Wellman Center for Photomedicine Lecture Series

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DNA-Medicine: About preventive or therapeutic gene expression and DNA-based immunomodulation

Virtually all diseases are related to qualitatively or quantitatively defective or irregularly timed gene expression. Unlike inherited genetic diseases, where mostly single genes are affected, the gene expression defects of acquired diseases often arise from multiple failure in interacting signal transduction pathways. The transfer of therapeutic DNA into almost every cell of an afflicted tissue and subsequent regulation of the intended therapeutic gene expression are yet unsolved problems in DNA-Medicine. However, for many DNA-based preventive or therapeutic approaches only transient, high-level gene expression in a minority of functionally relevant cells is necessary. Therefore, preclinical and clinical studies to prevent infectious diseases by DNA-vaccination but also immun-therapeutic DNA-vaccines against metastatic tumors by far outnumber other settings. A TH1-type of immune response is required for many of such treatments, which is not regularly gained following DNA-vaccination. Here, the concept of DNA-based
immunomodulation has its important role, of which our
dSLIM immunomodulator is a powerful representative.
Examples of TH1-driving, non-viral gene expression vectors
and of DNA-based immunomodulators will demonstrated by
pre-clinical and clinical data. Also, regulatory and production
issues of these DNA constructs will be discussed.

Tuesday, February 21, 2006
Thier 1 Conference Room
Massachusetts General Hospital
2:00 - 2:15 coffee reception
2:15 - 3:15 lecture

For all events, please visit:
http://www.massgeneral.org/wellman/calendar.asp