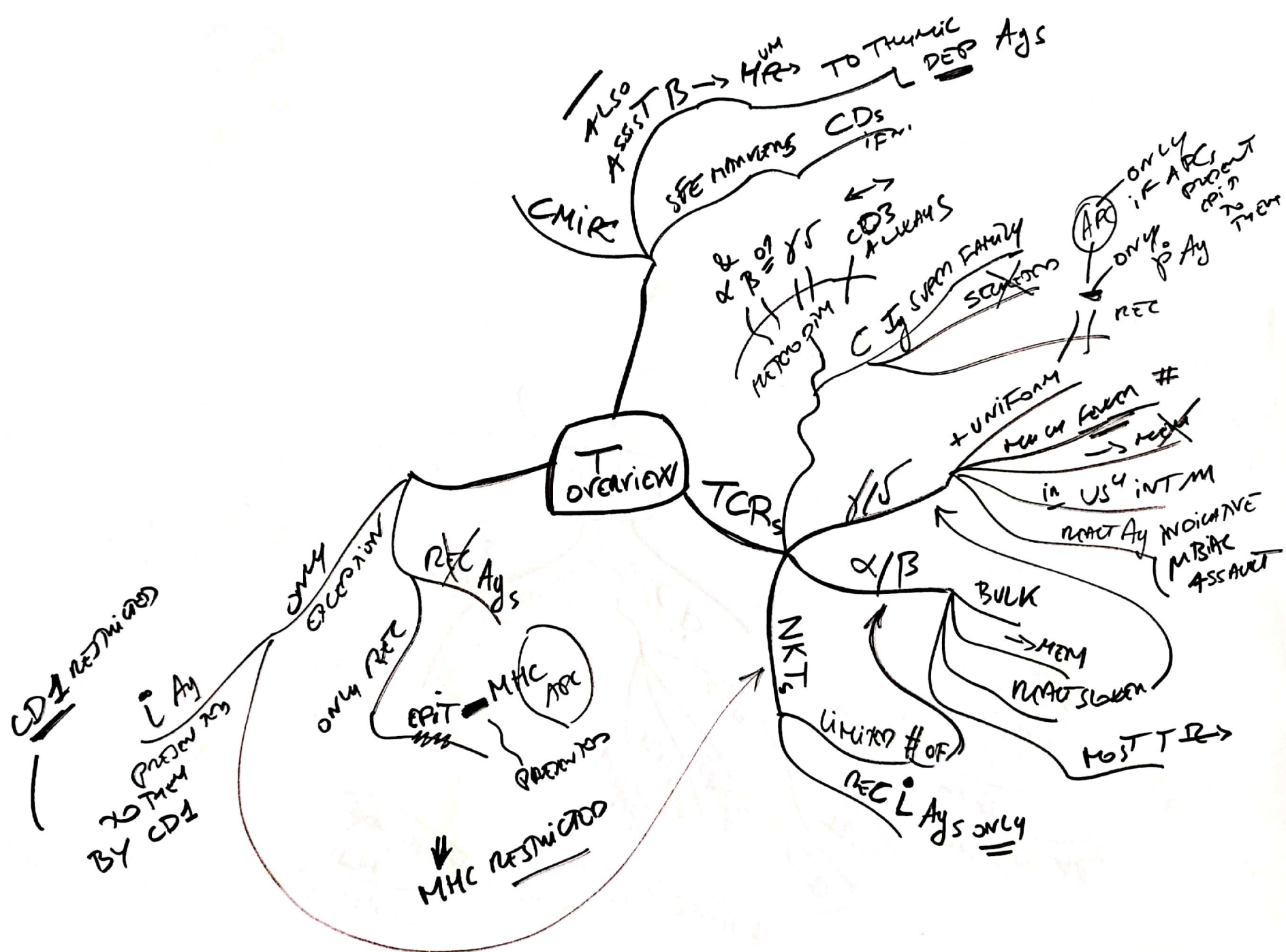
- ① NADPH OXIDASE DEFIC = CGD
- ② SOD
- ③ MPO
- ④ CANT REDUCE
- ⑤ G6PD

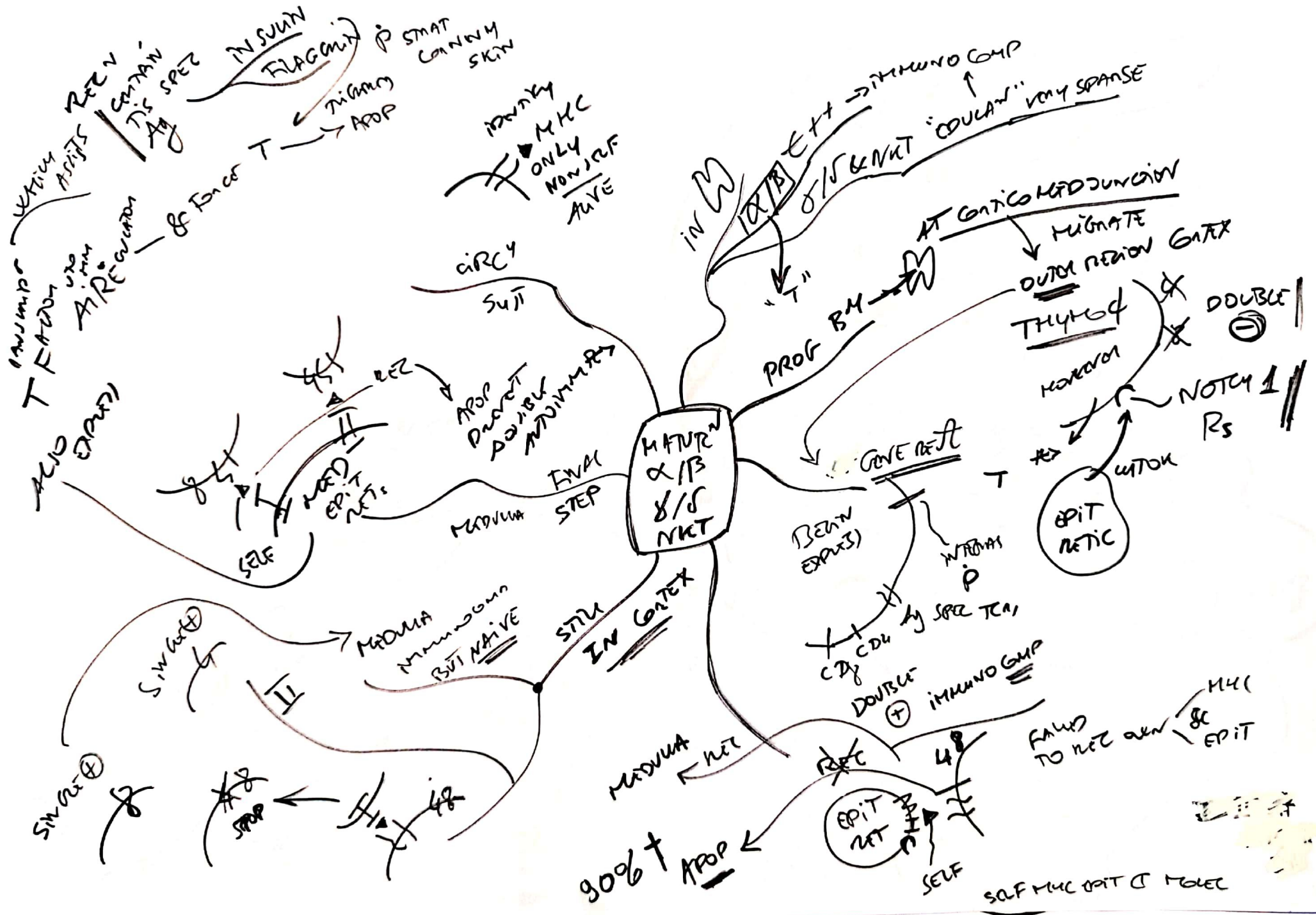


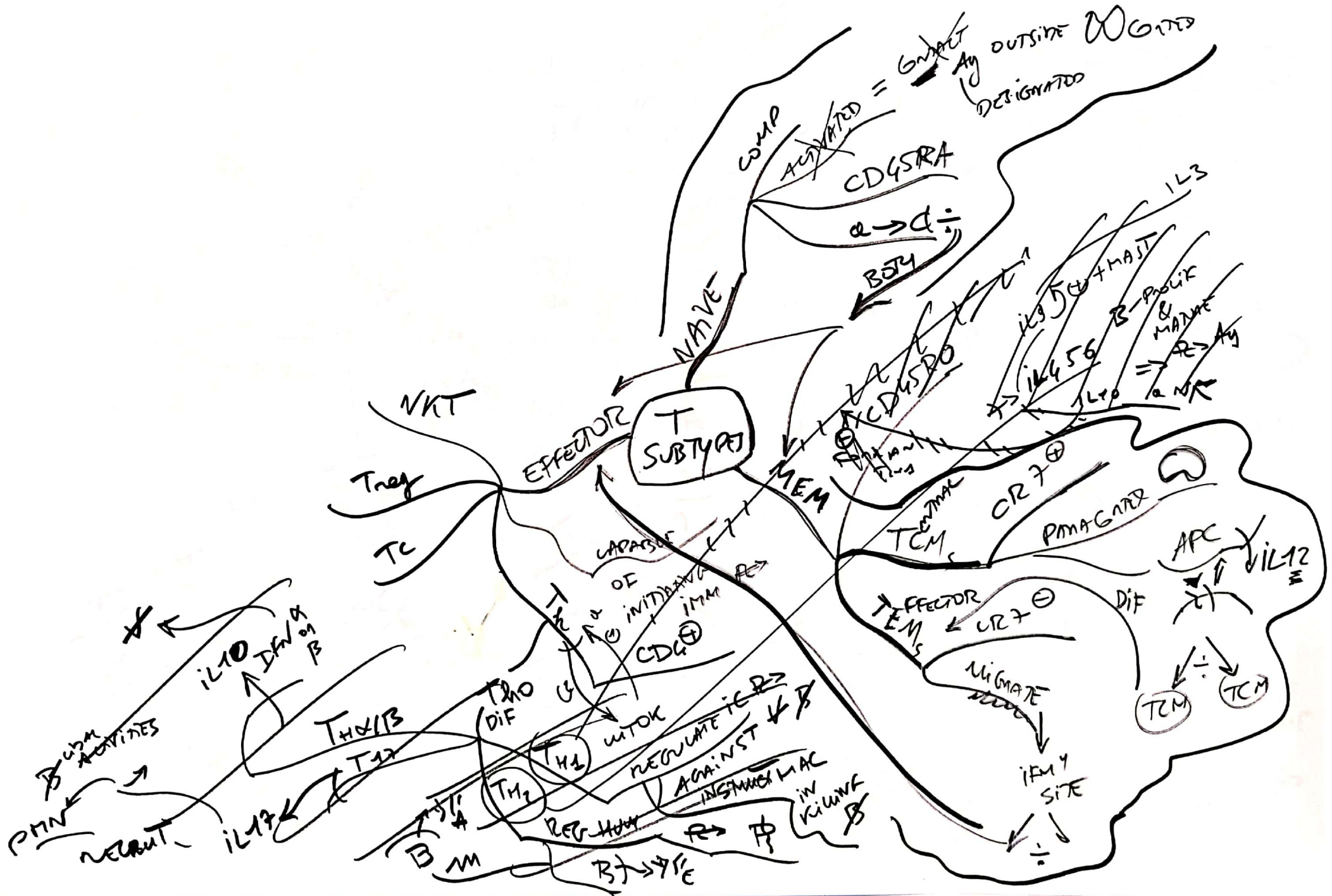
• PYOCYANIN OF PSEUDOMONAS
 ↓ ROS
 TO ↑ GRASPING PGs
 OXIDATIVE BURST ALSO

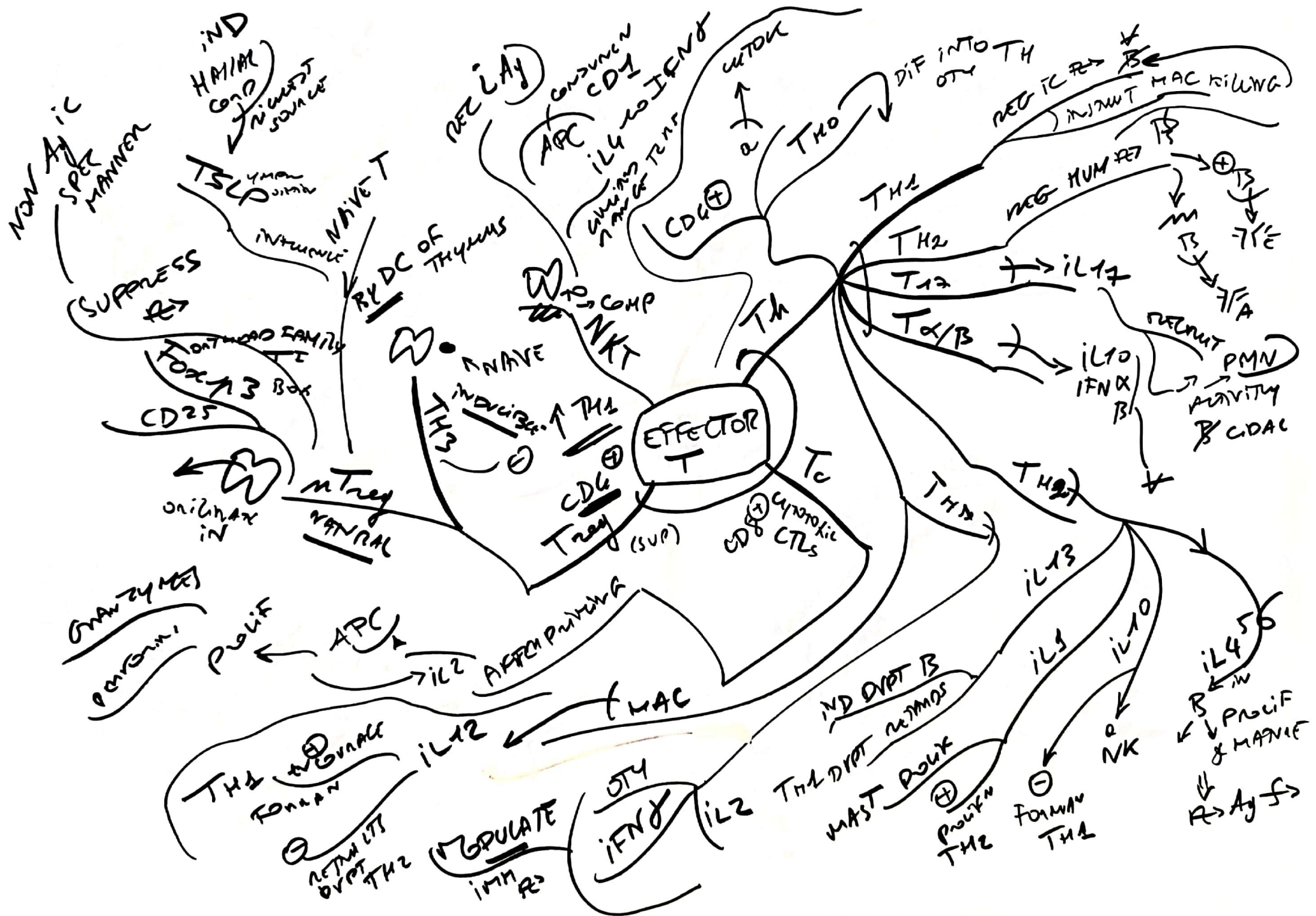
→ NEUTROPHILS EVZ
 - LACTO FERMIN SEEN & N
 → ⊖ MICROS VIA FE CHELATION

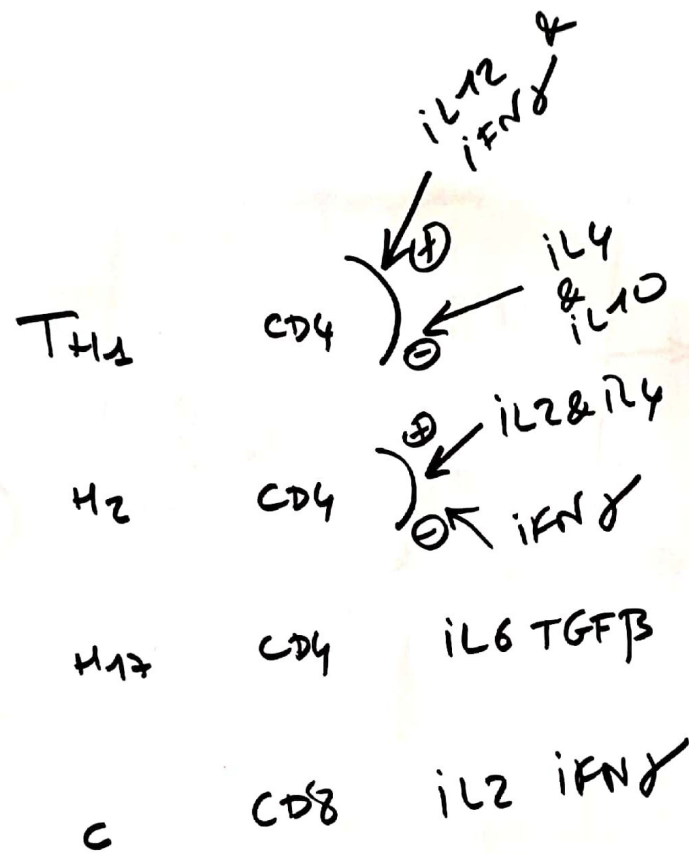








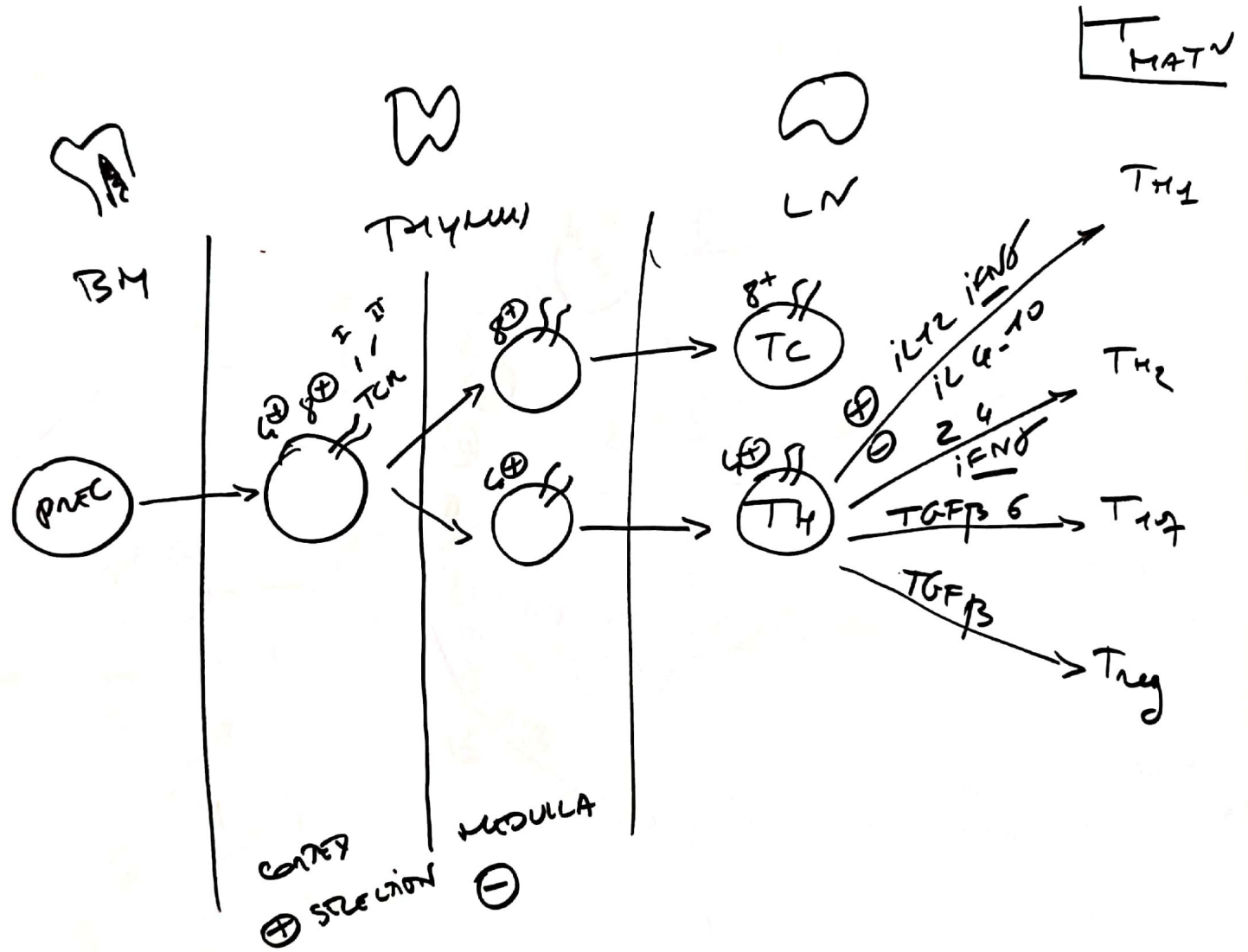




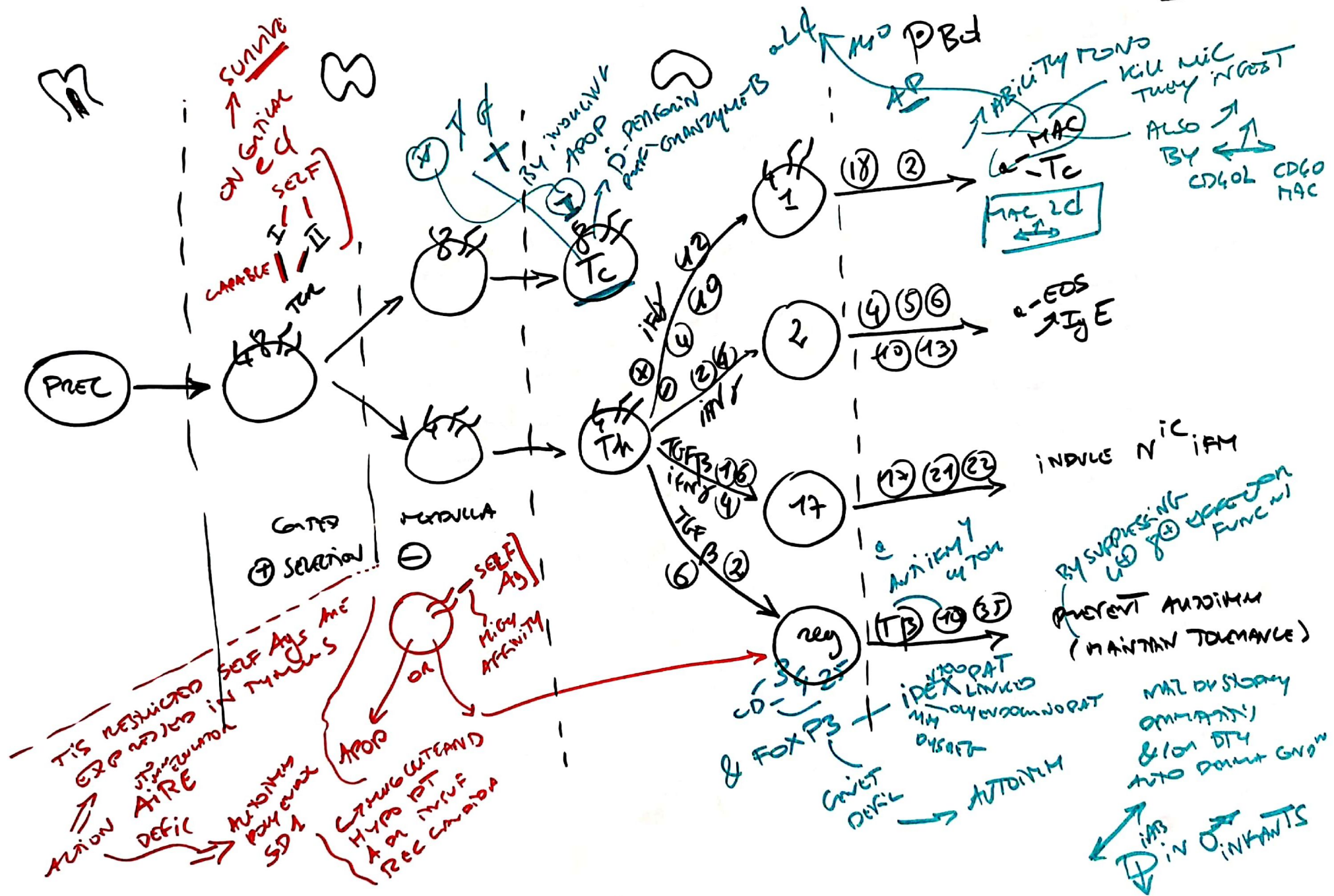
a MAC & TC
 VIA IL2 & IFN γ
 ⊕ Ig producⁿ BY B
 VIA IL4 & IL5

