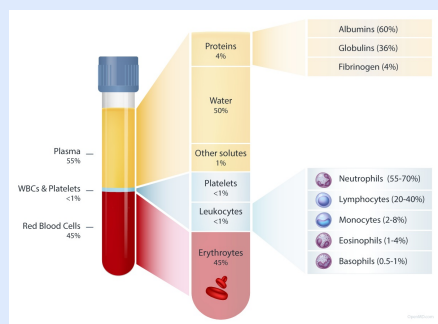


IMPORTANT REMINDERS

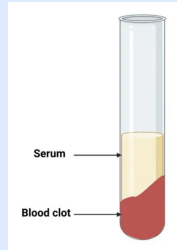
| | |
|-------------------|---|
| Serum | Blood W/O cells or Fibrinogen (clotting factor) |
| Plasma | Blood W Fibrinogen and water but ~ still NO cells |
| Buffy Coat | Separated blood layer containing WBCs and Platelets |
| MHC | Major Histocompatibility Complex |
| TCR | T-Cell receptor |
| BCR | B-Cell receptor |

PLASMA ~ in EDTA tube (purple top)



- Anti-Coagulants are needed for purifying
- Can be prepared as soon as its centrifuged
- **Fibrinogen = present**
- Buffy coat can contaminate the liquidated fraction
- Composed of ions that is *representative of the circulating blood!*
- Less stable

SERUM ~ Red-Top Tube



- No Anticoagulants added
- 30 min delay for clot formation
- Fibrinogen absent
- Cleaner sample (lacks depleted cells and cell remnants)
- Contains antibodies, antigens, electrolytes and medications, hormones and microorganisms
- The study of serology involves the study of the serum as the GS

ANTIBODY CLASSES

| CLASS | DESCR- PTION | NOTES |
|------------|-------------------|--|
| IgG | Neutra- lizing Ab | mnemonic > " <i>grandmas memory</i> " !Made later in immune response! Primary Ab in memory response Found in blood Small size (able to pass barriers easily) <input type="checkbox"/> <input type="checkbox"/> Highest in conc. in Colost- rum/Blood |

ANTIBODY CLASSES (cont)

| | | |
|------------|---|---|
| | Longer half-life than IgM | |
| | Bind phagocytes via Fc region | <i>Opsonin</i> |
| IgM | <input type="checkbox"/> <input type="checkbox"/> First Ig in primary response | mnemonic > " <i>I want MINE first</i> " Short half-life |
| | 10 binding sites | > better at aggregating than IgG > Neutralizing Ab |
| | Large size | > can't penetrate tissue > confined to blood/lymph |
| | Activates <i>Compliment System</i> | |
| | <input type="checkbox"/> <input type="checkbox"/> High conc. == | recent primary exposure |
| | No Fc receptor for IgM on phagocytes | CANNOT act as an opsonin |
| IgA | !Important for mucosal protection! | mnemonic > " <i>Alpacas are snotty</i> " |
| | Dimeric form | > has a secretory piece |
| | | ~ prevents degradation by Proteases |

ANTIBODY CLASSES (cont)

~ secreted in
**MILK! (NOT
ABSORBED
THRU GUT)**

Prevents epithelial adherence of
bacti

Helps protect > GIT
**neonate
mucosa in:**

> respiratory

> UG tract

Found in: > tears, saliva,
and bile

IgE **!Important** mnemonic > '*Ew*
in adaptive resp. worms and
to parasitic allergies"
worms!

Mediates > **Anaphylactic**
Type-1 HS **Shock**

Mechanism:: 1. **B-cells** > make
IgE to Ag

2. **IgE** > binds
Mast cells on their
Fc region

**Once exposed to
Ag again:**

3. **IgE** > binds
Mast cells

~ Activates
degranulation

ANTIBODY CLASSES (cont)

4. **Mast cells** > release *histamine* &
vasoactive amines

Neonatal Immunity

| | COLOSTRUM | MILK |
|---------------------------------|---------------------|--------------------------------|
| Source of Ab | Dam's serum | Mammary gland |
| Ig Compos- ition | IgG (high conc.) | IgA (much smaller conc.) |

**Prod.



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