	Day 4 (Immundergy)
	Components of Blood
	Blood
	Plasma Formed Elements
	(55%) (45%)
	· Proteins · Platelets
	· Water Leutocytes
	o Other Solutes Drythrocytes
	(ions, ruterients,
	waste products, gases, rusp. substances)
	SUSP. CODS/UNCUS)
	louise vite and 1000 of Kingle Houselouis
	Leukocytes are of different Kinds. How do we differentiate between them?
	différentiale Délivéen Them's
	Choter of Differentiation (CD) molecules
	•
0	impositant for différentiating between functional capacities of cells indicators
	capacifies of cells Indicators
	r y
0	3 molecules associated with T cells
	7.10 WOODS 0.2005. DOE 4 0.711 0 7 2005
20	CT
	and ICD
<u> </u>	and a last of the
	composed of 6 polypephales
7	conceptor of TCR composed of 6 polypeptides involved in transmemberane signaling and Tcell

activation

Tells one CD3+- initially expressed in 1

Associated with TCR (1) B cells, granulocytes, macrophages, are all negative 2) NK cells are also CD3 Ove, but express Echain of CD4 e glycoprotein capable of recognising non-peptide. expressed on two-thirds of mature T cells

CD4+T cells are called TH Or helper T cells

helper cells are supposed to send signals to To
cells to destroy infectious pathogen.

member of the immunoglobulin superfamily also presented in monocytes, macrophages l dendritic cells

	CD8
Ð	transmemb rane alucoprotein
0	transmemberane glycoperatein two-chain cell surface molecule
Ð	expressed as a homodimen on a heterodimen succeptions of MHC Class—I molecules.
٥	succeanises non-petitive binding positions of MHC
	Class-I molecules.
0	offinity keeps the To cell and the target pathogen
	affinity keeps the To cell and the target pathogen close Together during antigen-specific activation.
	Note
	Can be found on NK cells & dendritic cells
L	
	We know stood with cells of the Innune System.
	Neutrophils
O	most abundant WBCs (50-60%)
0	Professional Phagocyles
0	professional phagocytes polymorphonucleur beukocytes Granwocyte containing
٥	Ginanwoyte containing
	_
	a Specific genanules containing enzymes like. lyeozyme, collogenose, etastase
	lysozyme, collagenose, elastase
	Distances, like antimicrobal substances, like defensions and catholicalina
	antimicrobial substances, like
	defensing and catholicaling

o Differentiation ____ Curculate ___ Recruited into in bone maurow in blood tussue · in response to infections, no. of curculating neutrophils

1 (leukocytosis) Mode of action: Pathogens attack Innate cells release chemokines Noutophils recruited to site of infection (tissue) Phagocytosis, tissue remodelling l'antimicrobial How do neutrophile kill a pathogen? 1) Phagocytosis 2) Newbophil Extracellular Traps (NETs) 1) Phagocytosis Activation of transmemberane FCV receptors Phagosome tonned around a particle Phagosome malures into phagolysosome

(development of cellular machinery for killing) On activation, neutrophil generales ROS (respiratory burst) & pt storts declining Optimal activation of proteases l lysozymes Degranubition 2 Neutrophil Entracellular Traps (NETS) o killing extracellular pathogens while minimising damage to host cells 'Yathway: Reactive Oxygen Species (ROS) tonmation Citivillination of historie l'chromatin decondensation Rupture of nuclear pore Uncondensed chromatin enters cytoplasm Additional cytoplasmic and granule proteins added.

Result: DNA + antimicrobial proteins + prioteases

	Note: Newtrophiles might also su	equate the adaptive
	Note: Neutrophile might also ru immure response	7
	Monocyte Macrophage	
0	~5% of WBCs	
•	~5% of WBCs Migrate into tissues -> Macro cells	phages l Dendritic
0	Short lifer non d. 1-7 days	
	show mespanger and s	
0	Hemotopoesis in bone marrow.	Pro-monocytes in
	Hemotopoesis in bone marrow.	Pro-monocytes in curculation
	<u>-</u>	
		MOLLYNO MOROCIALOS
	•	Mature monocytes
	↓	7
	Inflammatory	7
	Inflammatory enter Fissues quickly	
	Inflammatory enter Fissues quickly in suspense to infection	Malure monocyles Patrolling crawl slowly along blood vessels
	Inflammatory enter Fissues quickly in suspense To infection	7
	Inflammatory enter Fissues quickly in suspense To infection	7
	Inflammatory enter Prosues quickly in suspense to infection	7
	Inflammatory enter fissues quickly in suspense to infection	7
	Inflammatory enter fissues quickly in suspense to infection	