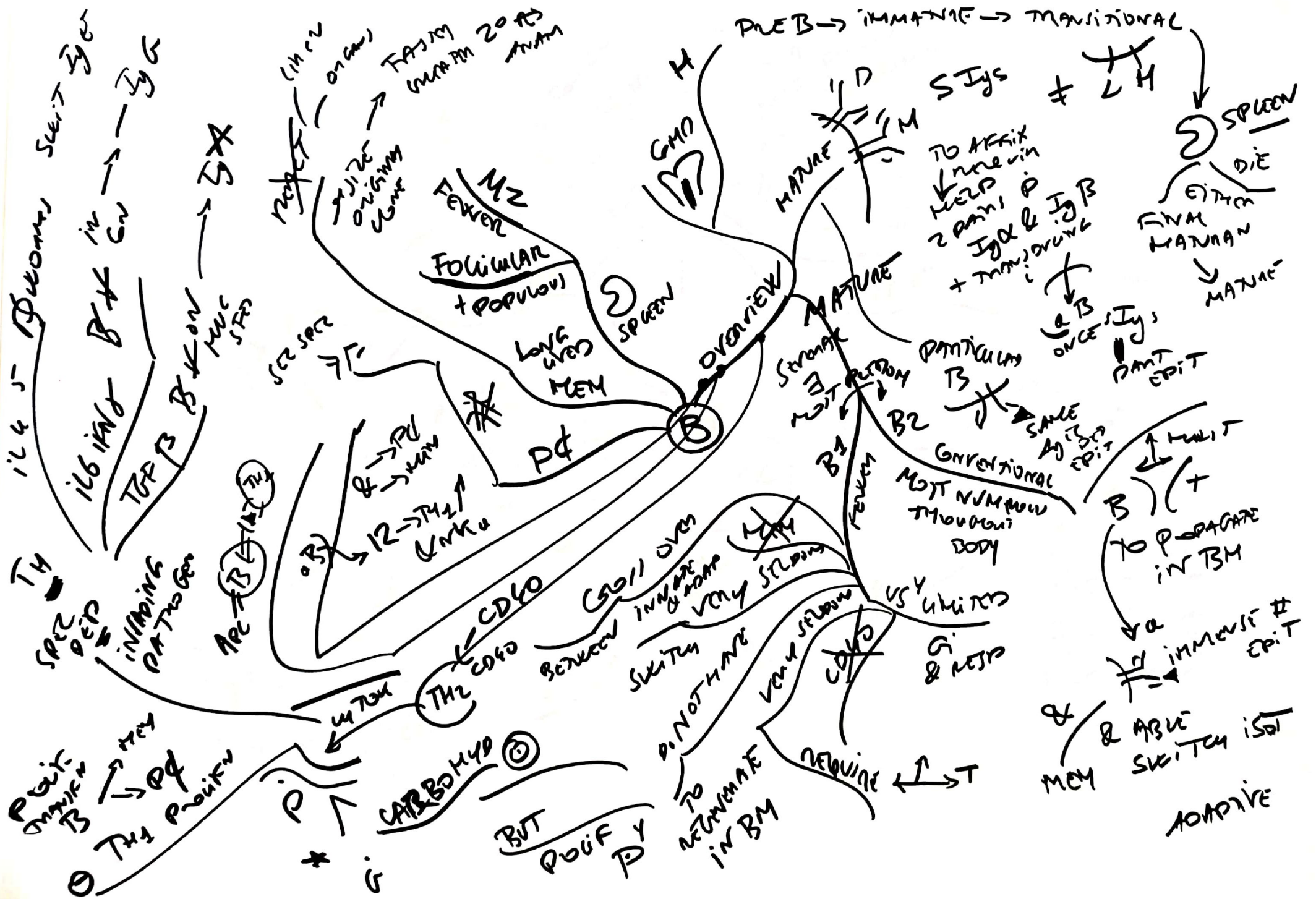
PROMOT N^o IFN
 IN R^o OR B & FUNGⁱ

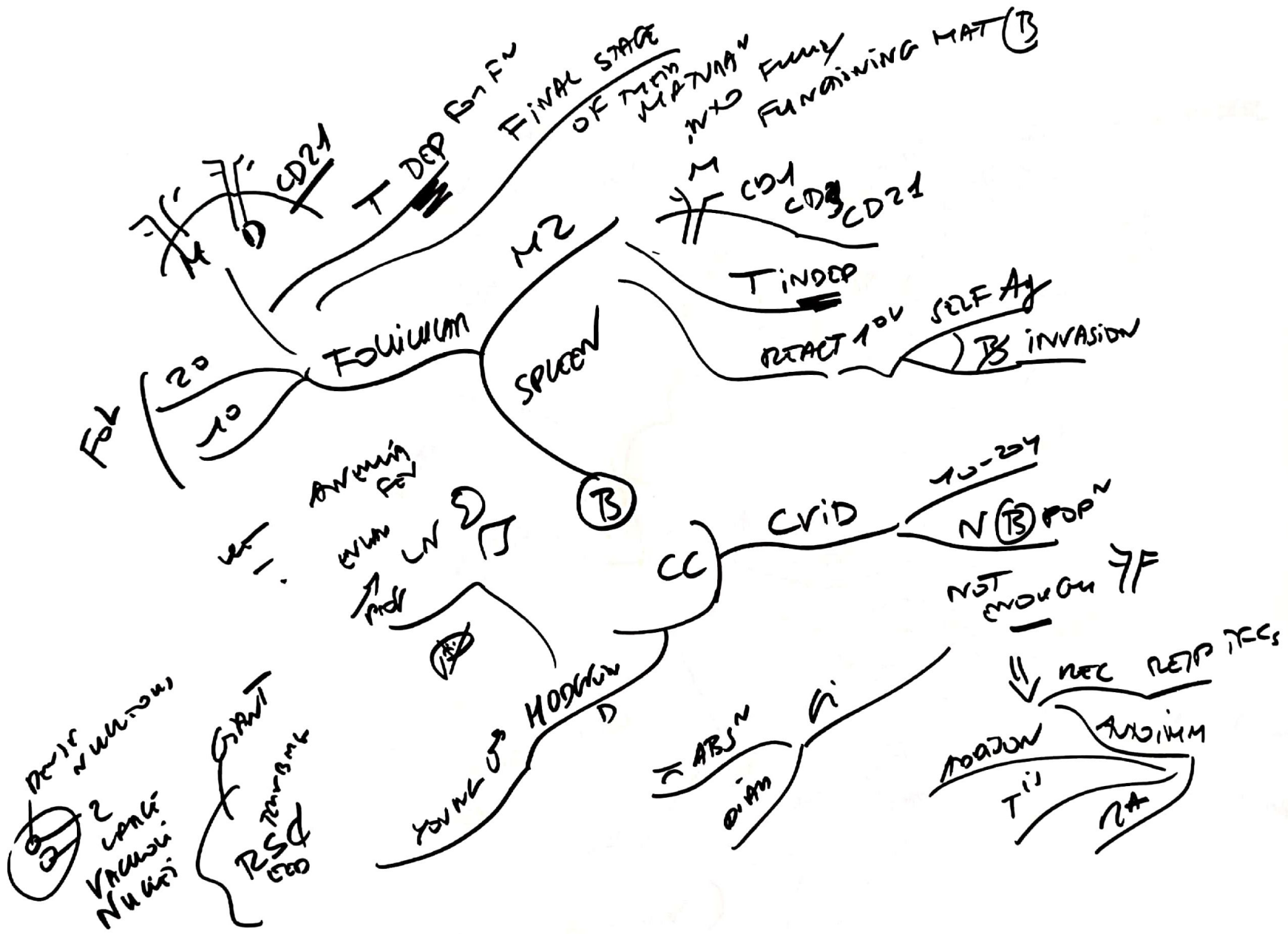
KILL of ife⁻ + on IC B



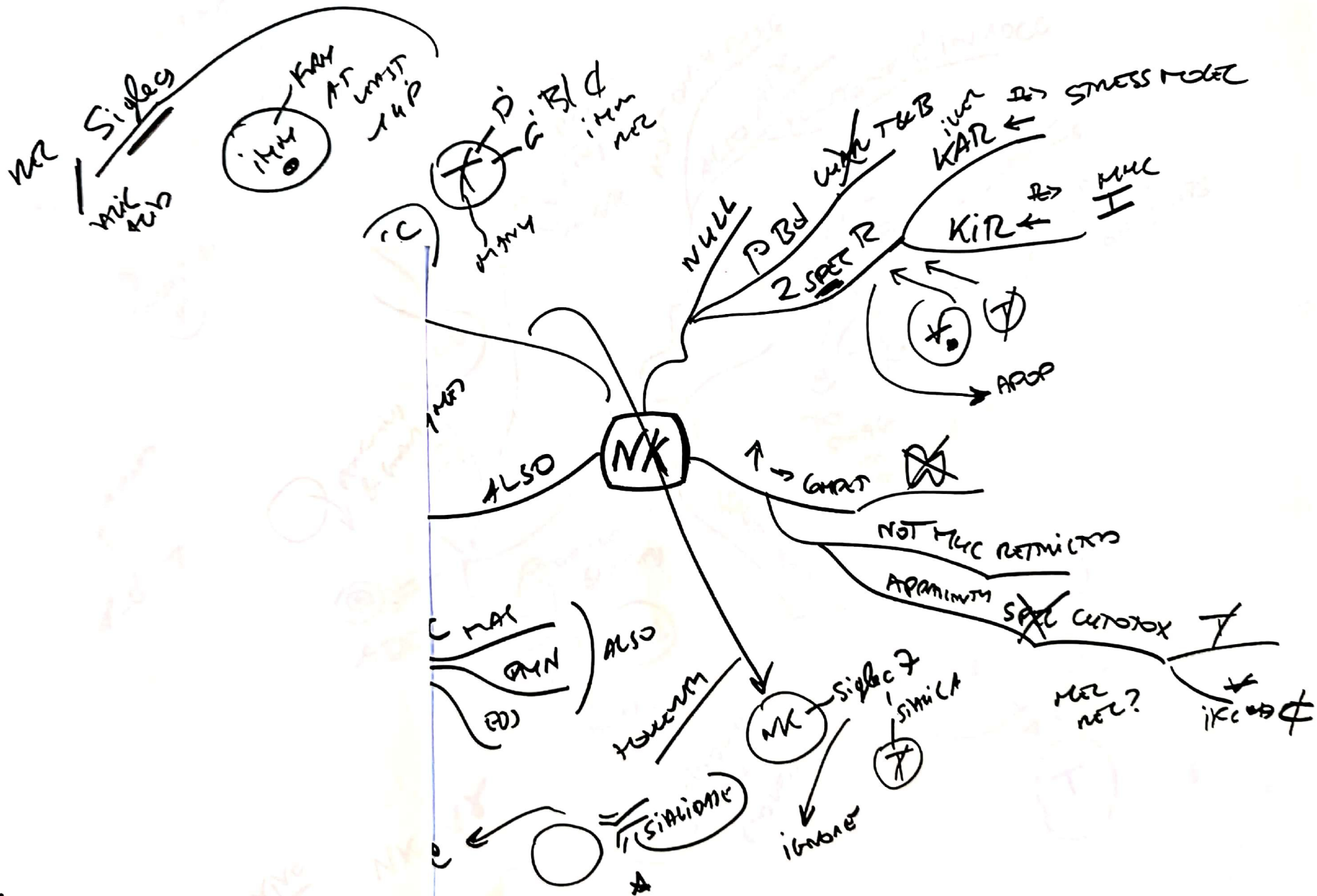
DIFNT

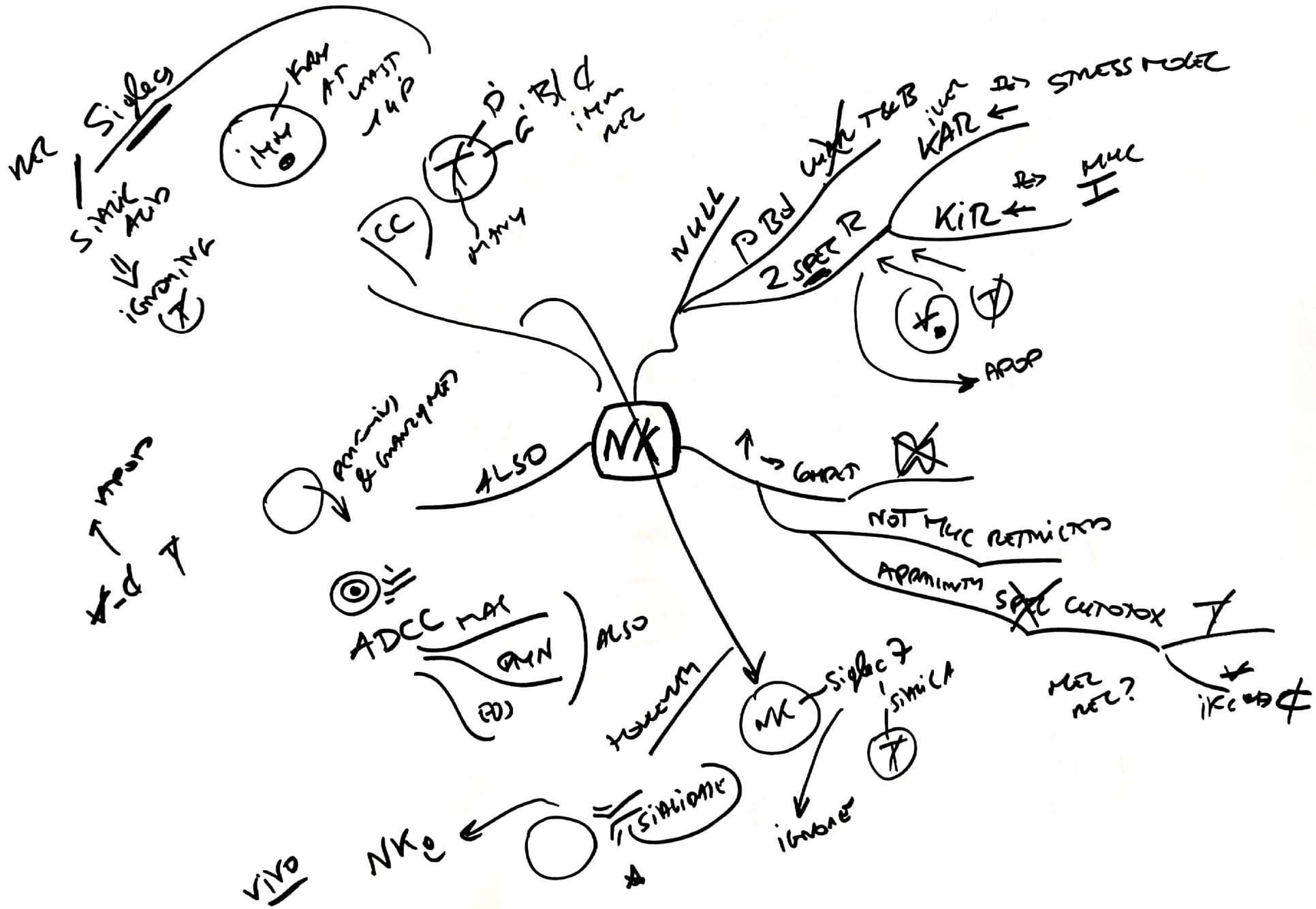




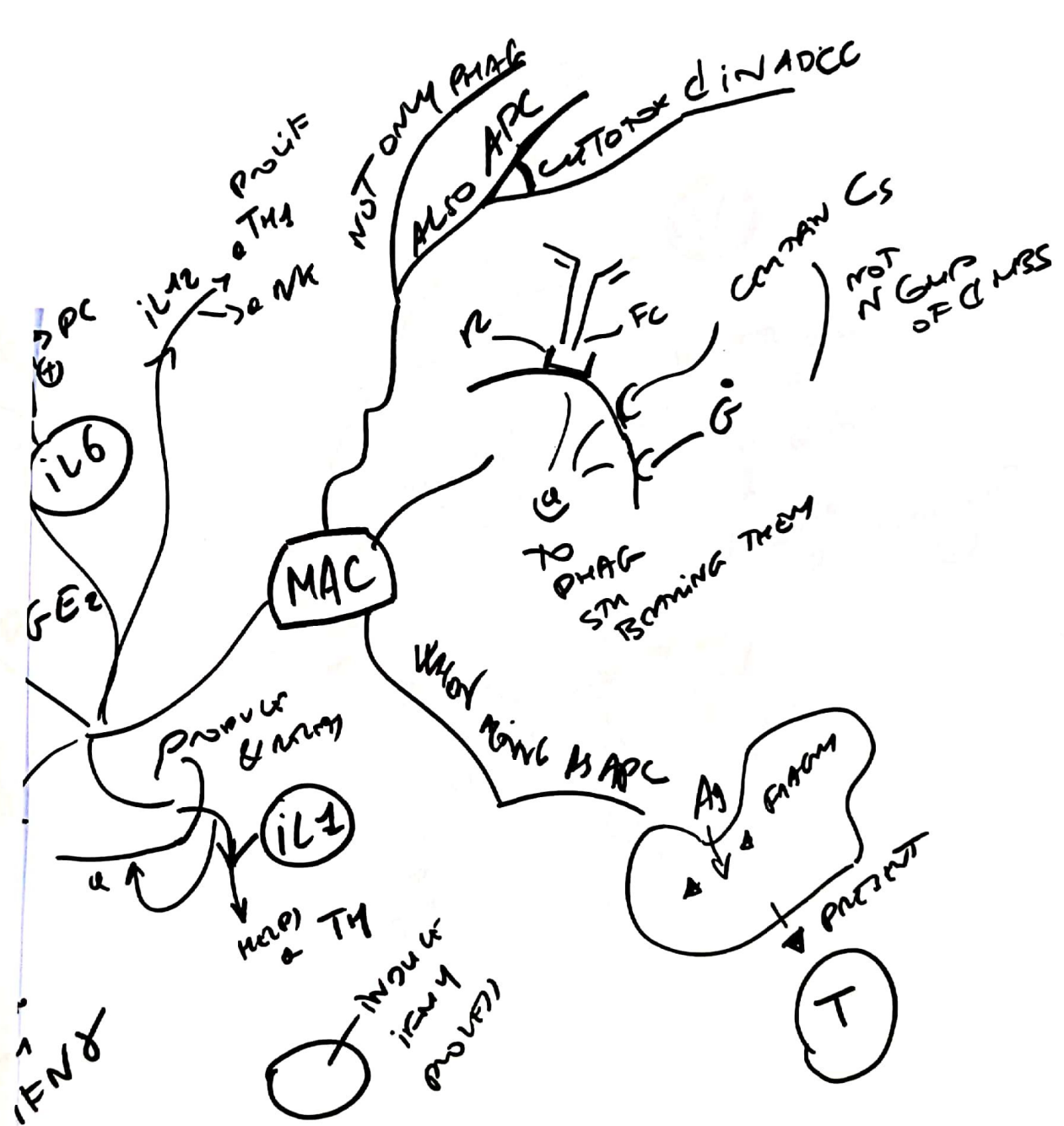


NK



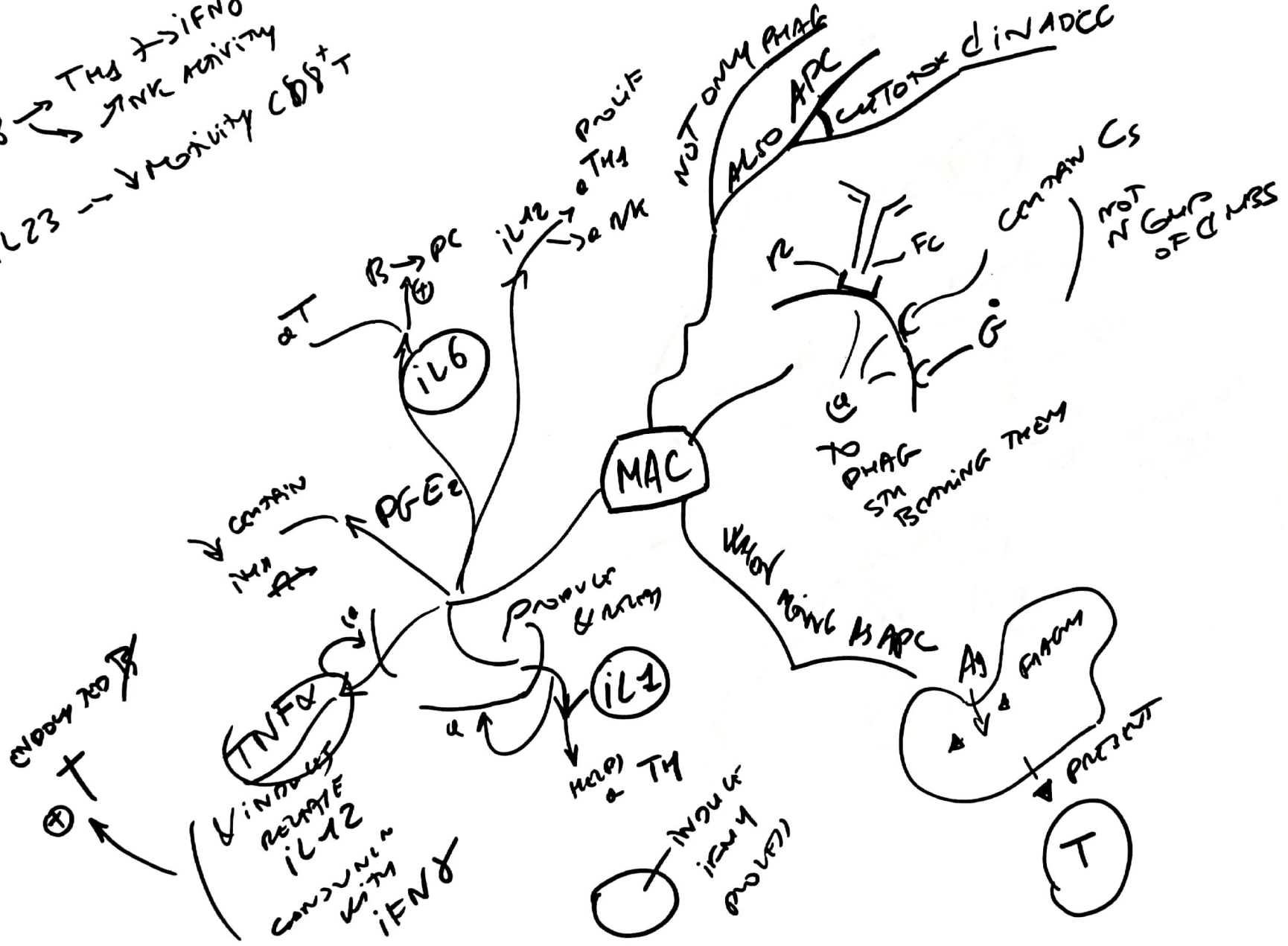


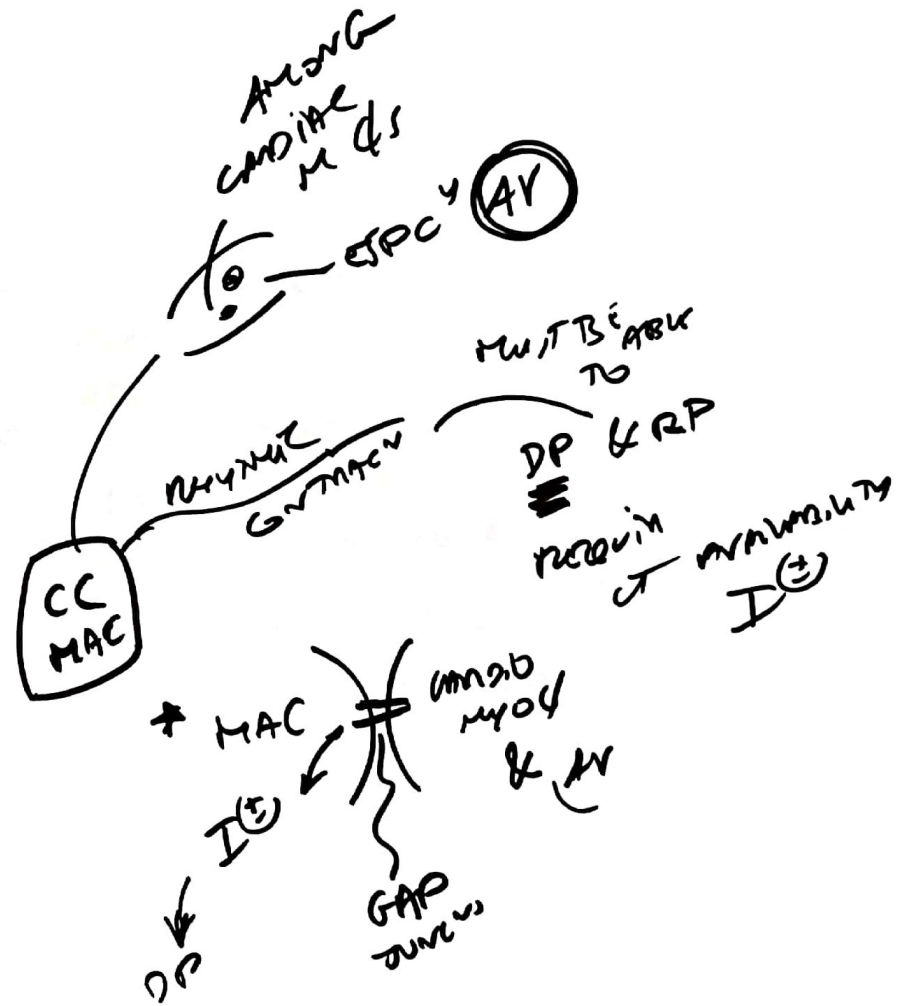
• IL48 → TH3 → IFN γ
 → NK activity
 → ↓ mortality CD8⁺T

