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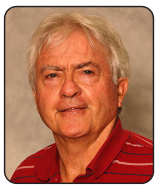
Abstract



# Immunity or tissue damage to virus infections-What decides the outcome?

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**Abstract:**
We are exposed to a very large number of different exogenous viruses . In addition, many viruses persistently infect us, or even form part of our genome. We may make up to 1012 new viruses daily! Few viruses have the ability to cause overt disease and when this happens usually the the infection is unapparent in the majority of those infected. The presentation will briefly mention how viruses can cause disease then go to discuss the circumstances that help decide if infection results in evident tissue damage or if the infection is eliminated without apparent consequences by the immune system.Included among the circumstances to be discussed will be infection by agents from other species, dose and route of infection, age and health status of the infected animal, past exposure history to homologous or heterologous agent, nature of the resident microbiome and some other effects. The second part of the talk will focus on human antiviral vaccines commenting on why we are successful with some, what could be done to improve some vaccines and why we have been remarkably unsuccessful (perhaps permanently so) with others. Keywords: Virus, immunity, immunopathology, vaccines, inflammation.

**Biography:**
Barry T. Rouse graduated with a veterinary degree from Bristol, Englane in 1965. After a brief stint as a practitioner, he undertook graduate studies in Canada obtaining MSc and PhD degrees. He then had a two year postdoctoarl experience at the Walter and Eliza Hall Institute of medical research, Melbourne Australia, prior to returning to Canada as an Assistant professor where he established his independant laboratory. In 1977 he moved to Tennesses where he is currently the Lindsay Young Distinguished Professor. Doctor Rouse considers himself a viral immunologist and has written >400 articles with citations of >22000 and a H index of 81. He has trained almost 80 trainees and stays in touch with the majority of them. Thanks to his trainees he has won numerous awards for his research accomplishments.

**Publication of speakers:**

1. Zheng, M., S. Deshpande, S. Lee, N. Ferrera, and B. T. Rouse. 2001. Contribution of VEGF in the neovascularization process during the pathogenesis of herpetic stromal keratitis. J. Virol. 75:9828-9835. (136 CITATIONS)


2. Zheng, M., D. M. Klinman, M. Gierynska, and B. T. Rouse. 2002. Angiogenesis caused by bioactive CpG motifs and herpesvirus DNA. Proc. Nat. Acad. Sci (USA). 99: 8944-8949. (105 CITATIONS)

3. Lee, S., M. Zheng, B. Kim, and B. T. Rouse. 2002. Matrix metalloproteinase-9 plays a major role in angiogenesis caused by ocular infection with herpes simplex virus. J. Clin. Invest. 110: 1105-1111. (130 CITATIONS)

4. Suvas, S., Kumaraguru, U., Pack, C. D., Lee, S., and Rouse, B. T. 2003. CD4+ CD25+ T cells regulate virus-specific primary and memory CD8+ T cell responses. J. Exp. Med. 198: 889-901. (545 CITATIONS) PMID: 12975455

5. Suvas, S., Kim, B.S., Azkur, K., Kumaraguru, U., and Rouse, B.T. 2004. CD4+CD25+ regulatory T cells control the severity of viral immunoinflammatory lesions. J. Immun. 172: 4123-4129. (290 CITATIONS) PMID: 15034024

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