

## In the news

### GENES AND VACCINE FOR MULTIPLE SCLEROSIS

After decades of failed attempts, two new genetic variants have been identified that increase the risk of developing multiple sclerosis. Given that the long-known risk factor HLA-DRB1 accounts for “less than half of the total genetic basis for the disease,” the recent finding represents “a welcome breakthrough”, said Lee Dunster of the Multiple Sclerosis Society (*The Times*, 30 July 2007).

Genome-wide analysis, reported in *The New England Journal of Medicine* (29 July 2007), revealed that the two variants — in the genes encoding interleukin-7 receptor  $\alpha$ -chain (IL-7R $\alpha$ ) and IL-2R $\alpha$  — increased the risk of developing the disease by up to 30%. Two further independent studies, published in *Nature Genetics* (29 July 2007), confirmed the disease association with IL-7R $\alpha$  and showed that this variant had an effect on gene function. However, one author cautioned that, “A lot of people carry this particular variant, and they don’t get multiple sclerosis” (*Nature News*, 29 July 2007), so many more genes are probably involved.

Because IL-2R $\alpha$  has also been linked to type 1 diabetes and autoimmune thyroid disease, “this study will likely spur further research into the connection between these seemingly separate conditions”, predicts David Hafler, a primary author of one of the studies (*The Independent*, 30 July 2007). The interaction between IL-7R $\alpha$  and regulatory T cells will also be a major focus of research, said another author, Stephen Hauser (*The Times*, 30 July 2007).

Hopes of a vaccine for treating multiple sclerosis have also been raised recently. In the *Archives of Neurology*, Amit Bar-Or and colleagues report the results of a small DNA vaccine trial in patients with multiple sclerosis, indicating that it “was safe and well tolerated, provided favourable trends on brain MRI and produced beneficial immune changes.” (*Telegraph*, 14 August 2007.)

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