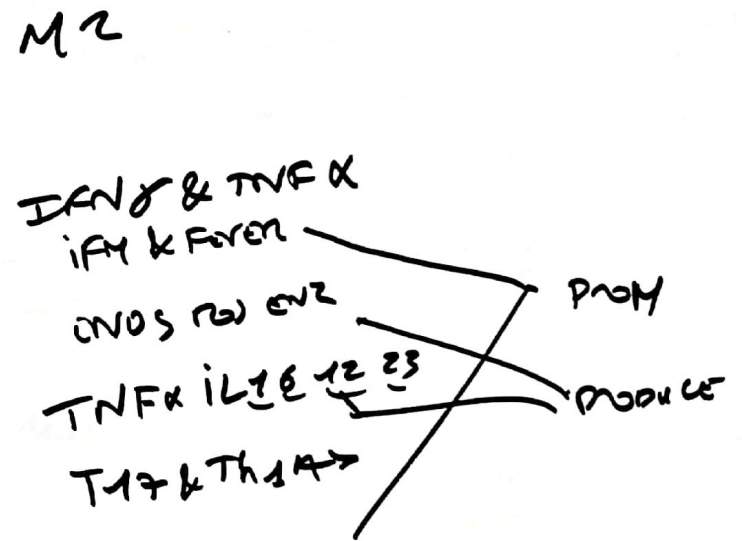
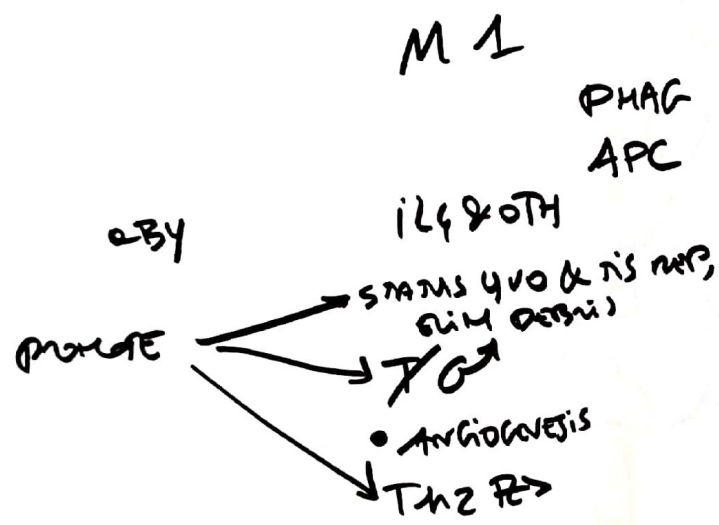


MAC

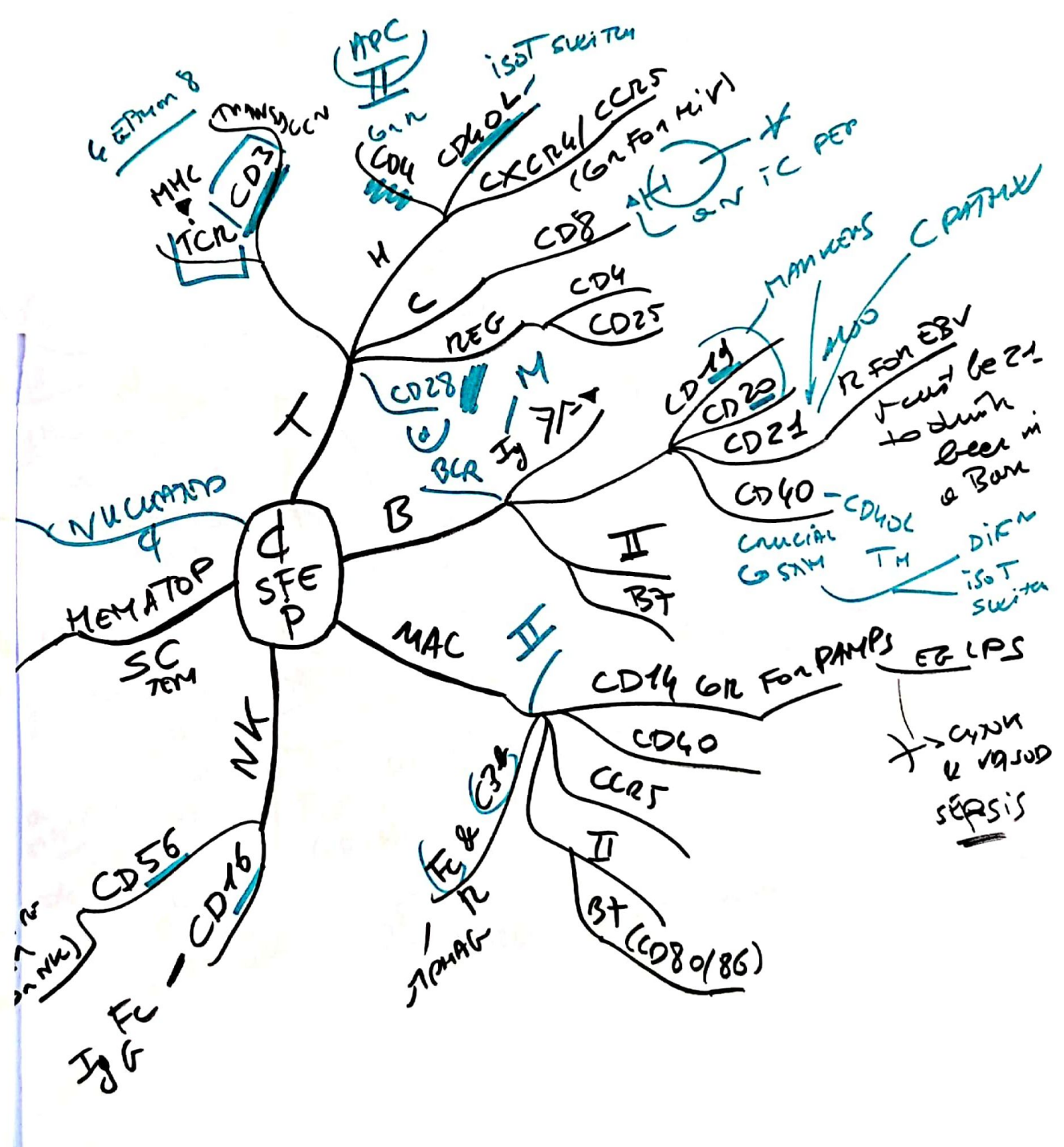
- IL28 → TH3 → IFNγ
- IL23 → TH17 → IFNγ
- IL23 → ↓ MDR1 activity CD8+

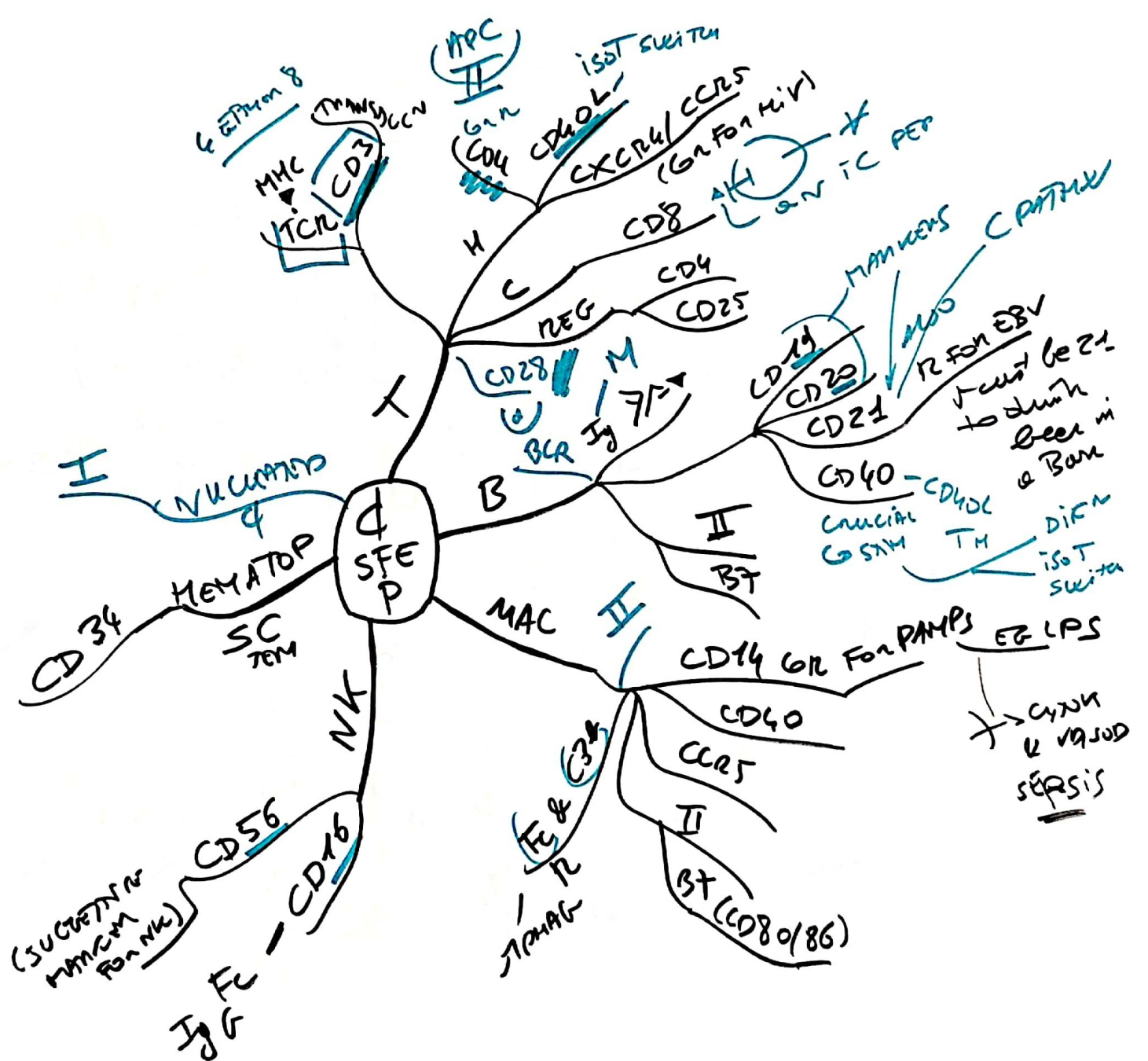


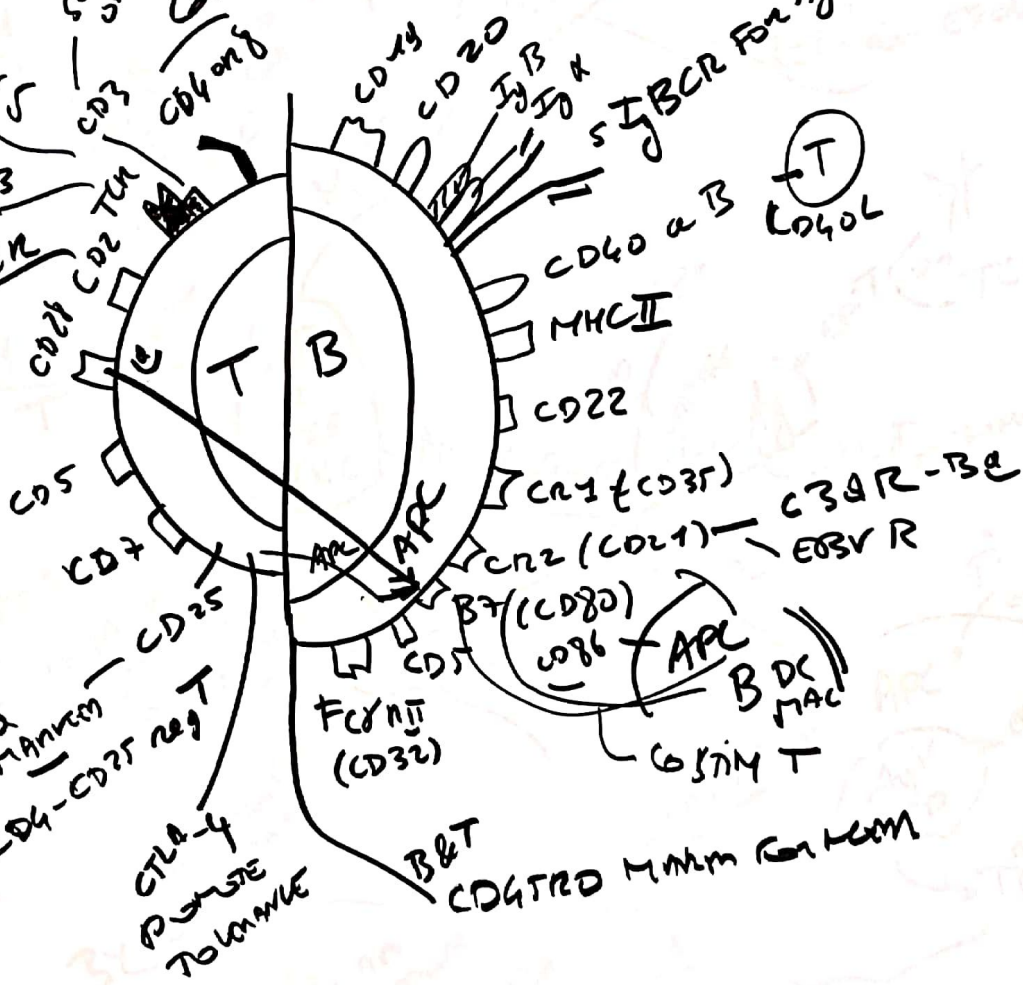
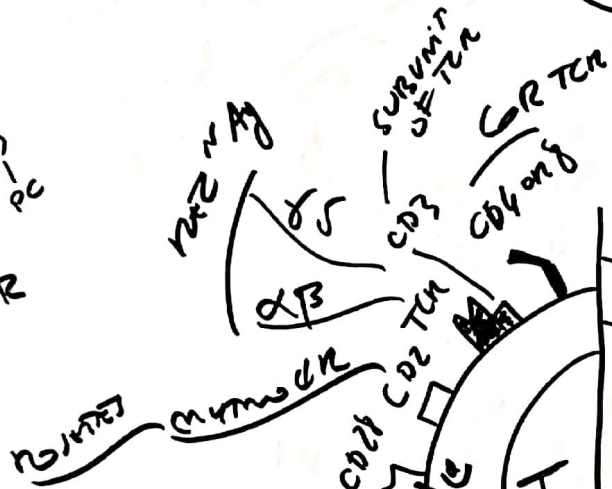
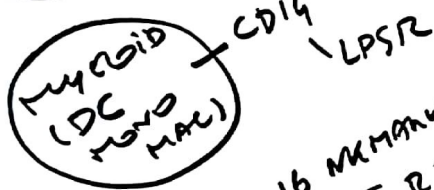
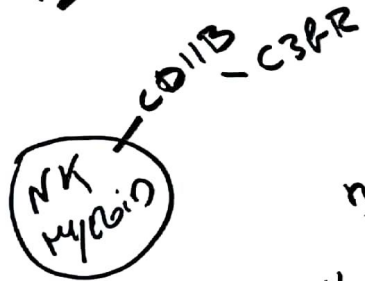
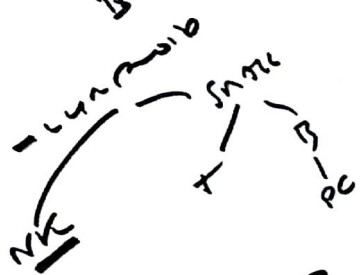




