BIOL 4570	Name:
Exam 3	
Spring 2008	
MILITIDE CHOICE: Diale the heat angreen	2 main

MULTIPE CHOICE: Pick the best answer – 2 points each

- 1. L-selectin expression on naïve T cells is responsible for homing to:
 - a. Lymph node
 - b. Mucosa
 - c. Thymus
 - d. Bone marrow
- 2. Which would you expect to be more responsive to IL-2?
 - a. Naïve T cell
 - b. Activated T cell
- 3. What is the result of ligation of the TCR without costimulation?
 - a. T cell activation
 - b. Anergy
 - c. Apoptosis
 - d. Development of Th2 response
- 4. Th1 cells recognize
 - a. Peptide + MHC Class I
 - b. Peptide + MHC Class II
 - c. Endogenous antigens
 - d. Polysaccharides
- 5. Th2 cells are most effective at promoting
 - a. Cell mediated immunity
 - b. Neutrophil activation
 - c. CTL activity
 - d. Humoral immunity
- 6. Killing of bystander cells common for CTLs.
 - a. True
 - b. False
- 7. Cells killed by CTL die by
 - a. Apoptosis
 - b. Necrosis
- 8. CD4+ T cells activated in the presence of high levels of IL-6 differentiate into
 - a CTL
 - b. Th1
 - c. Th2

	d. Th17
9.	IFN-g production is characteristic of what T cell subset?
	a. T_{reg}
	b. Th1
	c. Th2
	d. Th17
10.	What is the function of CTLA-4?
	a. Costimulation
	b. Suppression of T cell function
	c. Activation of macrophages
	d. Activation of B cells
11.	Which T cell subset would be most protective against infection with an intracellular pathogen?
	a. T_{reg}
	b. Th1
	c. Th2
	d. Th17
12.	B cell responses to which of the following types of antigen would require T cell
	help?
	a. Proteins
	b. Thymus independent antigens
	c. TI antigens
	d. Bacterial polysaccharides
13.	Which of the following immune events is least likely to occur in a germinal center?
	a. Class switchingb. T cell help
	1
	c. CTL degranulation
	d. Generation of memory B cells
14.	The presence of which of the following cytokines during activation of a na $$ ve T cell would skew the cell toward a T_H2 phenotype?
	a. IL-2
	b. IL-4
	c. IFN-
	d. IL-12
15.	An deficiency in CD40 would result in abnormally high levels of

a. IgG b. IgM

		IgA CD4+ T cells	
16.	helmin a. b. c.	of the following responses ath infection? Epithelial cell shedding Mast cell degranulation Mucous formation Macrophage activation	would be least protective during an intestinal
17.	antign a.		during secondary responses to
18.	cells s ₁	a primary immune response pecific for that antigen retur True False	to a given antigen, the number of circulating T as to baseline
19.	Effect	or and memory T cells diffe	r in their expression of

a. T cell receptor b. IL-7 receptor

21. The primary function of M cells is to

d. Suppress T cell responses

a. Secrete mucous

c. Destroy antigen

22. The lamina propria is found in: a. The lymph node b. The thymus c. The intestine d. The spleen

20. In the mucosa, intraepithelial lymphocytes (IELs) are primarily

b. Transport antigen across the epithelium

c. MHC d. B7

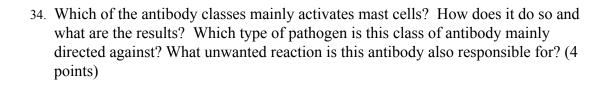
a. B cells b. Th1 cells c. Th2 cells d. CD8 cells

- 23. Which of the following isotypes of antibodies is found most often at mucosal surfaces?
 - a. IgM
 - b. IgG
 - c. IgA
 - d. IgE
- 24. The hygiene hypothesis purports that allergy has increased in industrialized countries due to:
 - a. Increased pollution
 - b. Increased levels of infection
 - c. Decreased levels of infection
 - d. Increased Th1 responses
- 25. X-linked immunodeficiencies are seen most often in
 - a. Males
 - b. Females
- 26. Untreated HIV infection results in:
 - a. Autoimmune disease
 - b. Increased rates of infection
 - c. Hyperproliferation of CD4+ T cells
 - d. Decreased rates of infection
- 27. Treatment of HIV with a single drug is often ineffective because
 - a. The virus mutates rapidly
 - b. Coinfection with other strains of HIV is common
 - c. Single drugs have a short half-life
 - d. HIV acquires drug-resistance plasmids
- 28. Activation of naïve T cells occurs in
 - a. Peripheral tissue
 - b. Thymus
 - c. Lymphoid tissue
 - d. Bone marrow
- 29. What cell type has been proposed to be the source of the cytokine required to skew CD4+ T cells to a T_H2 phenotype?
 - a. Macrophages
 - b. NK cells
 - c. Dendritic cells
 - d. NK T cells

RESEARCH MINUTE QUESTIONS

30.	reyer's patch deficiency results in decreased levels of what antibody isotype usulmonella infection? a. IgM b. IgG c. IgA d. IgE	pon
31.	mmunization adjuvant results in enhanced memory responses amor antigens a. With b. Without	to
32.	D4+ T cells are primed in the during Helicobacter pylori nfection. a. Spleen b. Peyer's patch c. Bone marrow d. Thymus	

33. Memory responses differ from primary immune responses in a number of important properties. Name three ways in which they differ and describe the underlying mechanisms in each case. (6 points)



35. Consider the claim "T-cell effector functions are primarily mediated by secreted products." (a) To what extent is this statement true for CD4 cells and CD8 T cells? (b) Describe the roles of T-cell membrane-bound effector molecules in the immune response (10 points)