

## National Research Program Grant-in-aid

<b>Chief investigators:</b>	Associate Professor Maher Gandhi and Dr Alison Mudge
<b>Institute:</b>	Queensland Institute of Medical Research (QIMR)
<b>Project title:</b>	The role of immunity in a new and highly aggressive lymphoma
<b>Disease focus:</b>	Diffuse large B cell lymphoma
<b>Funding:</b>	\$100,000
<b>Funding period:</b>	2012



### Project summary

Worldwide, a new and highly aggressive lymphoma sub-type is increasing in incidence among the elderly. Clinicians know little about the cancer, Epstein-Barr virus diffuse large B cell lymphoma (EBV+ DLBCL).

Queensland Institute of Medical Research's Associate Professor Maher Gandhi and Royal Brisbane Hospital Aged Care physician Dr Alison Mudge, are among the first in the world to study EBV immunity in the elderly and its relationship with EBV+ DLBCL.

According to Associate Professor Gandhi, it is possible that the lymphoma is triggered in people over 50 years of age by changes in the immune system's ability to control cells carrying the Epstein-Barr virus (EBV).

"Once someone has been infected with EBV, they carry the virus in the body for the rest of their life," he said.

"Generally EBV remains inactive, carried in white blood cells known as B cells. Another type of white blood cells, T cells, control EBV reactivation and prevent overt disease.

"However, we suspect that with age, the number of EBV-infected B cells increases, while EBV-specific T-cell immunity declines and that this is selectively impaired in EBV+ DLBCL.

"We're performing rigorous immunological analyses to understand the cause of Epstein-Barr virus diffuse large B cell lymphoma."

The pair is also collaborating with Professor David Price from the National Institutes of Health in the United States and Associate Professor Mark Hertzberg from Westmead Hospital in Sydney to investigate a vaccine treatment for the lymphoma.

"We've discovered a unique antigen expressed on EBV+ DLBCL cells that is highly attractive as an immunological target," said Associate Professor Gandhi.

The Leukaemia Foundation has previously funded a PhD scholarship (Kimberly Jones; 2009-2011) and a Postdoctoral Fellowship (DrColm Keane; 2009-2011) for EBV+ lymphoma research projects undertaken in Associate Professor Gandhi's laboratory.