SFEP

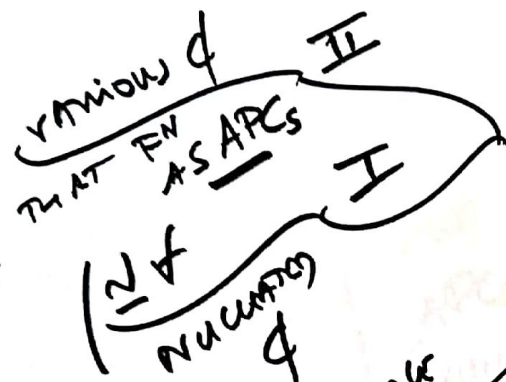








BOTH I & II



VARIOUS q THAT FN AS APCs

NUCLEOTIDES

LINKER CONTAINS MANY GLY

INTEGRAL P

MHC

HUMAN HLA C

I CLASS I HLA

II CLASS II HLA

H α < CD80 P

H β < EPOC

MHC NETWORK

AP & ROLE MHC

IMMUNOGENS

IND COMPARE

C Ag

EPITOPES

TCR

MOST ANT IMMUNOGENS

EPOC

ENDOGENOUS

APPS 2

8-12 AA * SHORT PEPTIDES

BY UNIPOLAR NITRIMINE

ESCAPED WITHIN VESICLE

RELATIVE LENGTH

13-25 AA *

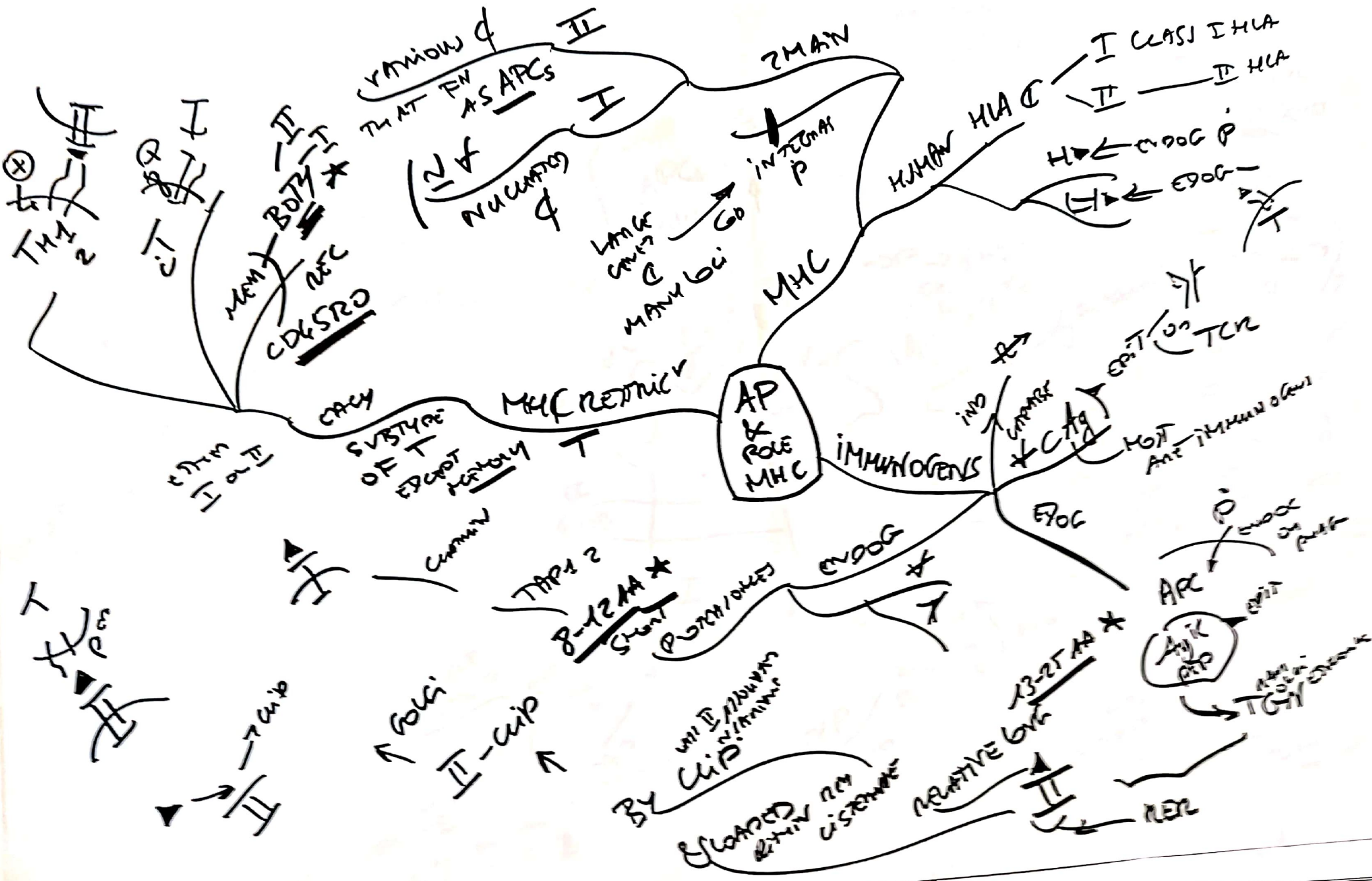
APC

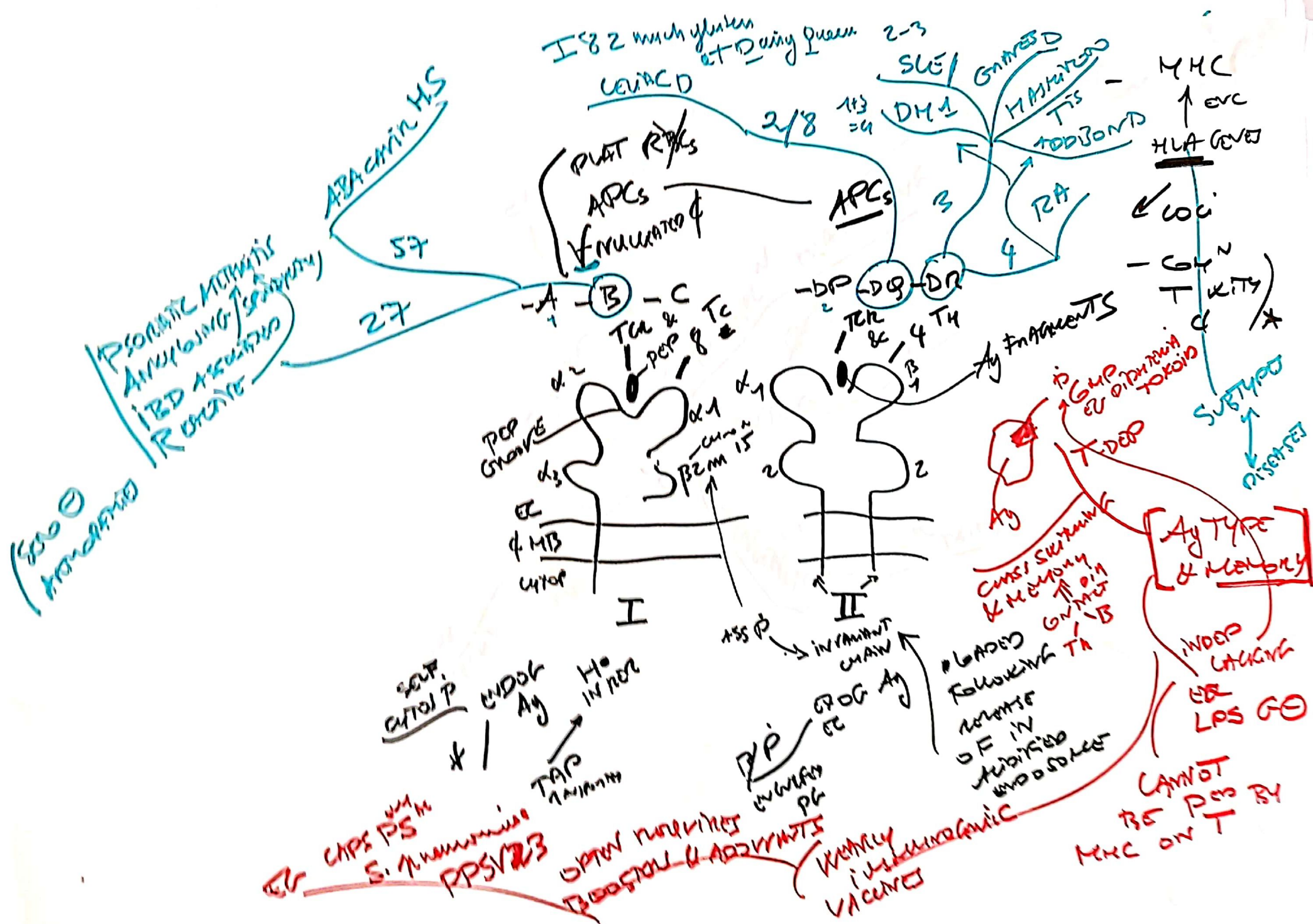
ENDOGENOUS ON PHAG

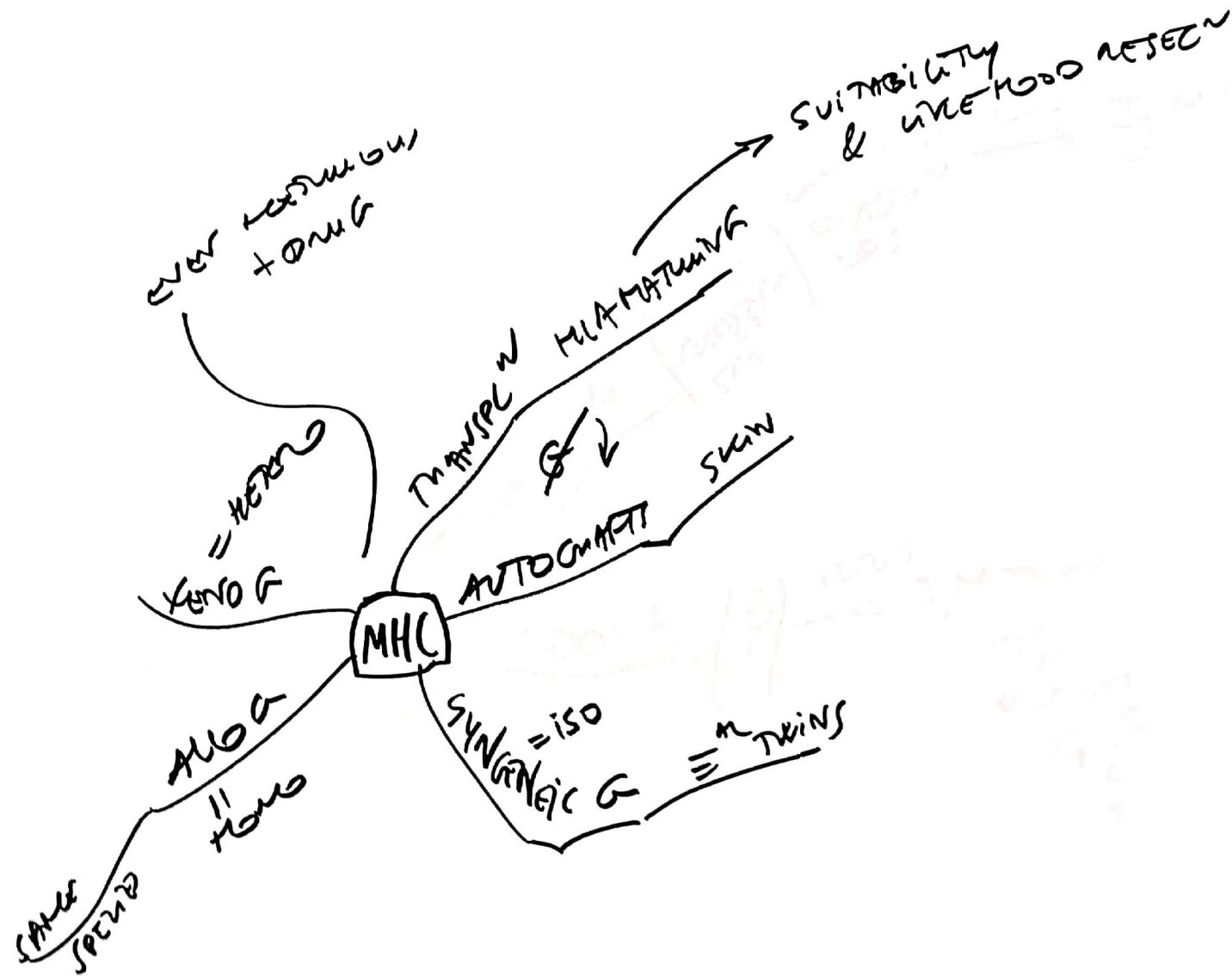
EPIT

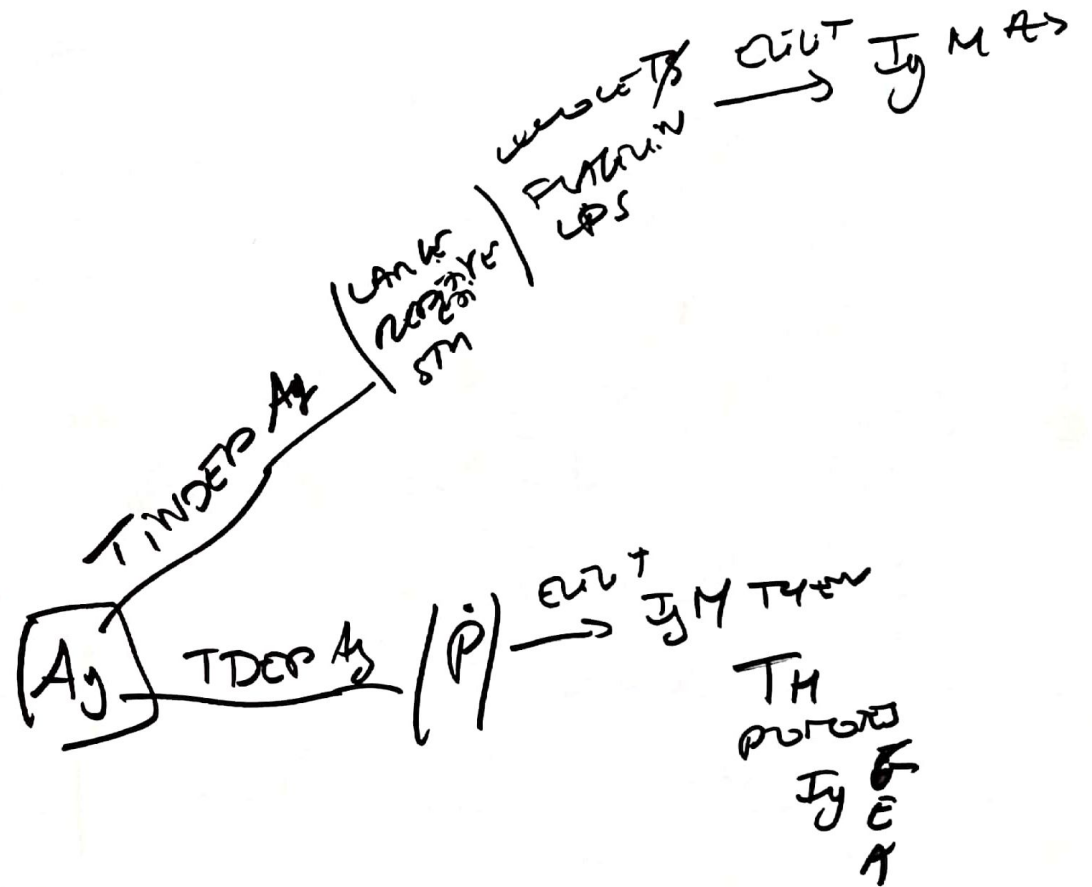
Agic PEP

TGN

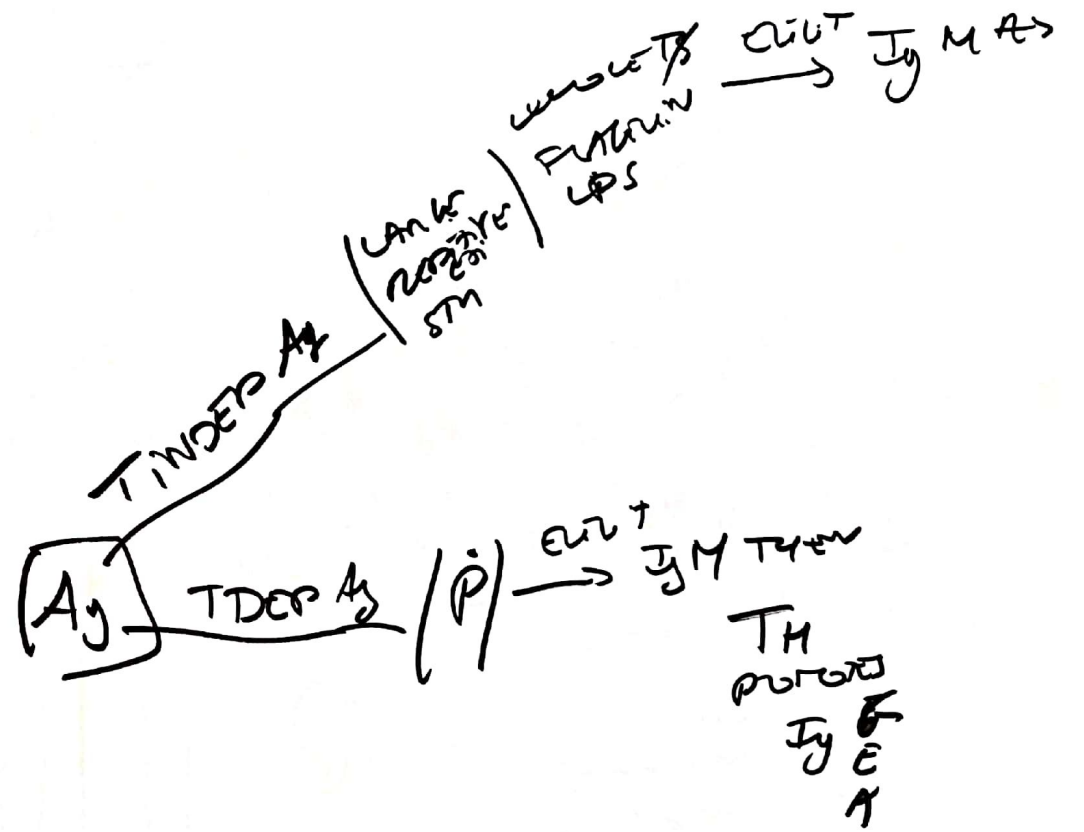


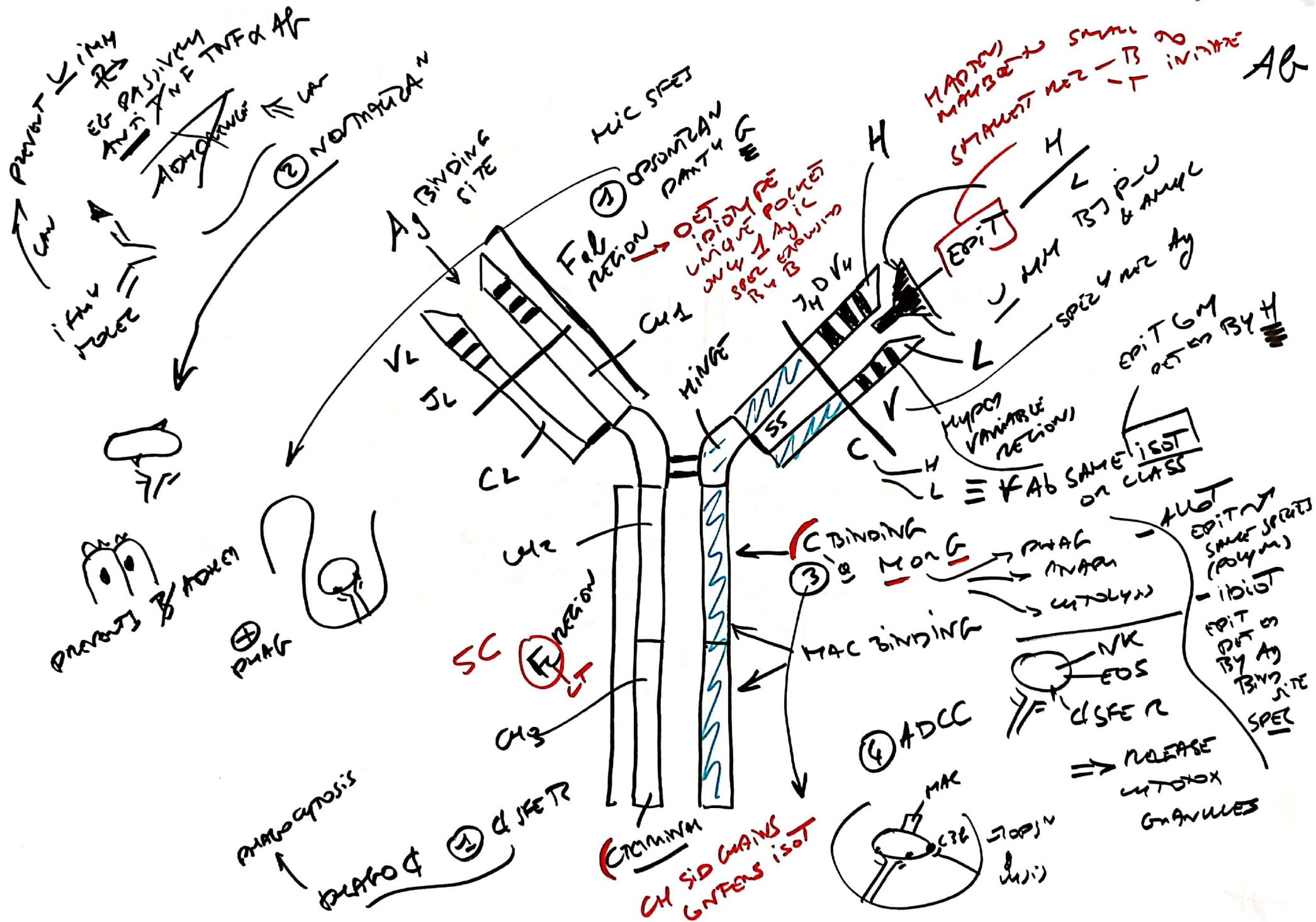






Igs





SOMATIC MUTATION & CLONAL SELECTION OCCUR DURING B CELL PASSAGE → GC

H-VDJ UNUSUAL ENCODING OF GENES → DIVERSE NUMBER

SWITCHING → UNUSUAL ORDER OF H TO = VDJ → M & D ORDER → JUST 1 E.A.

B SELECTION → PD AFFINITY MATURATION

VARIOUS GENES HIGH RATE RANDOM POINT MUTATION HYPERMUTATION

Ab DIVERSITY

SOMATIC REP VJ OR VDJ GENES

GENETIC REC

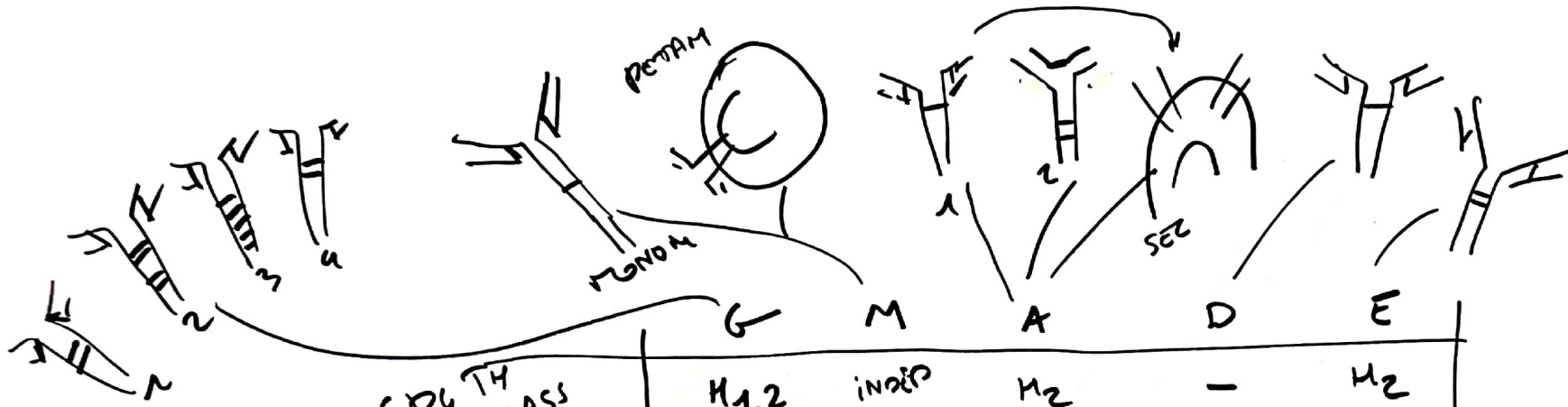
RANDOM REC

EX SPLICE H & L MUST COMBINE → FUNCTIONAL Ab

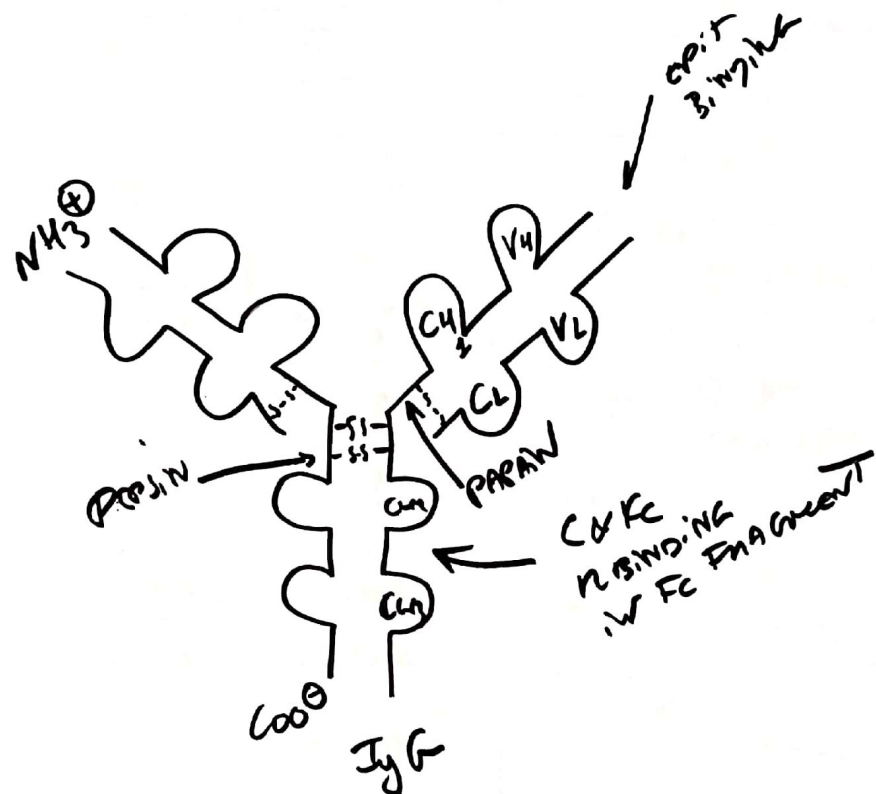
EXONS CAN DIFFER SPLICED TOGETHER → COMBINATORIAL DIVERSITY

