

第25回再生医療・細胞治療研究会

以下の要項にて研究会を開催致します。御多忙中とは存じますが御来聴賜りますよう、お願い申し上げます。

日時：2009年11月27日（金）18:00～19:30

場所：東京医科歯科大学 臨床講堂（B棟地下1階）

[特別講演]

演者：Dr. Yosef Shiloh

(Professor, Department of Human Molecular Genetics and Biochemistry, Sackler School of Medicine, Tel Aviv University)

演題：「The ATM-Mediated DNA Damage Response: Bridging the Lab and the Clinic in Various Fields in Medicine」

Genomic stability is essential for cellular homeostasis and for preventing undue cell death or neoplasia. DNA damage inflicted by internal or external agents is a major threat to that stability. The cellular DNA damage response (DDR) - a central axis in maintenance of genomic stability - is extremely complex. Critical DNA lesions, such as double strand breaks (DSBs), vigorously and rapidly turn it on, setting off a flurry of signal transduction events that involve marked changes in many processes - most notably, cell cycle progression - modulate gene expression and RNA metabolism, and alter protein modifications, transport and turnover. The DSB response is mobilized by the nuclear protein kinase ATM, which is rapidly activated and phosphorylates key players in the various DDR branches. ATM loss or inactivation leads to the genomic instability syndrome ataxia-telangiectasia (A-T), characterized by neuronal degeneration, immunodeficiency, genomic instability, extreme radiation sensitivity, and cancer predisposition. The pleiotropic phenotype conferred by ATM deficiency attests to the impact of the DSB response on many systems in the human body. Therefore, understanding the ATM-mediated DDR is expected to have ramifications on our understanding of certain types of neurodegeneration and immunodeficiency, and meet several goals of cancer research: obtaining new insights into the causation of cancer by genetic factors and environmental agents; understanding the cellular response to radio- and chemotherapy; and identifying new targets for cellular sensitization to therapeutic agents. Several new branches of the ATM-mediated network will be presented. The variety of cellular processes they affect attests to the vastness of the DNA damage response.

共催：再生医療・細胞治療研究会、協和発酵キリン株式会社

当番世話人：難治疾患研究所 病態生化学分野

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