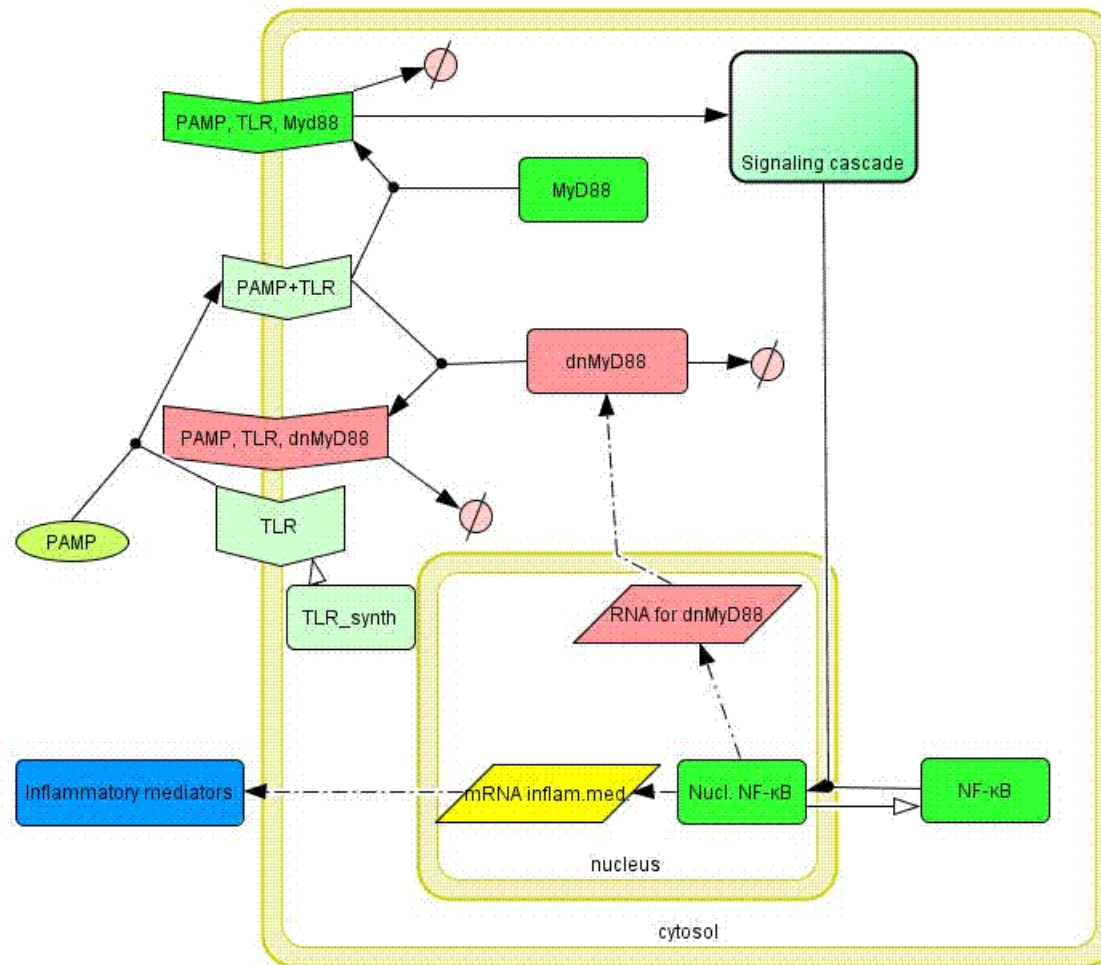


Ljubljana team 2006



Our thoughts!

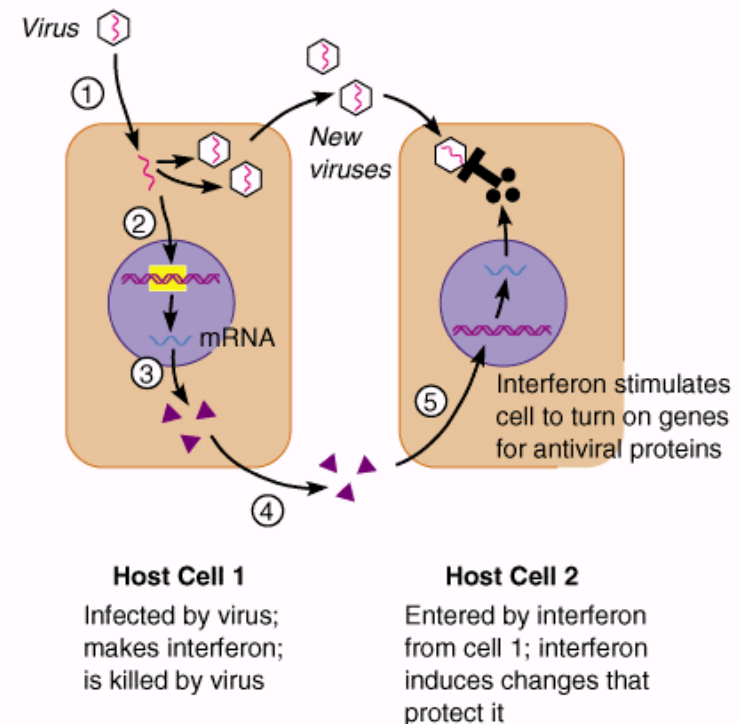
- Optimising biochemical systems – a lot of work!
- Diseases – most are due to single point mutations
- Atherosclerosis – modifying ratio of LDL:HDL
- Replacing drugs with GRNs?

Replacing drugs with GRNs

- Benefits:
 - Reduction in money spent on drugs
 - Better control of the system than by drugs?
- The chosen drug should:
 - Be important
 - Have a well understood mode of action
 - Ideally have side effects not due to its primary mechanism
- Statins?

Anti-viral 'software'

- Analogy with internet routers
- The 'anti-viral mechanism' – TLRs and interferons
- Signal input:
 - IFNs?
 - TLRs?
 - **RIG1?**



Copyright © 2001 Benjamin Cummings, an imprint of Addison Wesley Longman, Inc.

Anti-viral 'software'

- Problems:
 - Need a suitable inhibitor of ATP synthase (or components of the electron transport chain)
 - Protein inhibitor (ATPIF1) exists – poorly understood
 - Chemical inhibitors – probably difficult to generate in the cell?
 - Issue of how slowing down viral replication affects antigen presentation
 - Rate of anti-viral mechanism must be quicker than rate of virus replication