SEGMENTS DNA CUT OUT

DURING REPAIR STRAND BACKS → Td Tn → ADDS NT TO STICKY ENDS OF DNA STRANDS



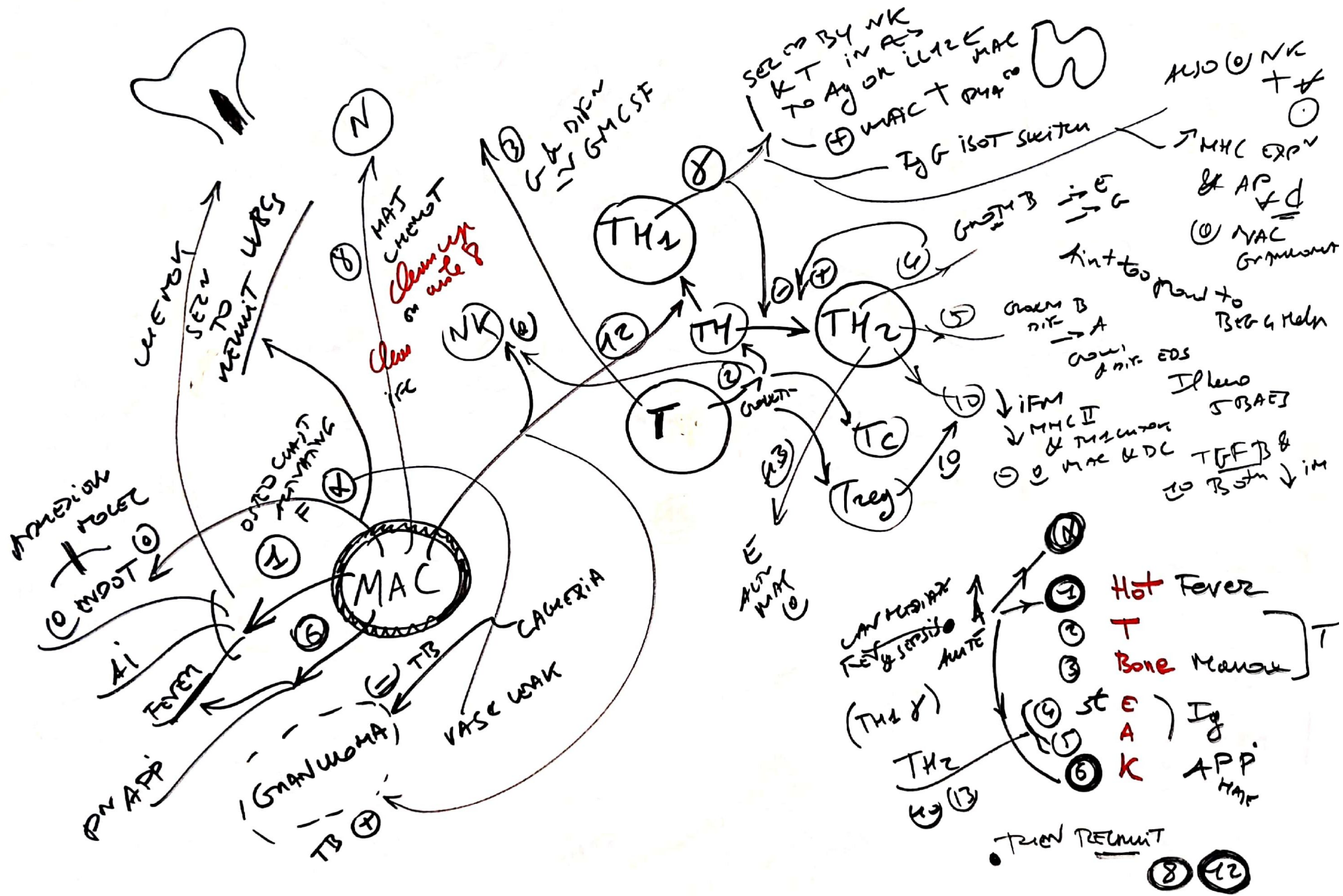
	G	M	A	D	E
CD4 TH SUBCLASS	H _{1,2}	INDIP	H ₂	-	H ₂
TOTAL Ig %	85	5-10	5-15	21	22
MR KDa	154	300	160 (dim)	185	190
HUMAN CLASS	γ	μ	α	δ	ε
SUBCLASS	γ ₁₋₂₋₃₋₄	-	1-2	-	-
SE 1/2 LIFE (DAYS)	23	5	6	2-3	2-3
PRINCIPAL AC ^N	SEPTIS	SE	SEC ^N	RFB/B	MAST
BIO ⇒	OPS, 2000	PROLIFIN 10	PROTEIN MAC MBS	B ₂	ANAPH
C FIX ^N	+++	+++	+	-	-
OPSON - MAC PHN	+				
MAC SEC ^N	-	-	+	-	-
CROSSING PLACENTA	+	-	-	-	-

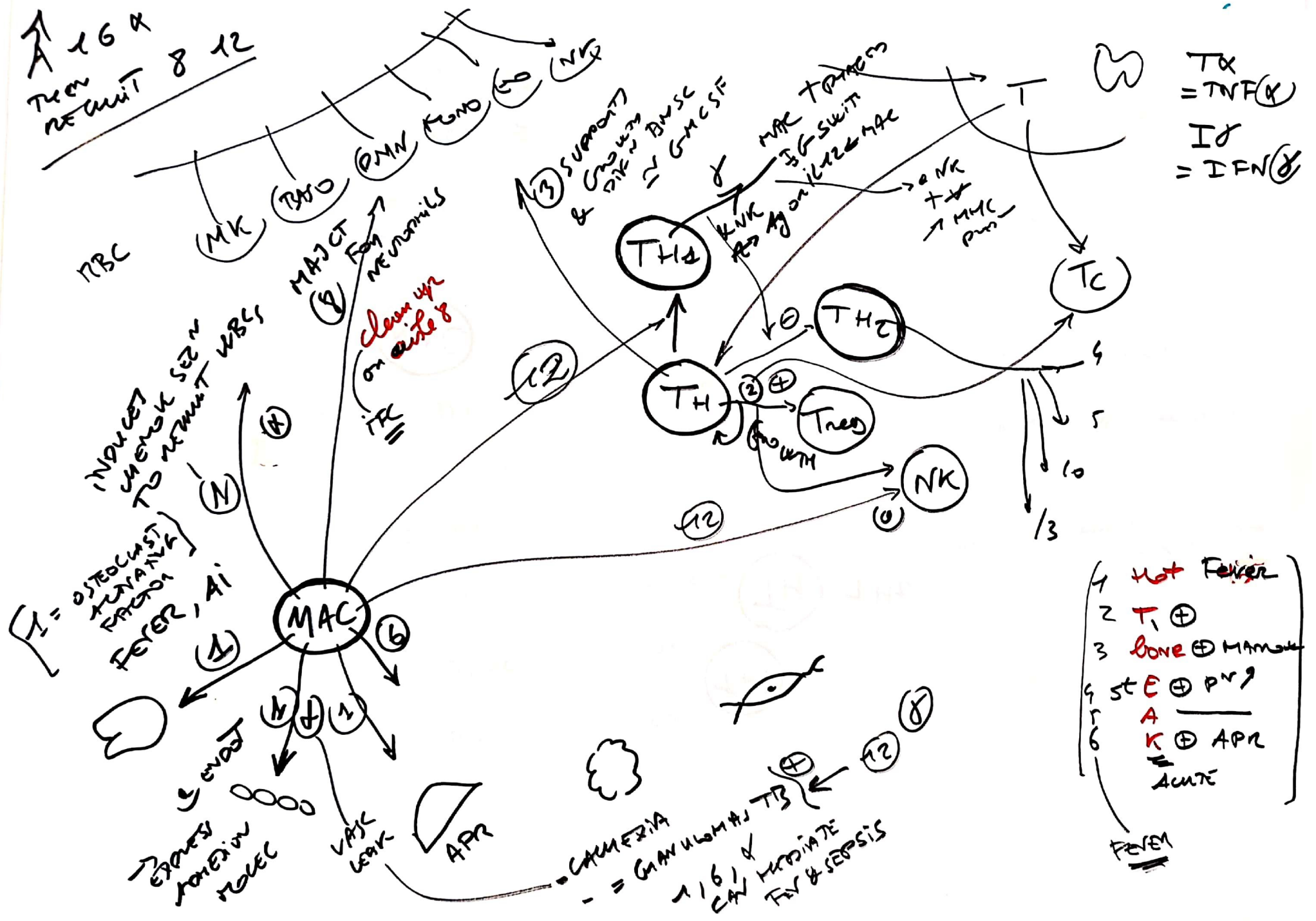


$T \times T B$	MAC αT	T MAC	αT MAC
2	H ₁	$\alpha T B$	IND \div $\alpha T \& B$
4	H ₂	B	IND B, B \rightarrow IND ISOTSWIT M \rightarrow $\frac{G}{E}$
5	H ₂	B	IND MAC B MAT B
	APC H ₂	T & B	αT , IND B \rightarrow PD \rightarrow $\frac{G}{E}$
	H ₂	H ₁	$\ominus \uparrow$ TH ₁ RETAINS ACTIVITY MANUF LYTOX
	B MAC	NK, T	\ominus NK, \oplus TH ₂ LYTOX
	MAC	H ₁ NK	H ₁ \rightarrow IFN γ NK ACTIVITY
	MAC	CD8 ⁺ T	\downarrow ACTIVITY
	MAC TH ₁	MAC α MAC	SELF \rightarrow IL12 ON B + (IND) α MAC
	\downarrow ACTIVITY	NK MAC	) α MAC NK
	\downarrow ACTIVITY	NK MAC	
	H ₁	MAC T	αT IND MAC BY α MAC

LYTOX

1x 1B	MAC αT	T MAC	αT MAC
2	H ₁	αT B	IND \div αT & B
4	H ₂	B	— B, B \rightarrow IF ISOTSWIT M \rightarrow E
5	H ₂	B	— NK/B MAT B —
6	APC H ₂	T & B	αT , IND B \rightarrow PD \rightarrow 9/6
10	H ₂	H ₁	\ominus \uparrow TH ₁ ACTIVATES ARILITY MANUF LYTOX
12	B MAC	NK, T	\ominus NK, \oplus TH ₂ UK \bar{c} d
18	MAC	H ₁ NK	H ₁ \rightarrow IFN γ NK MOVIM
23	MAC	CD8 ⁺ T	\downarrow COINITY
TNF α	MAC TH ₁	MAC α MAC	SELF \rightarrow IL12 ON B + (VDD) α MAC
IFN α	\times A PAKUM	NK MAC	) α MAC NK
IFN β	\checkmark A PAKUM	NK MAC	
IFN γ	H ₁	MAC T	αT POM PAK BY JAL





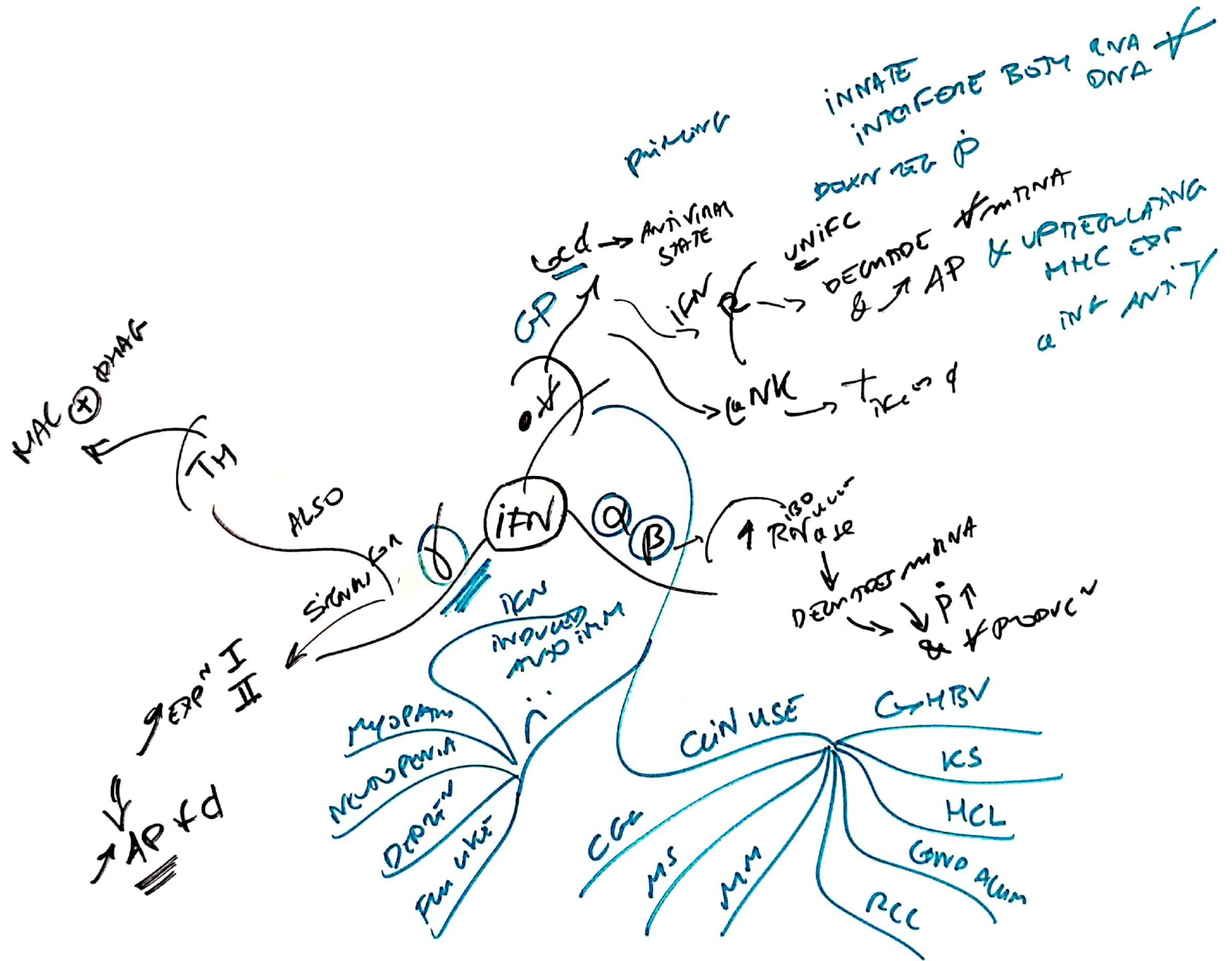
ILS
 IFNS (X)
 TNFS (X)
 (TGF (B))

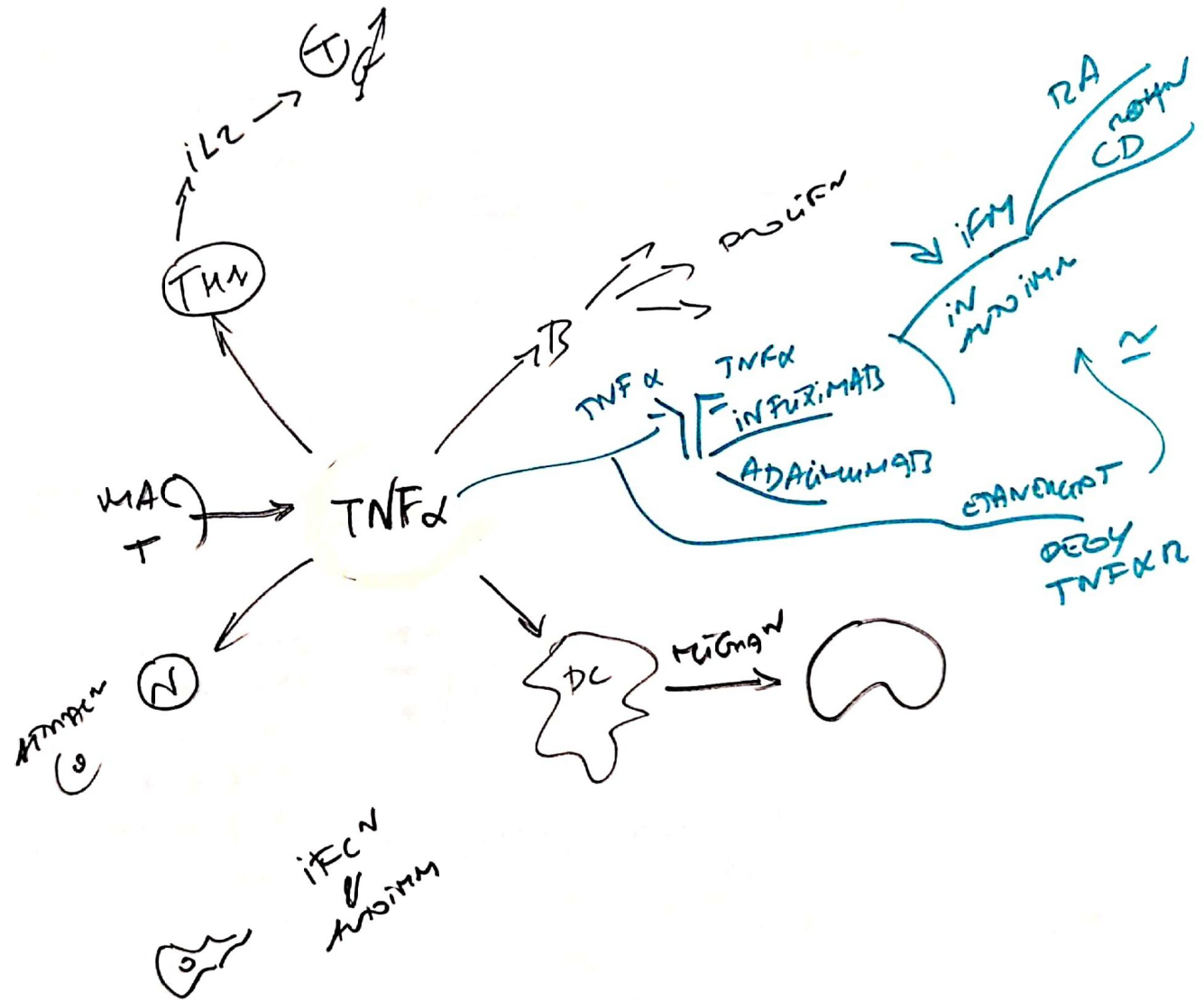
ser
 1 MAC →
 2 TH
 3 aT
 4 TH2
 5 TH2
 6 TH MAC
 8 MAC
 10 TH2
 12 B MAC
 13 TH2

RESULT IN
 B T N Fib e d
 TH Tc
 BM SC
 B
 B eos
 B
 N
 TH2 & TH2
 NK TH2
 eos

GET DITV END OF PYNOC
 PN APP
 GET
 GET & DIFV
 GET E → G
 DIFV / @ eos → A
 PN APP & → / - END OF PYN
 CT
 TURNS OFF IMM RE
 MOPS ATTITUDE AS TO
 PREVENT
 AUTOMAT

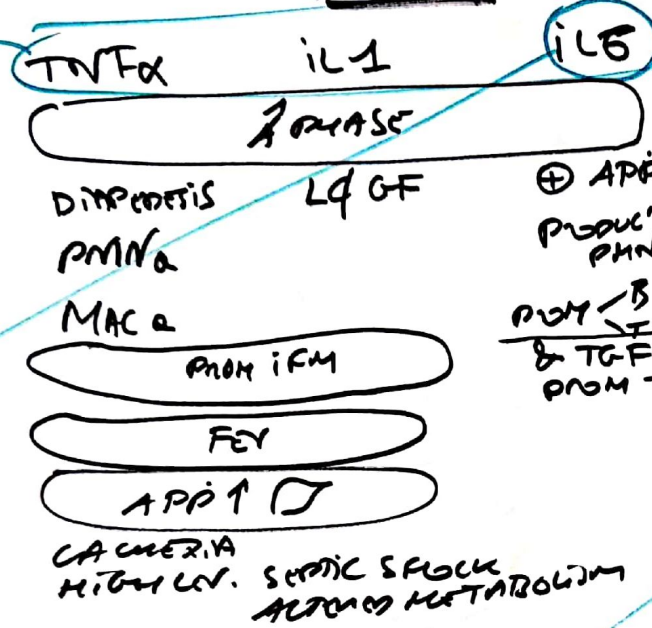
⊙
 ⊙ eos





INNATE

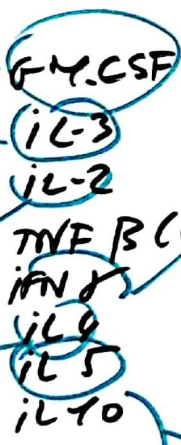
MEM APP



α & NEIN FORGET
LOC IFM →

MEM APP FL

IL7
IL17
M-CSF
Set-3 L



	M1	M2	M17	reg
GM-CSF	+++	+++	++	) GF
IL-3	++	++	++	
IL-2	+++	) L4 GF		
TNFβ (LT)	+++	) IFM		
IFNγ	+++	) MACα, CD8T, can swim IgG		
IL6	+++	) GF CS FcR		
IL5	+++	) CS FcR		
IL10	+++	) REF IFM, BCGF		
TGFβ	+++	) REF Tα;		

IL7
L4
Go

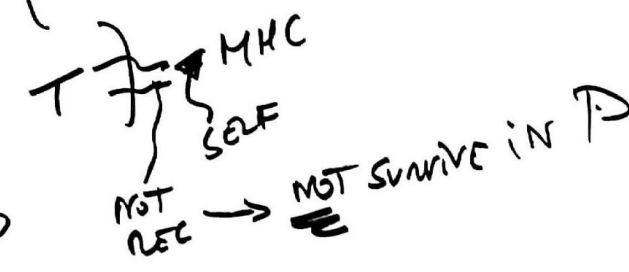
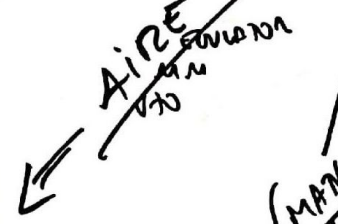
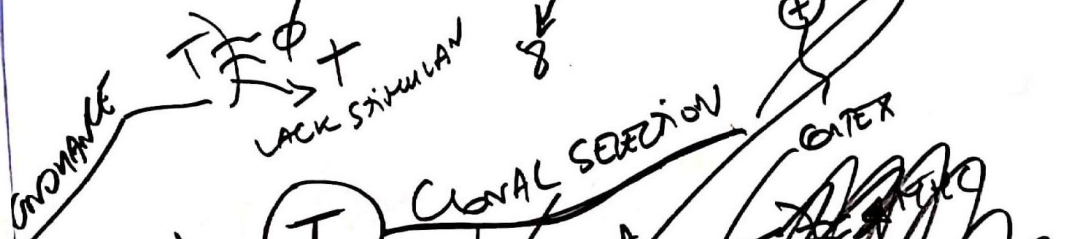
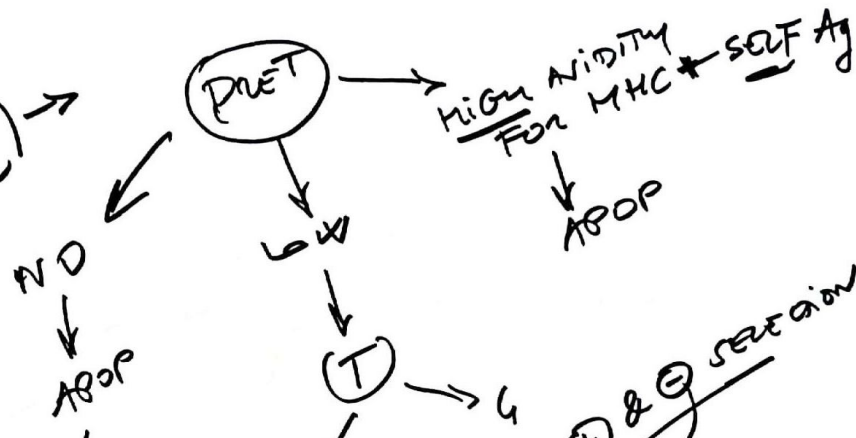
EMF
SUP
ANALYSIS

SUPPRESS/NEUTRAL
+ IL1 & IL6
• TH17 →

MACα, CD8T, can swim IgG
GF CS FcR
CS FcR
REF IFM, BCGF
REF Tα;
TOL with IL1 & 6 from TH17 →

