Medicin C & avancerad nivå, VT14, MC2052, MC1727
Infektionsstrategier och försvarsmekanismer,
Applicerad mikrobiologi och immunologi, 7,5 Högskolepoäng

2014-05-03, 2nd Examination

Examinator: Ignacio Rangel

Total 54p

G: 60%, 32p

VG: 80%, 43p

Good luck!!

Hazem Kalaf

1. Give 2 examples of toll-like receptors (TLRs) that are MyD88-independent, their cellular localization and the antigen these receptors recognize. **(4P)**

2. A) Consider the following and connect them to their appropriate counterparts **(4P)**:

Chemotactic	anti-inflammatory
Inflammasome	TLR4
c-Jun	IL-8
Silencing of cytokine signaling	Signal Transducer and Activator of Transcription (STAT)
p65	Nuclear Factor κB
IL-10	Activator Protein-1
CD14	Caspase1
Cytokine signaling	SOCS

3. A) Briefly describe what a lipoprotein is in terms of structure, content and function. **(2P)**

   B) Give 2 examples of lipoproteins and describe the differences between these. Which of the lipoproteins you have named above is more associated with atherosclerosis, and why? **(2P)**

Elisabeth Hultgren Hörnquist

1. Describe the major differences between the large and the small intestine, regarding microbiota, organize lymphoid tissue and major antigenic challenges **(2p)**

2. TGF-beta has a leading role in intestinal immunity, and have a great impact on what type of immune response will dominate. **(2p)**

Kristina Elgbratt

1. An inflammation is a response from immunological cells.
   a) Describe three factors that can create an inflammation? **(2p)**
   b) Describe the immunological difference in acute- and chronic inflammation **(4p)**

2. Allergy or hypersensitive reactions is very common and increasing in the western countries. Hypersensitive reactions of TypI give a physical reaction within 30 minutes after exposing to the allergen, while, it takes 24-48 hours at hypersensitive reactions of Typ IV.
   a) What immunological cell is involved in hypersensitive reactions of Typ I? **(1p)**
   b) What immunological cell is involved in hypersensitive reactions of Typ IV? **(1p)**
   c) Why is the time of physical reaction so different in Typ I och Typ IV? **(2p)**

Ignacio Rangel

1. What is a systemic infection and how does it differ from a superficial infection? (**3p**)
2. Explain what are pathogenicity islands, how are they acquired and what is their importance the pathogenicity of bacteria? (**3p**)
3. Infections can be extracellular and intracellular. Give two examples of sites of infection, organisms causing such infections and strategies of the immune system to protect against them (**3p**)
4. How do the innate and the adaptive immune systems respond to a bacterial infection? (**3p**)
5. Bacterial pathogens can manipulate the innate immune system. Describe two processes by which they can do it (**3p**)
6. What are beta-lactam antibiotics and how do they function? (**3p**)

Ravi Vumma

1. What are different virulence factors of Uropathogenic Escherichia Coli (UPEC) and what are their functions? **(3P)**
2. What are the major sites of biofilm formation in the human body? **(2P)**
3. Explain the mechanism of quorum sensing in gram negative bacteria? **(3P)**