



# BIOPARK

CHARLEROI BRUSSELS SOUTH

# news

## The Biopark Charleroi Brussels South Newsletter

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n°24 — winter 2014

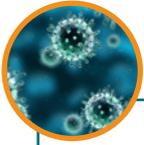
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**ULB**

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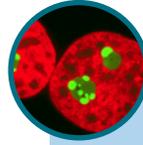
## AIDS

Despite the effectiveness of current AIDS combination therapy, so far nobody has recovered from the disease. Currently, the major obstacle in eradicating HIV is the presence of latence reservoirs of the virus that may reawaken following something as innocuous as a cold, for example. A major optimisation of AIDS treatment would be to reduce, or even eliminate these latence reservoirs of the virus, while continuing to treat the patient with effective AIDS therapy to prevent the reawakened virus from infecting new cells. For many years, IBMM researchers have been working to further our understanding of the molecular mechanisms behind this latency, and to discover strategies that will cure patients of their infection.

**Viral leukaemia and lymphoma**

## Ciliopathies

## Ribosomopathies



With the cells of our body, all proteins are made using nanomachines: ribosomes. Ribosomes are made up of tens of different components that must be assembled precisely to generate functional, reliable machines. When ribosomes are assembled incorrectly our cells fail to produce enough proteins, and those that are produced may contain errors. This exposes us to the risk of developing serious illnesses that have recently become known as ribosomopathies, or "sickness of the ribosome". Patients suffering from ribosomopathies are often afflicted by cancers, blood cell maturation disorders, and skeletal development problems. IBMM researchers study ribosome biogenesis in human cells and seek to understand how aberrations in the assembly of ribosomes lead to ribosomopathies.

## Acute myeloid leukaemia

## Cancer

## Cerebrovascular diseases



Protected from impacts by the neurocranium, the meninx, and cerebrospinal fluid, the brain is also equipped with a complex biological filter: the blood-brain barrier. This tightly regulated interface between the peripheral vascular system and the central nervous system maintains the homeostasis of the liquid that surrounds the brain, protecting it from pathogens and neurotoxins contained in the blood. The protective, insulating role played by this barrier does however present a major obstacle to the treatment of central nervous system diseases, as it prevents over 98% of potential therapeutic molecules from reaching the brain.

Conversely, a damaged barrier causes too much fluid to accumulate in the brain, fluid that plays a role in the pathophysiology of a large number of diseases such as strokes, neurodegenerative diseases, and neuroinflammatory pathologies. IBMM researchers are on the case.

**Bone scarring diseases**

## Aneurysms

## Kidney disorders

## Atherosclerosis