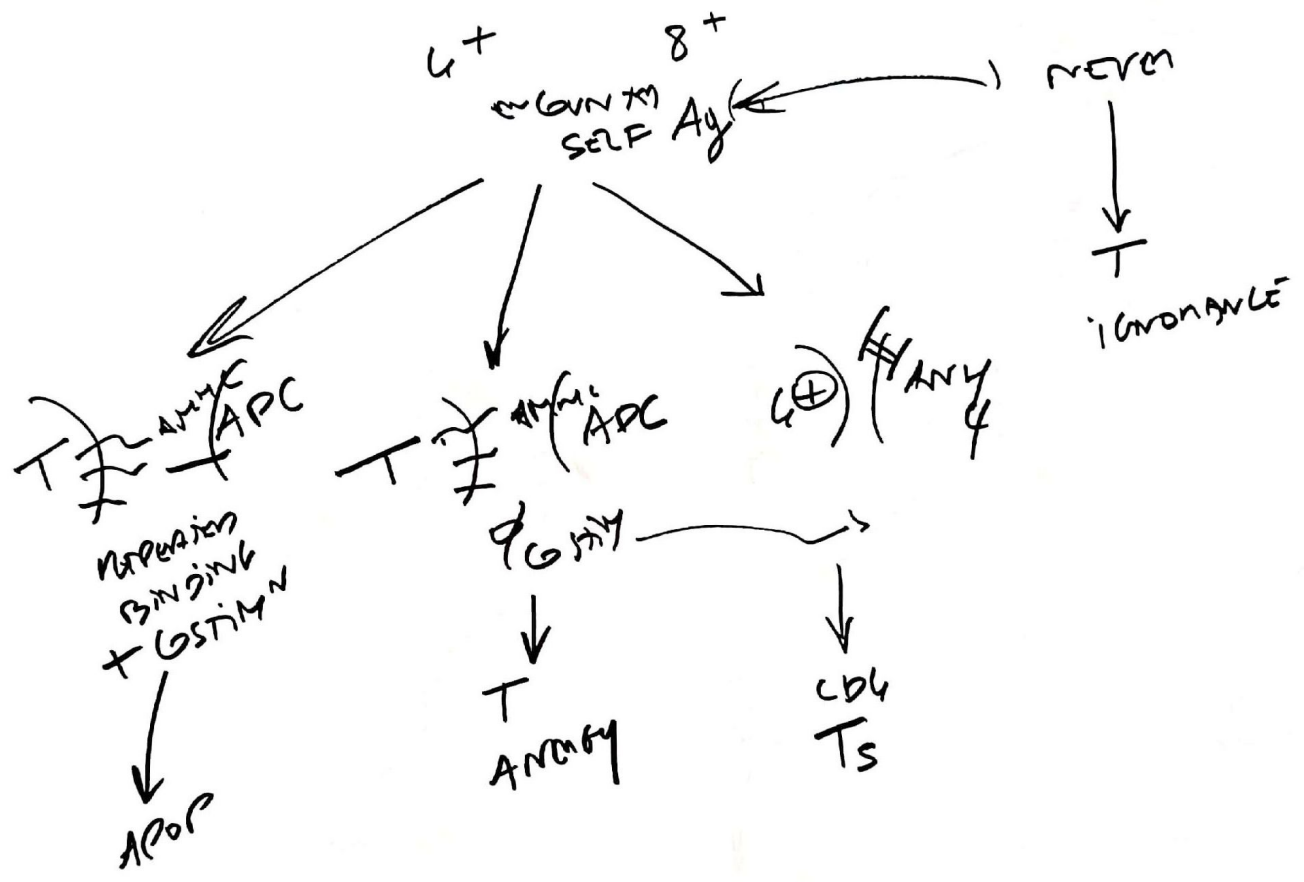
CD80/CD86

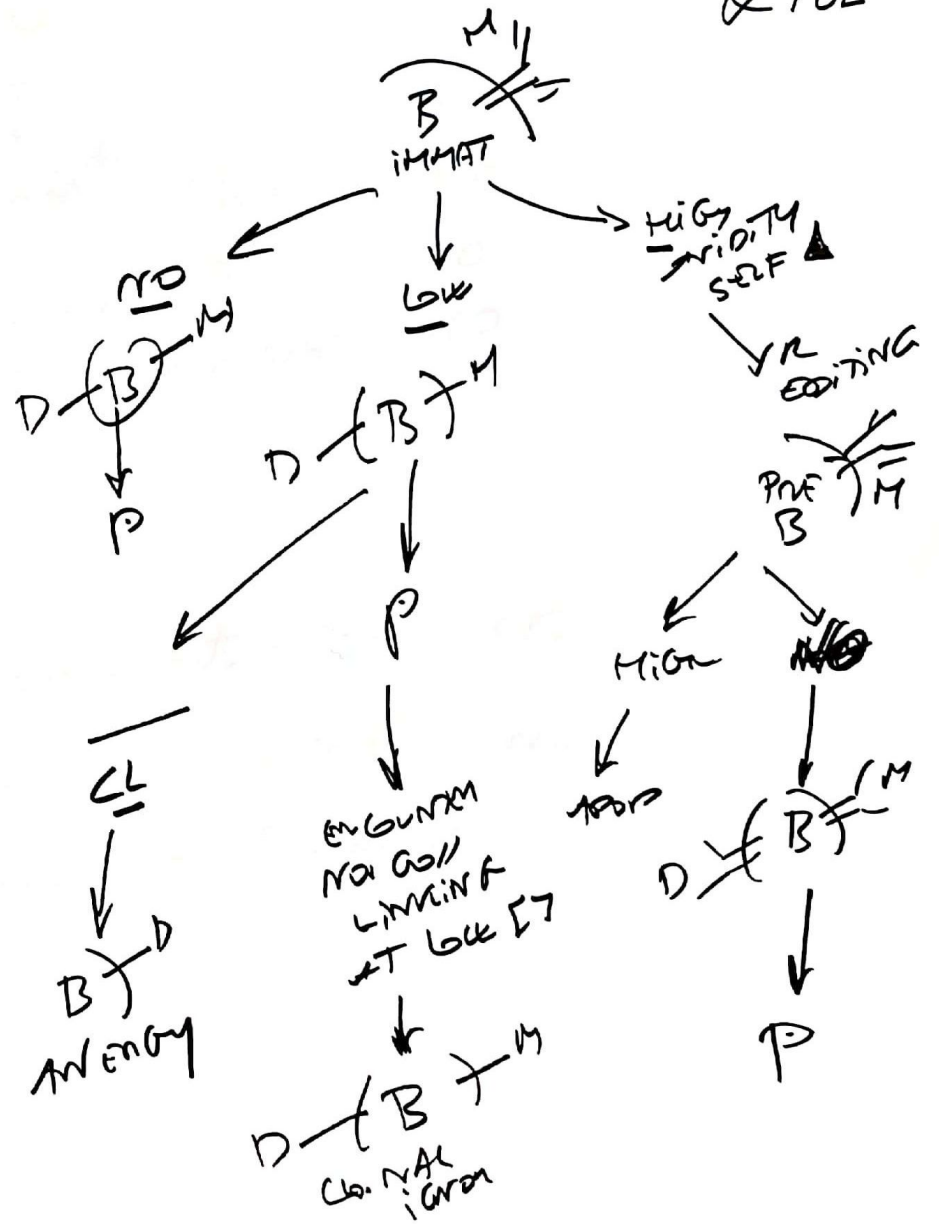
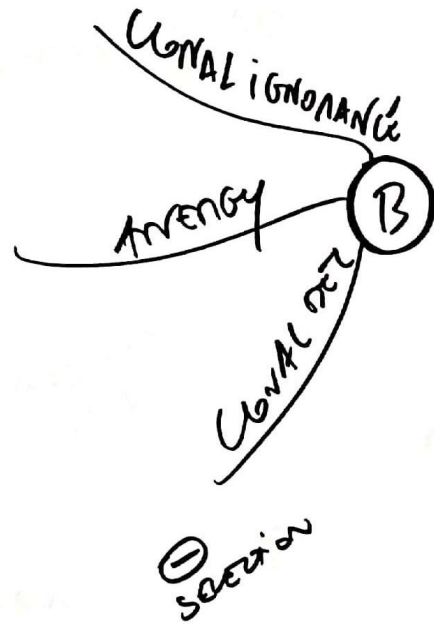
TAKE
WIN & GAIN
POWER



AVENUE TO TOLERANCE

P_T
TOL





Ⓙ

- CLW SELEN

- DEL

- ANERGY

- ACTIVE SUP

- IGNORANCE

RELATION
TO ▲

N SIGNA W/

STRONG & REPTMS
TO SELF ▲

N REL SELF ▲

LOW FREQ REL SELF ▲

VERY ENCOUNTERS SELF ▲

LOCAN

W

P

P

P

P

⊕ ⊖

⊕

⊕ ~~FUNCTIONAL~~, LACK
G STIM

⊕ DIF → negT

⊕ T ← LACK STIM

REACTION

-

NO

YES

NO

NO

SUMMARY
ANERGY
& TOLERANCE
B & T

ⓑ

- CLW DEL

- ANERGY

- CLW IGNORANCE WEAK

STRONG REACT
TO SELF ▲

W

P

P

LOCAN REACT ON DEL

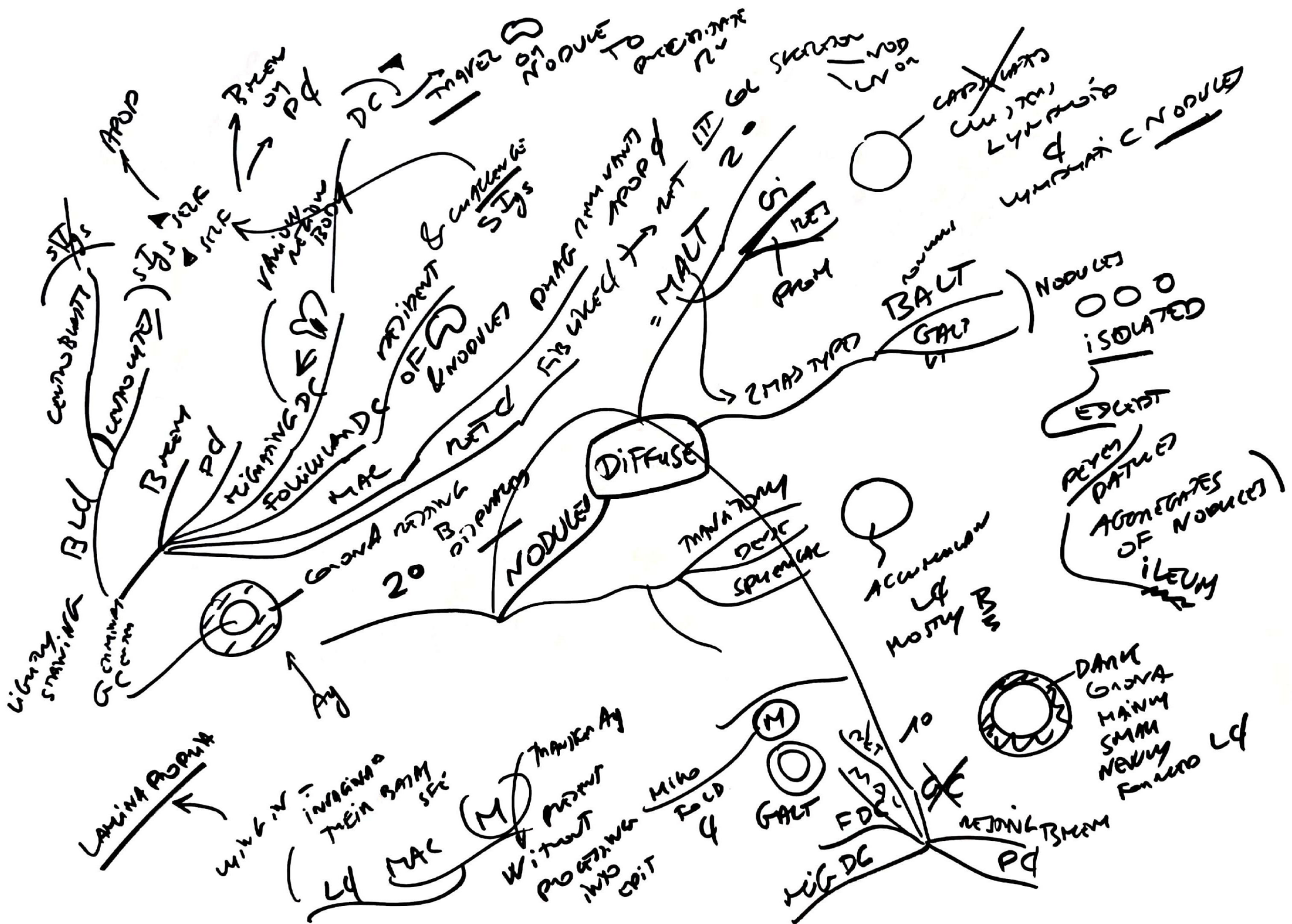
⊕ ~~FUNCTIONAL~~, LACK G STIM

— WEAK BINDING

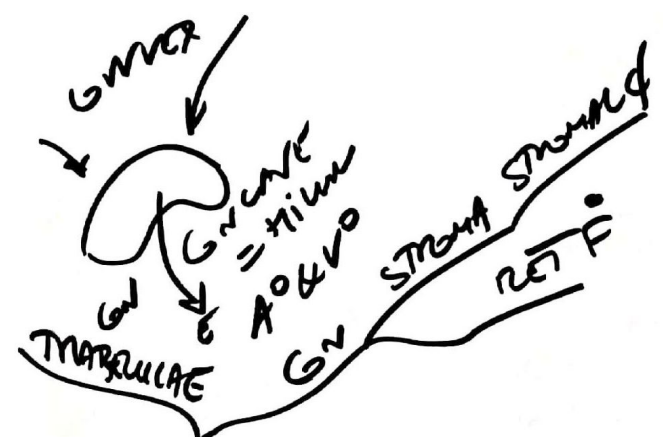
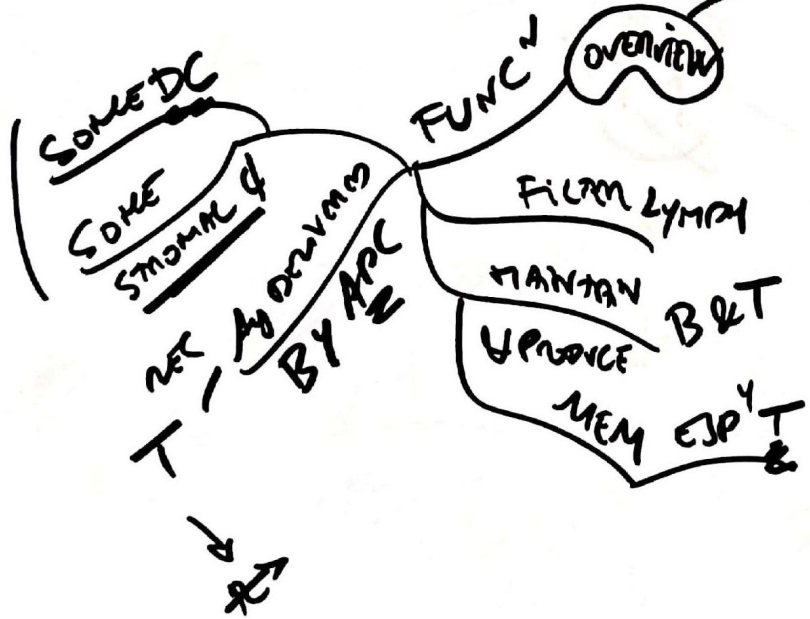
NO

