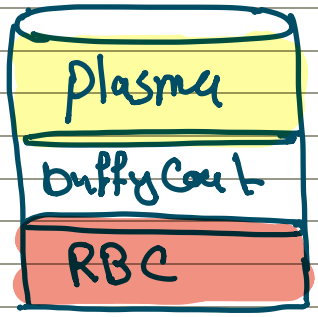
Antibody structure -



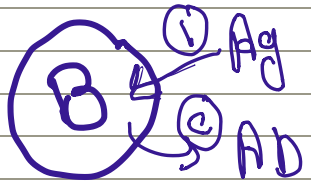
wBC
platelets

Plasma - Clotting Factor = proteins.

when Blood Clot → Remaining fluid = serum
serum = Ab

3g of Ab produced Daily → (IgA Most) GIT , AS

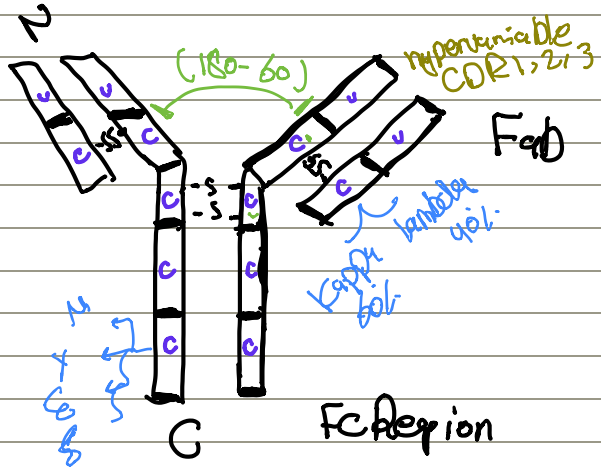
Most Ab in serum IgG



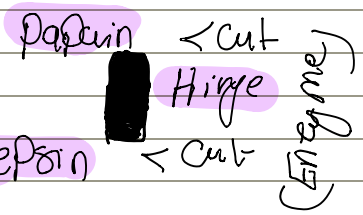
[Hybridoma] Monoclonal

The Cell Proliferate + Continously Produce 1 type of Ab

Cancerous Cell plastocytoma



Constant of Heavy
- Ab Function effect
- Type of Ab
- bind to Fc Receptor on innate & Adaptive



(Hinge ...)

IgG, IgA, IgD → have hinge]

IgA → have Secretory part

⑤ IgM, IgA → Multimeric have J Chain (S-S) to tail Ab
↳ ② ↳ 10 valency
IgA → 4

valency → Ag binding site → number

isotype → IgG, IgA, IgE, IgD, IgM
2 3 4 2 1

→ Differ in their chemical and function

IGM

- 1° Response
- Ag= protein polysaccharide
- Pentavalent Form Radially

- Found in fetus 1 J, 4 C
- quickly clump Ag
- Monomomic Form on B cell "BCR"
- $CH_3 - J - CH_1$
- no Hinge Region

Function

1. Complement Activation
2. when IGM IGM appear
3. Clumping

IGG

- Protein Ag
- 80 of serum Ab
- have Four sub classes 1 J, 3 C of Heavy
- have a Hinge Region
- different between 4 subclasses:- Pattern of interchain of Hinge
- 2° Response
- Activate Classical via CY 2 = FCγR3A on NK
- FCγR2B → inhibit B Cell

Function

- FCγR(1,2,3
  - phago
  - CD16
  - NK
  - FCγR3A low affinity help in ADCC
- opsonization
- IGG placenta → baby
- Do neutralization For toxins
- FCγRIIB
  - ↳ anti Career of B cell
- Agglutination

IGA

- extra vascular secretion
- J → by Plasma
  - J → IgA
    - secretion 2o , 1 J
    - ↳ attach to Carbohy side
- Monomeric → serum
- Dimeric → secretion
- 1 J , 3 C
- different between subclasses is in size of Hinge
- Ag → inside Mucosa
  - Response → Ab (IgA)
  - neutrophils — FcαR — phagocytosis

Function

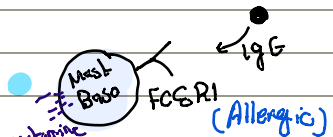
- % neutralization of Toxins in gut & RT produce IgA
- agglunitation
- inside breast Milk give infant immunity
- Complement activation
- increase in 2° Response to Ag gaining accesess via Mucosa

IGD

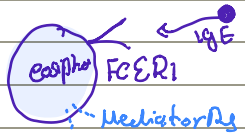
- less than 1% in serum
- unknown Function
- B — BCR IgD → Regulatory
- 3 C, 1 J
- The longest Hinge Region

IGE

- less than 0,003% of serum



(low affinity)



ADCC

- FCER2 — B — unknown go
- U C , 1 J
- Histamine g-
  1. Bronchoconstriction
  2. ↑ local Motility
  3. Allergic Reaction