No. 14 March 28, 2012 (Koh)

New German-French research unit on cancer and infections

The French 'Institut National de la Santé et de la Recherche Médicale' (Inserm) establishes another research group at the German Cancer Research Center. The research team headed by pathologist Professor Dr. Henri-Jacques Delecluse pursues research on the connections between viral and bacterial infections and carcinogenesis.

In Germany, the Epstein-Barr virus (EBV), a member of the herpes virus family, is known primarily for causing Pfeiffer's disease, frequently called the "kissing disease". In other parts of the world, however, this virus promotes cancer; in Central Africa it contributes to Burkitt's lymphoma, while in Asia it is linked to various tumors of the nasopharynx. An estimated two percent of cancer cases worldwide are attributed to EBV.

For more than 15 years, Professor Dr. Henri-Jacques Delecluse has been studying the molecular processes that cause EBV infected cells to turn cancerous. Since the beginning of this year, medical researcher Delecluse has been director of the new research unit, "Unité Inserm 1074", established by the French 'Institut National de la Santé et de la Recherche Médicale' (Inserm) at the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) in Heidelberg. The group is interested in both viral and bacterial infections. The main focus is on the development of cancer in a type of cells known as epithelial cells, which line the inner and outer surfaces of the body.

Over the past few years, Henri-Jacques Delecluse has successfully produced EBV mutants that do not enclose any genetic material in their protein shell and, therefore, are not capable of causing any disease. However, for the immune system the empty virus shells look like the intact viruses and are thus an ideal basic material for a vaccine. The newly appointed Inserm researchers are now planning to use such 'virus-like particles' for developing immune therapies against EBV infected cells and, possibly, even a preventive vaccine against the virus, which will also protect from EBV-associated cancers.

To investigate the connection between infection-related chronic inflammations and cancer, the group headed by Henri-Jacques Delecluse uses a model: a certain form of chronic bile duct inflammation which may be caused by bacteria. Patients often develop bile duct cancer as a late effect of their disease. Henri-Jacques Delecluse and his co-workers are now trying to identify molecular markers that provide early clues for carcinogenesis. This may significantly improve the chances of cure for this dangerous type of cancer. To this end, they are investigating which genetic alterations occur and which messenger substances are present at which stage during disease progression in the inflamed tissues.

DKFZ and Inserm jointly fund Unité 1074 as a joint research group. Funding is planned for an initial five-year period and may be extended. Henri-Jacques Delecluse, born in France, is not the first leader of an Inserm group at DKFZ: From 1993 to 2011, there was an Inserm Unit on Cancer Virotherapy headed by Professor Jean Rommelaere based at DKFZ. Jean Rommelaere and his team developed a virus-based anticancer therapy which has successfully progressed to clinical trial stage for treating malignant brain tumors. This

success may have contributed to the French research institute remembering DKFZ as a good partner for leading-edge scientific work.

A picture for this press release is available at:
http://www.dkfz.de/de/presse/pressemitteilungen/2012/images/EBV-particle.jpg
Source: Henri-Jacques Delecluse, Deutsches Krebsforschungszentrum
Picture caption: Electron micrograph of an Epstein-Barr virus leaving a cell

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