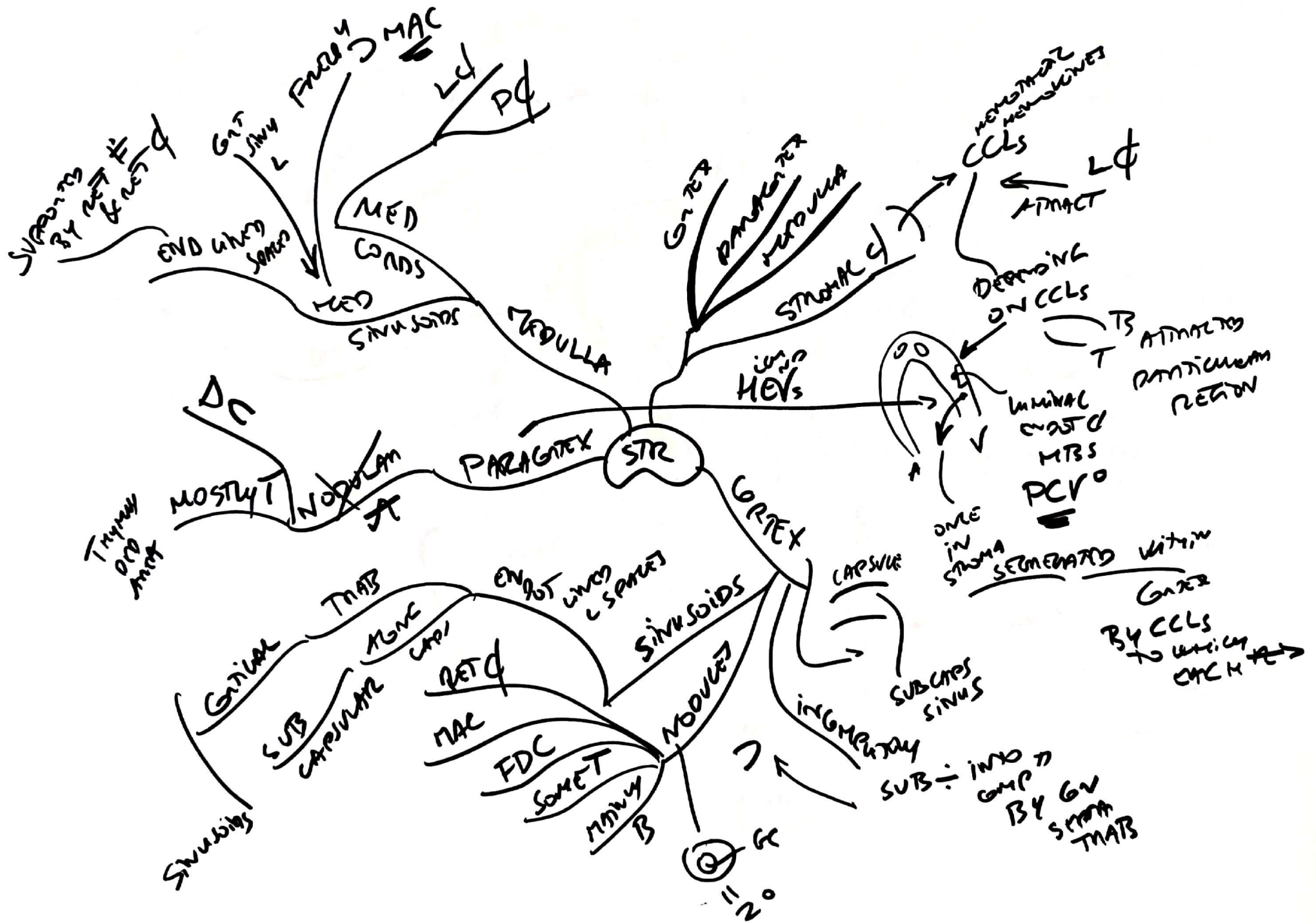
NO

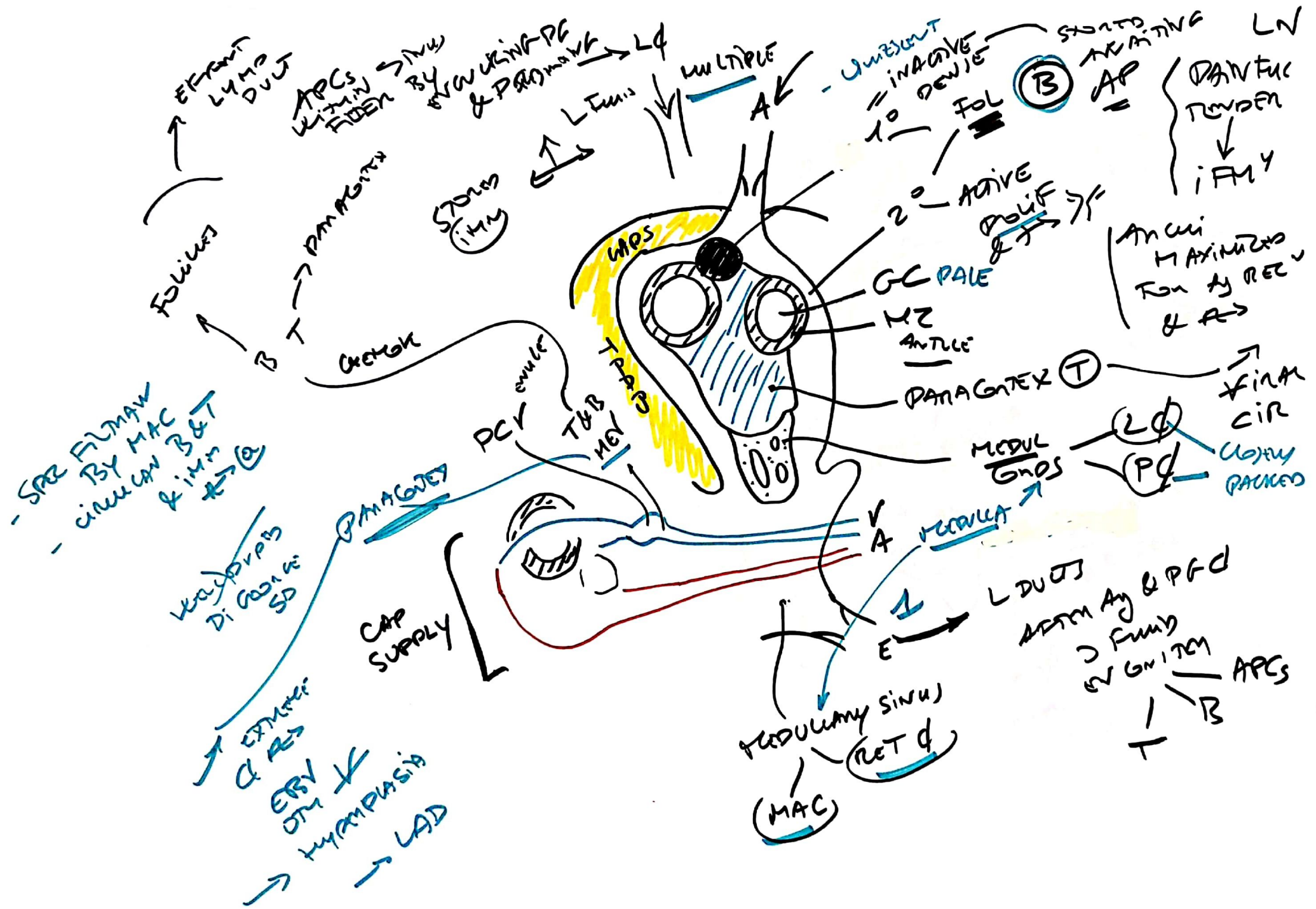
YES

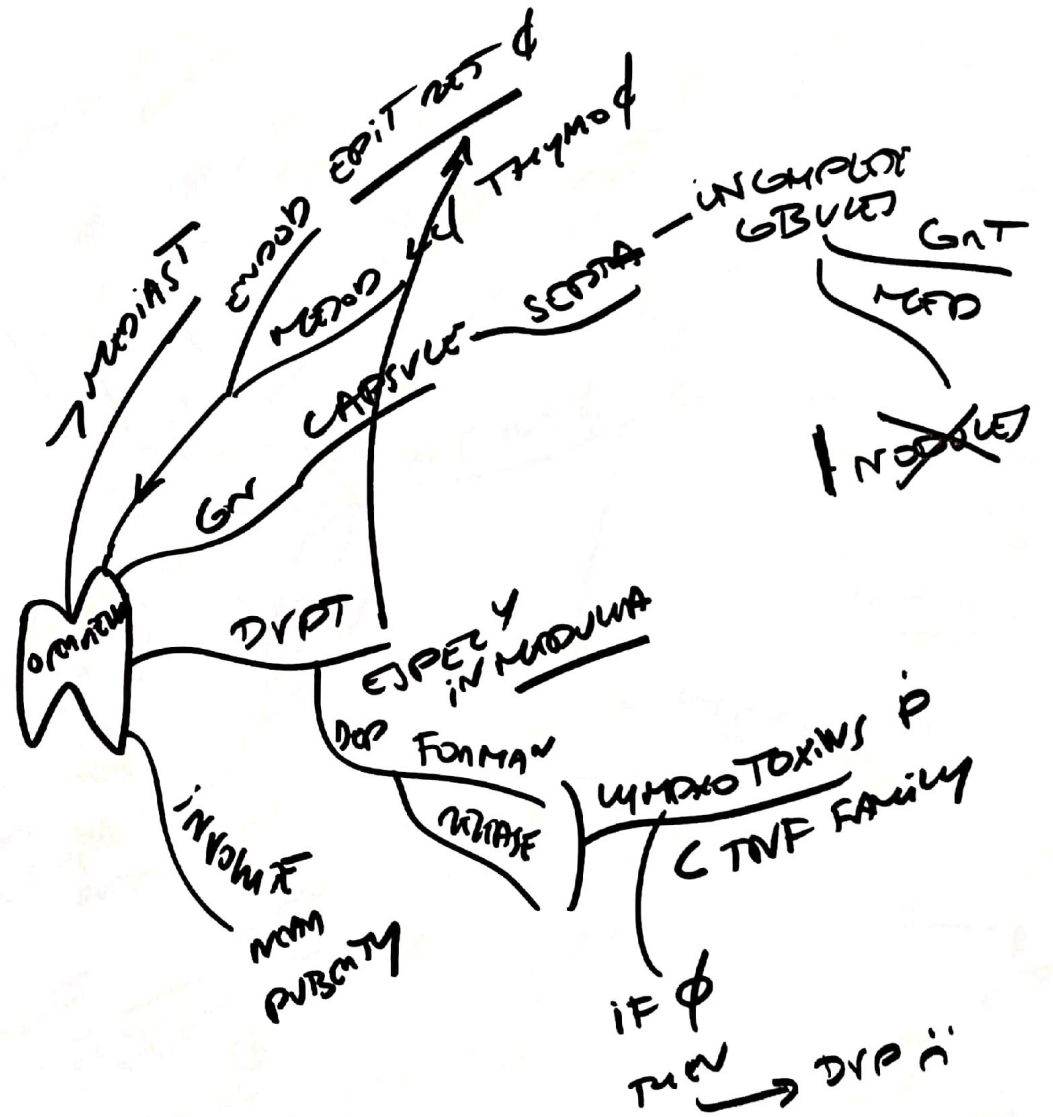


Dumps
 ↳ serializing indices
 ↳ TF ARE EXPERT
 ↳ ANALYZE
 ↳ APPS

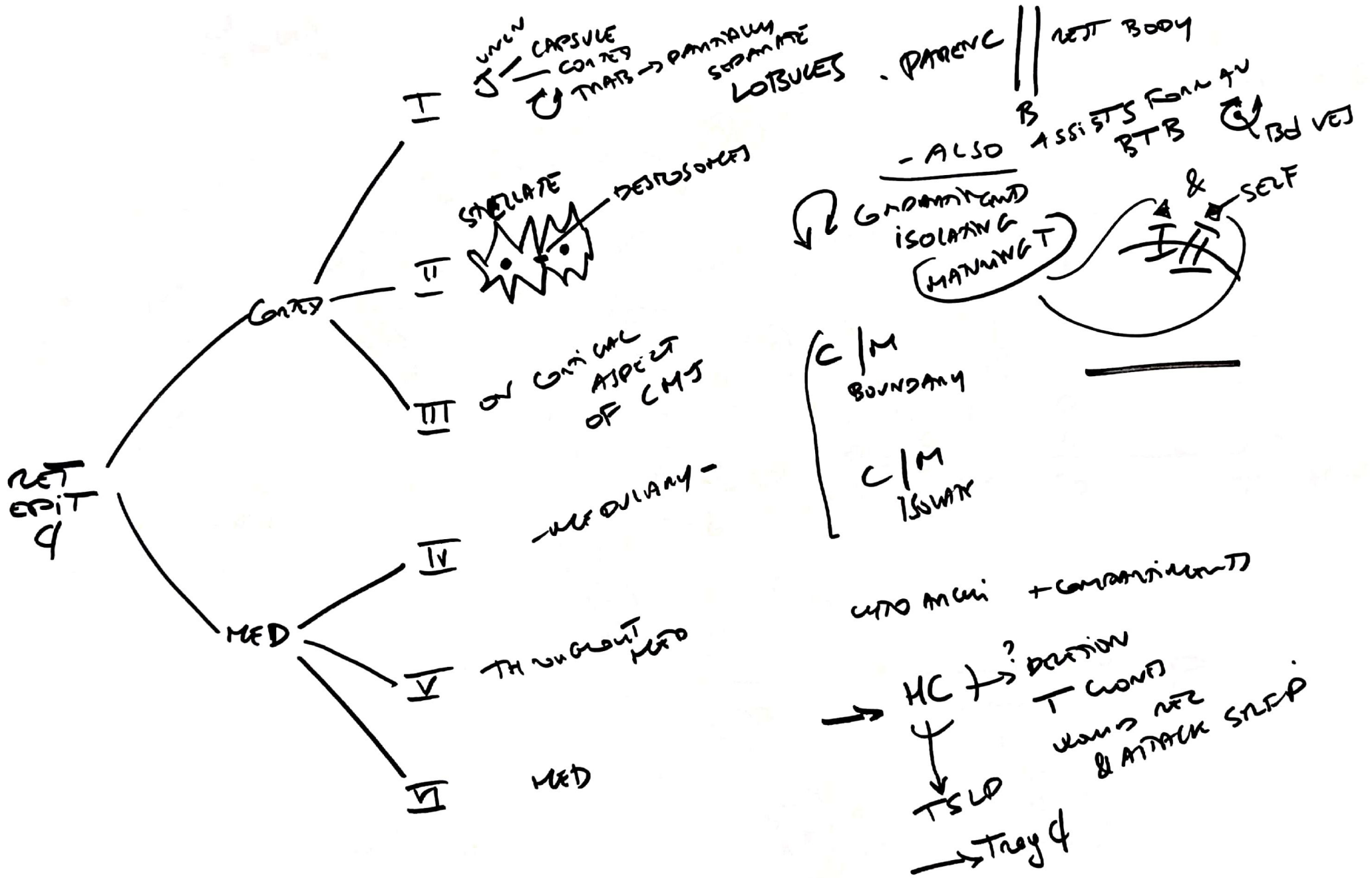


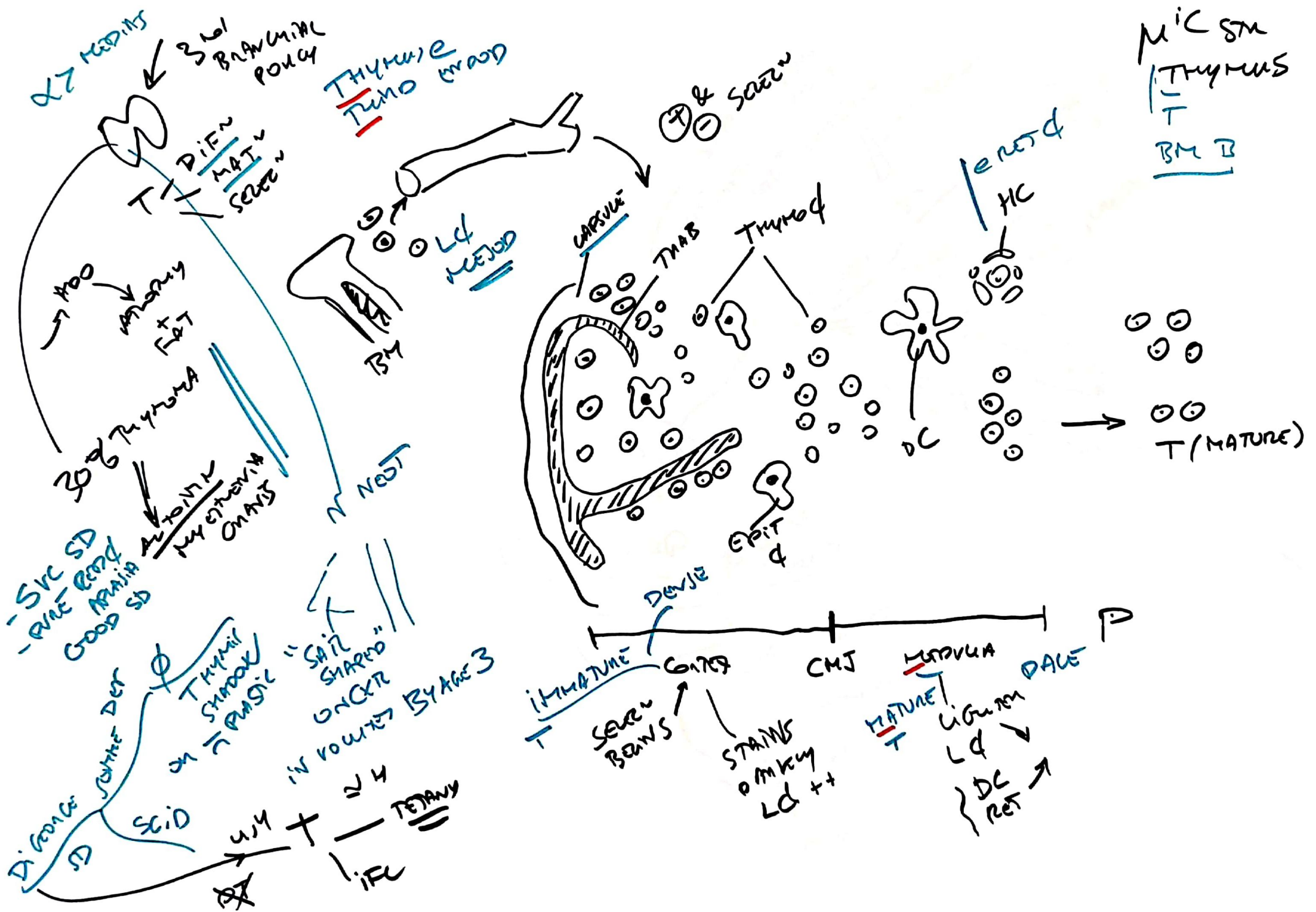


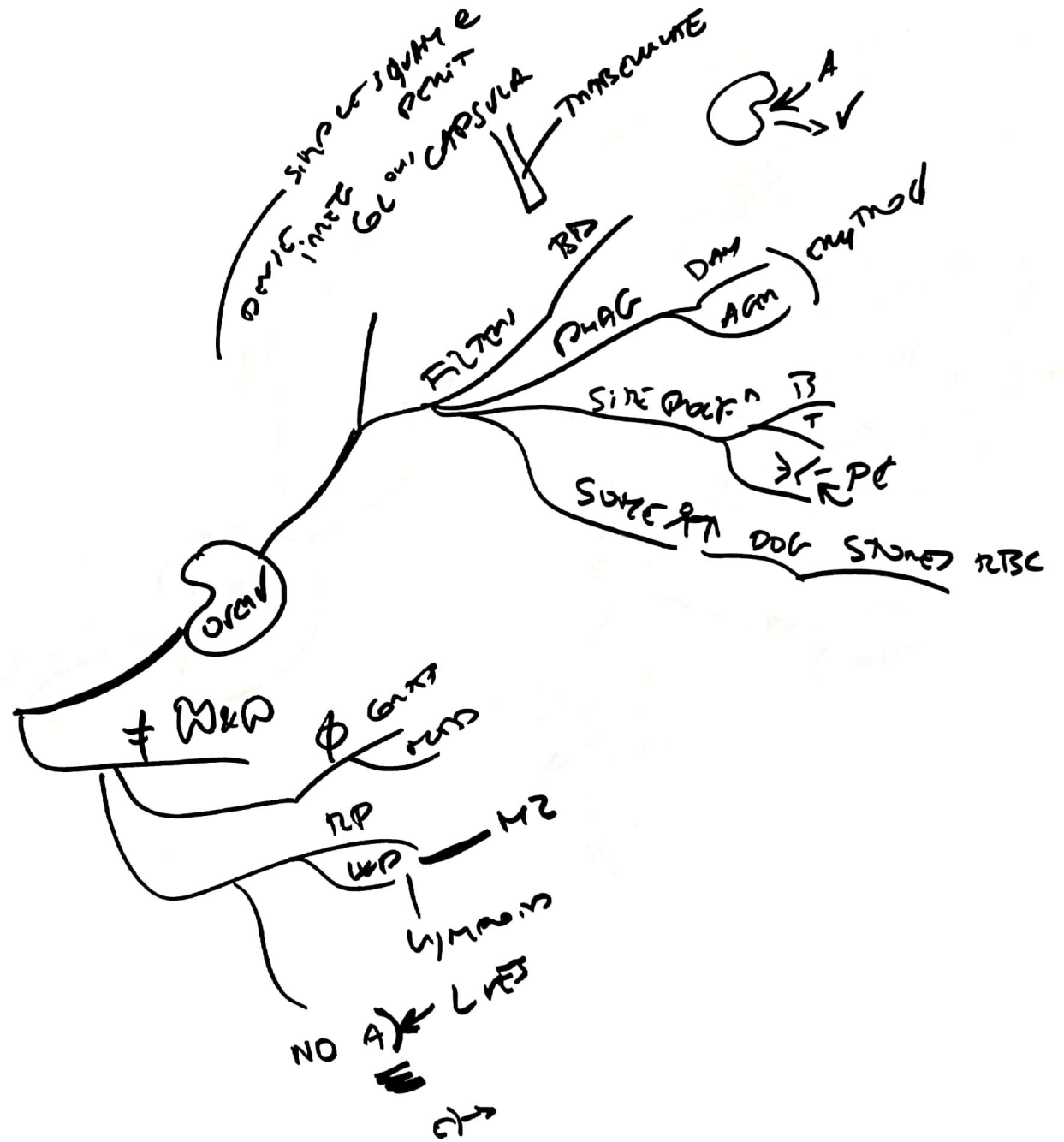


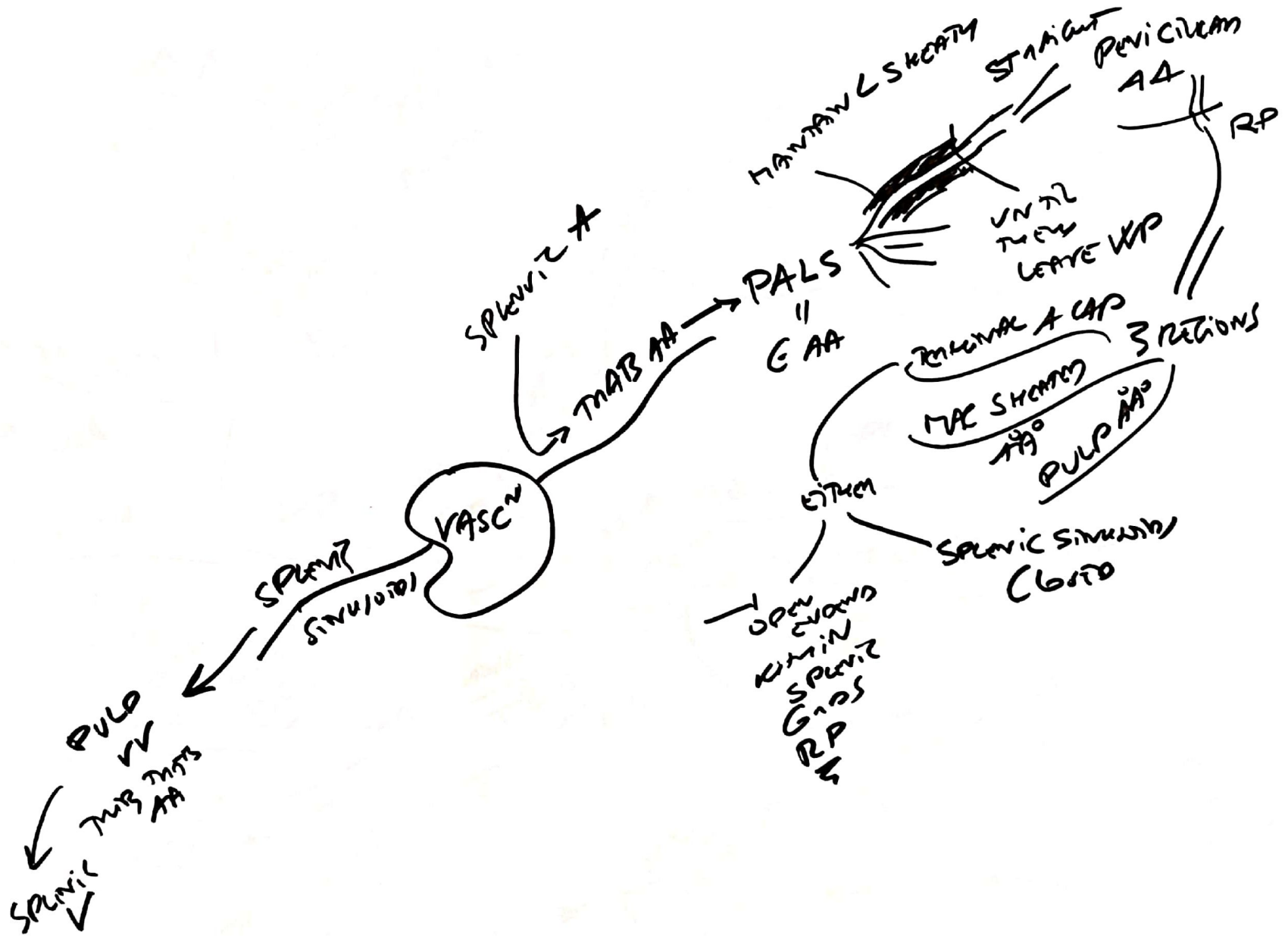


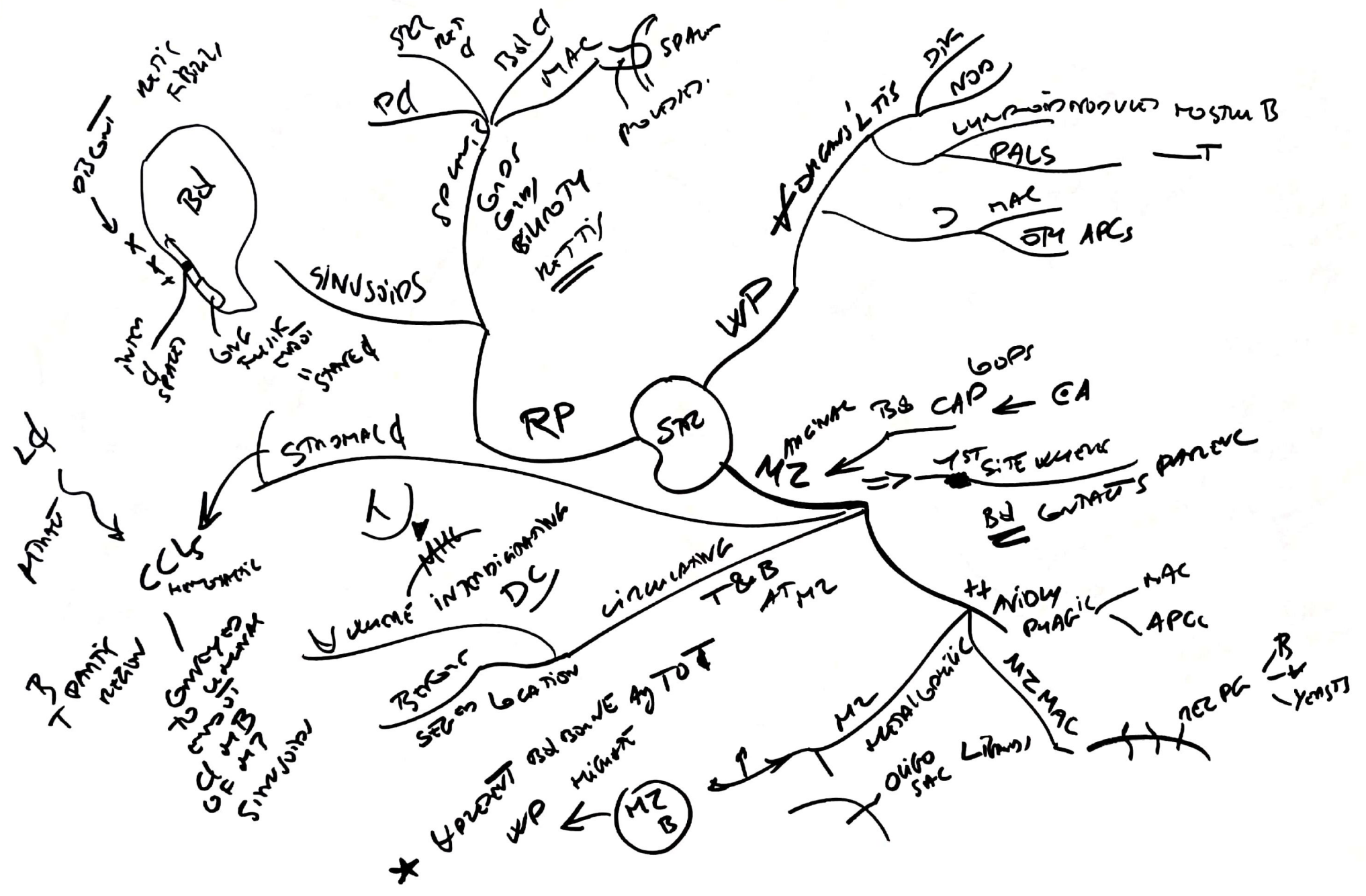


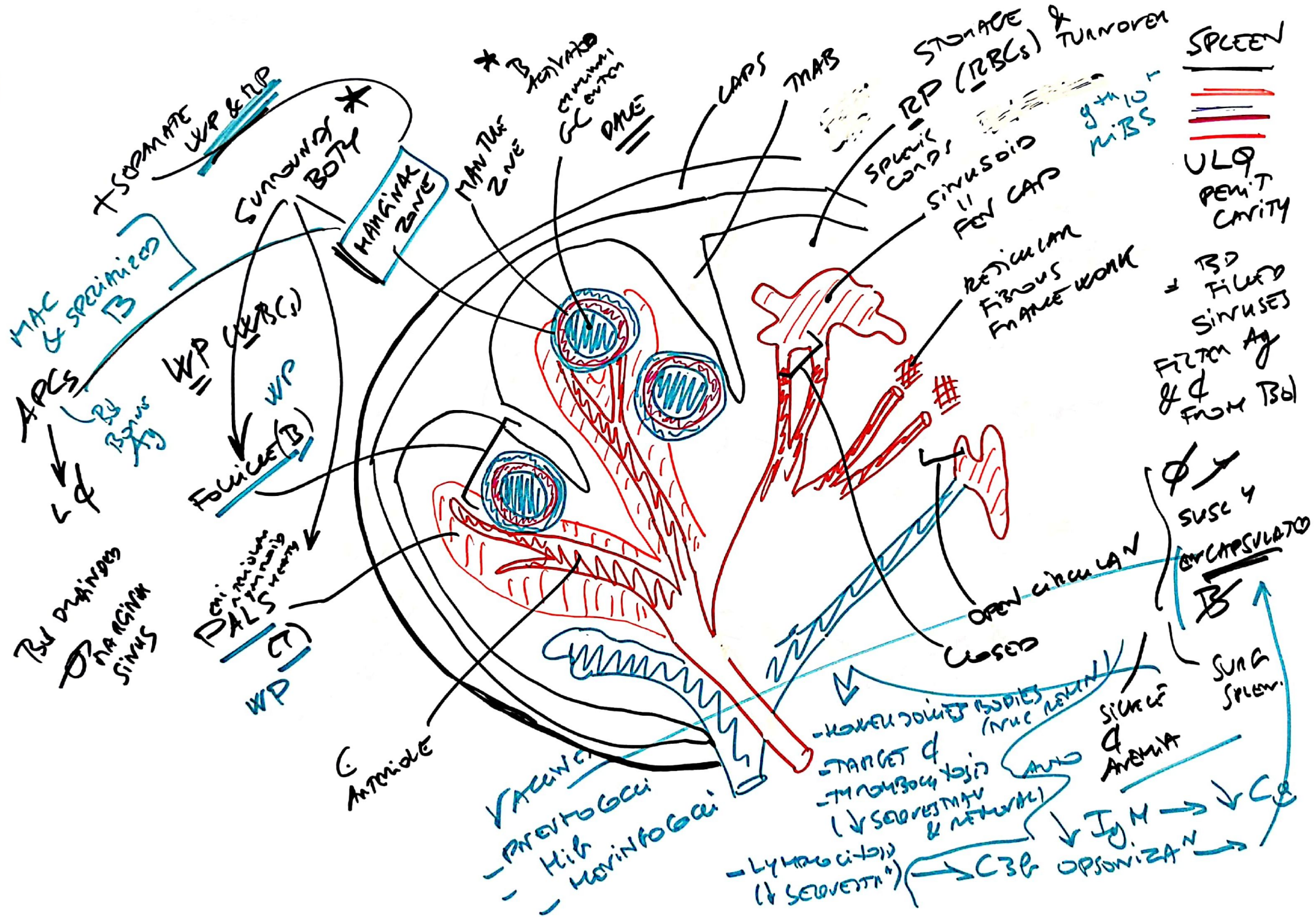


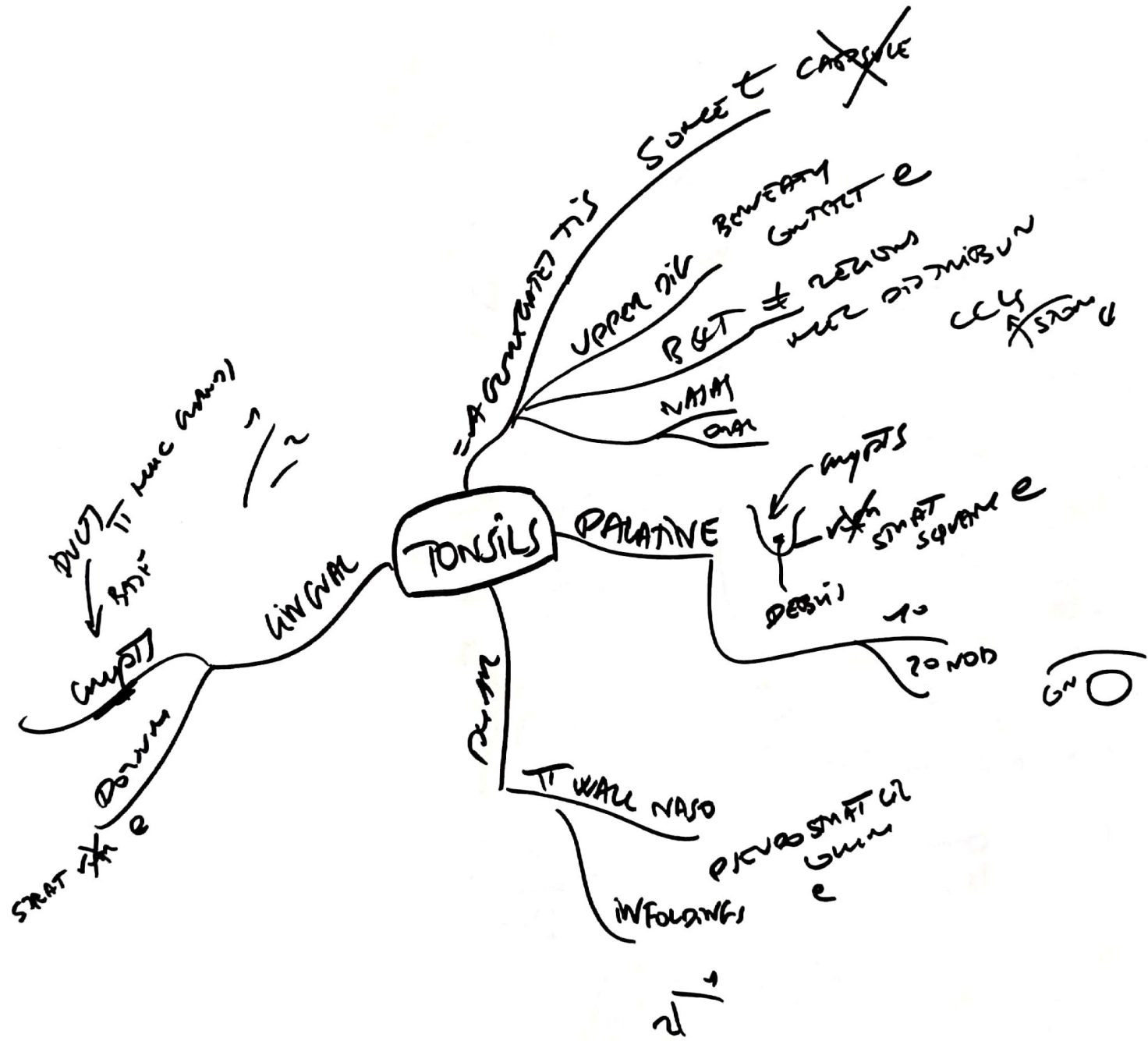












SAME & BAZEM
AS FOR EXPON
M O G E T
NUTRITION
TO MY CHAIN
SWEET
SALVETINA
M MP
& SOMBLE
M MIBG

SKITCHING
→ G OTM
NEP T HELP
MASON CHANGE
DEE INTERVENING DNA M & D HOARY
MHC
KIR

ADCC
IFNγ TO SUPPORT
INITIAN TH1 PE

IFC^{en}
DETECT
SICK
NK

Myeloid
FDC
IMMATURE

DIRECT T

TEU OTY d
WHAT TO DO
CUTON

RESPONSES

B

T

MALES

TRX-B on δ-5
IN Ig
MAC
B

OTM
APCS
ONLY
CAN
INITIATE
TO APT
IN NAIVET
OTM
APCS

CUTON
THAT
