

**Neurological disease induced in transgenic mice expressing
the env gene of the Cas-Br-E murine retrovirus**

Kay et al (1996) J Molec Neurol 29:4747-4755

The article by Kay et al studied the pathogenesis of the spongiform myeloencephalopathy induced by a murine retrovirus, Cas-Br-E MuLV. The study was performed by constructing Tg mice capable of expressing all or only some (gp70/p15E) of the viral proteins in the CNS. A good proportion of these mice developed mild neuropathology and/or signs of neurological disease.

Kay et al concluded that their results suggest that virus replication or other viral proteins are not required for neurovirulence and that the env gp70/p15E complex is sufficient to induce disease. The CNS lesions seen in both types of Tg mice were localized predominantly in regions known to be the sites of spongiform degeneration in Cas-Br-E MuLV-inoculated mice. Kay et al proposed that this may reflect a preferential or higher transcription of the transgene in these regions or a greater susceptibility of the CNS cells in these regions to the detrimental action of the gp10 protein.

Further analysis of these results suggested that a minimum threshold of transgene product may be needed to cause disease. The accumulation of results further suggested that a low level of expression of a deleterious gene within the CNS, at a level too low to be detectable using the experimental techniques appeared sufficient to induce a mild form of the disease.