PROMOTE
TYPE TH
CL

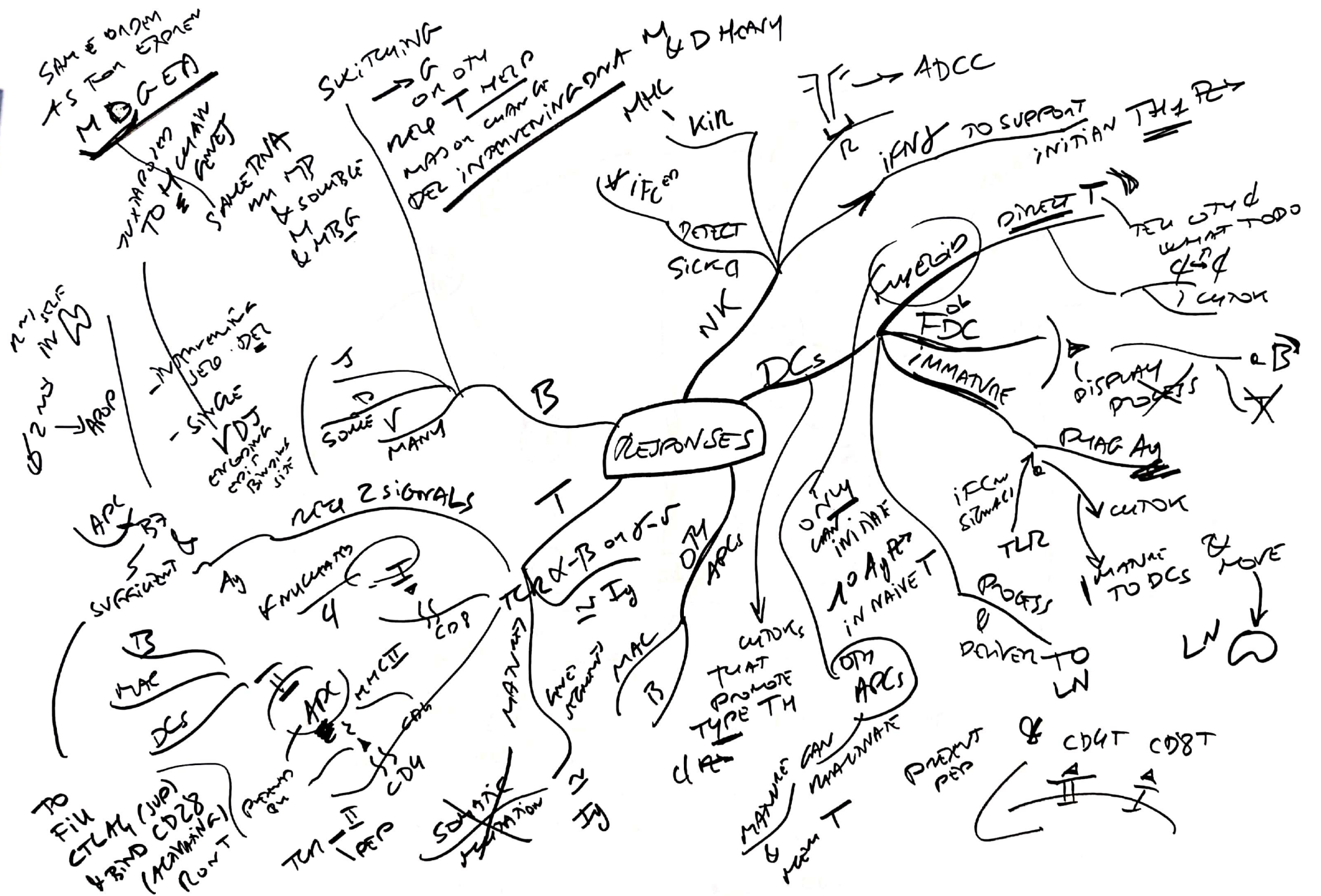
MANURE CAN
MANURE
MAN T

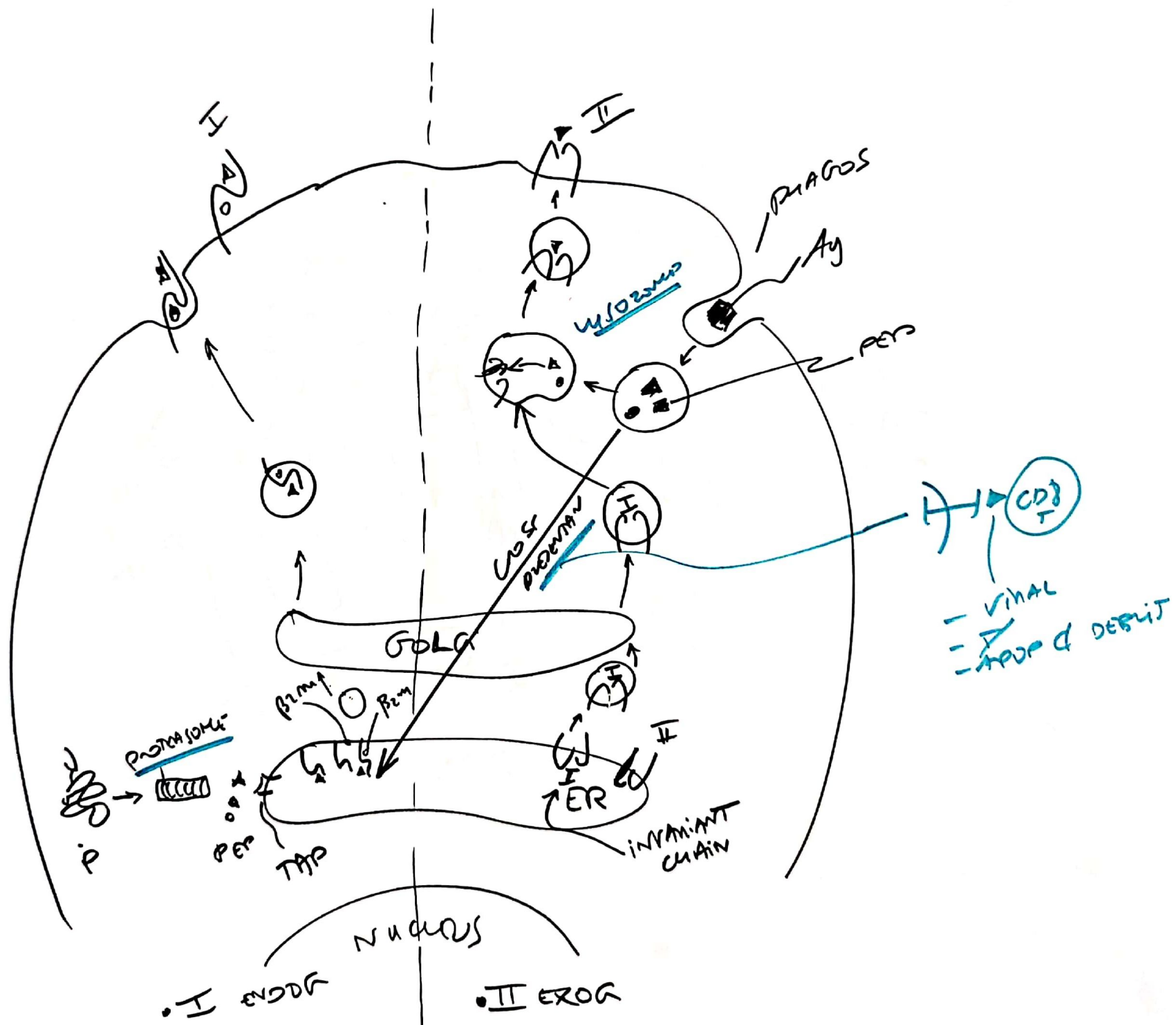
IMMATURE
PRAG A
TLR
PROGESS
DRIVER TO LN
CUTON
MANURE
TO DCS
LN

MOVE
LN

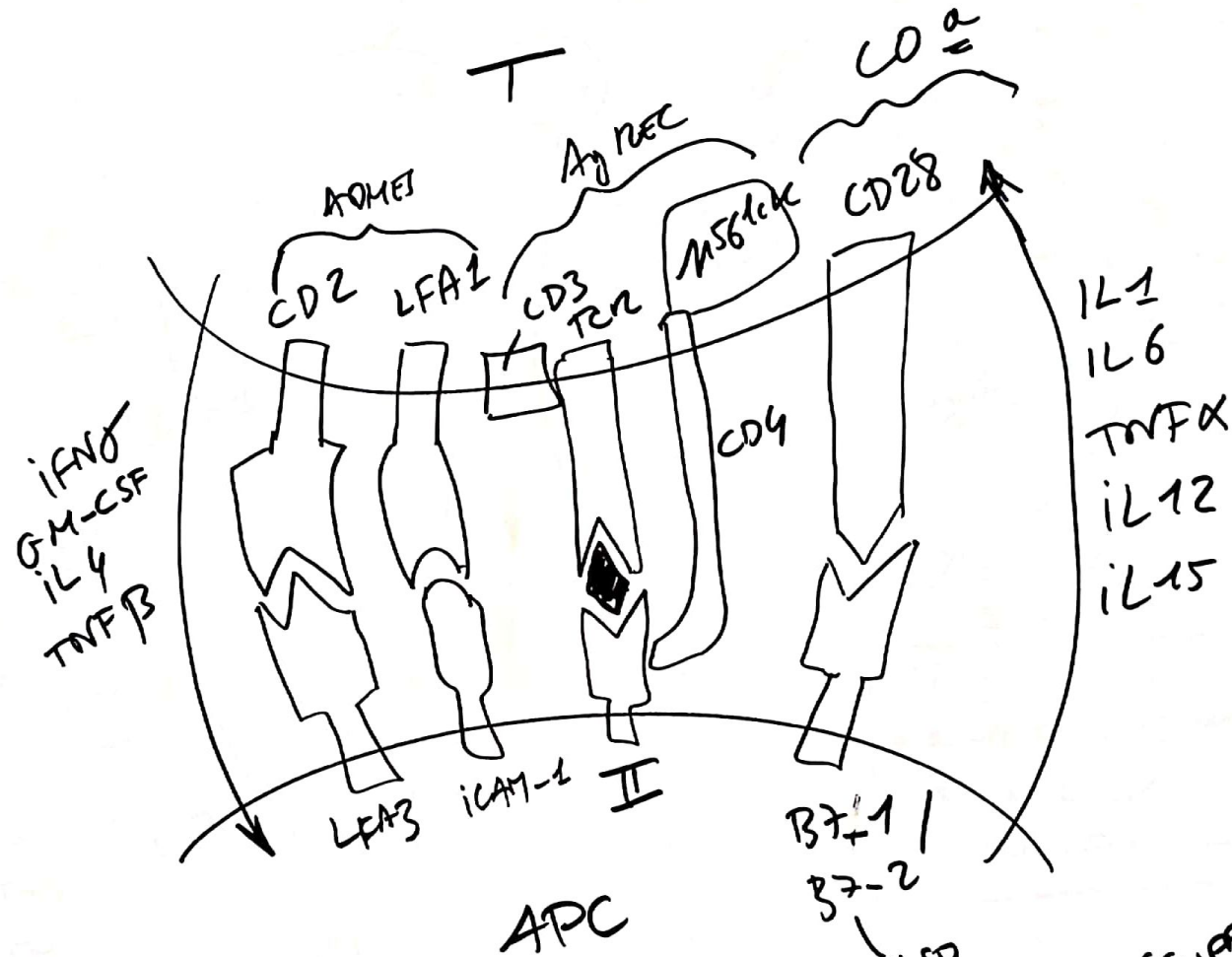
PREVENT
PEP
& CD4T CD8T

RESPONSES

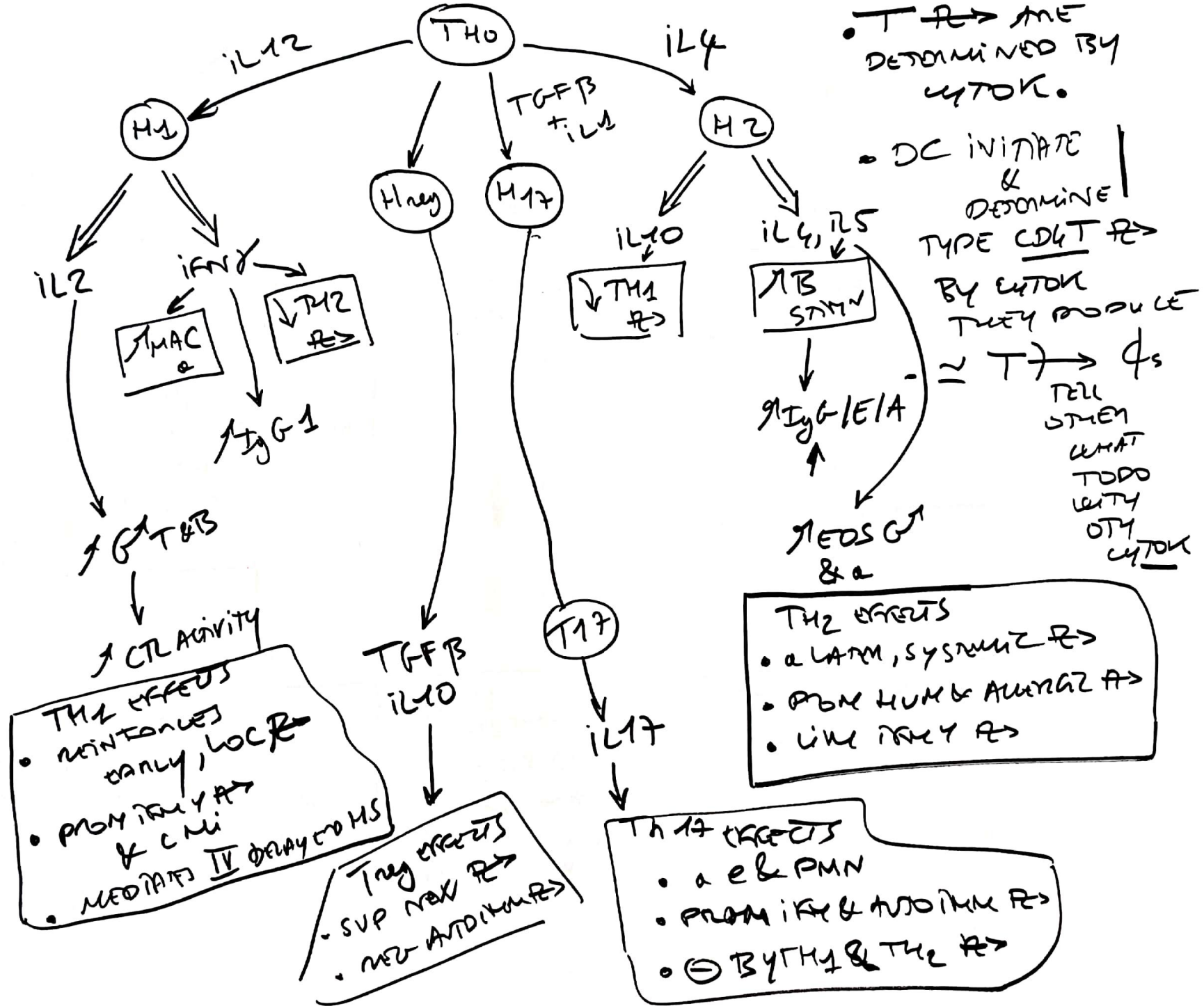




APC \leftarrow \uparrow \rightarrow CD4T



ALSO BIND TO CTLA4 (SUPPRESSIVE)
 WHEN IT IS SATURATED
 THEY BIND TO CD28 (ACTIVATION)
 ENSURING PROPER a OF T



• T cell fate DETERMINED BY CYTOKINE.

• DC INITIATE & DETERMINE TYPE CD4 T cell BY CYTOKINE THEY PRODUCE

• T cell → DCs TELL STEM CELLS WHAT TO DO WITH OTHER CYTOKINE

TH2 EFFECTS

- a LARM, SYSTEMIC →
- PROM HUM & ANTIHUM →
- LINE INHIB →

TH17 EFFECTS

- a e & PMN
- PROM INF & AUTO IMM →
- ⊖ BY TH1 & TH2 →

TH1 EFFECTS

- MAINTAINES EARLY LOC →
- PROM INF & CMI
- MEDIATES IV DELAYED HS

TH17 EFFECTS

- SUP MAX →
- MED-ANTIHUM →

TH1 VS TH2

