Body’s Protection Against Autoimmune Disease May Shield HIV

This finding could aid the HIV vaccine research field.

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A natural immune system process that protects against autoimmune disease apparently prevents the body from developing antibodies that can thwart HIV. This finding could contribute to the field of HIV vaccine research.

Publishing their findings in The Journal of Experimental Medicine, researchers studied mice engineered to have genetic defects leading to symptoms similar to the autoimmune disease lupus.

The researchers infected the mice with HIV and injected them with a chemical called alum that is often used in vaccinations because it prompts the secretion of antibodies. These mice produced antibodies that could neutralize the virus.

Next, the scientists gave mice without such engineering a drug that suppressed a process known as immunological tolerance, in which the body prevents the creation of autoimmune-causing antibodies. Infected with HIV, these mice also produced antibodies that could neutralize the virus. Alum injections prompted higher levels of these antibodies. Additionally, when the mice were injected with an HIV protein known as Env, they produced broadly neutralizing antibodies that have the capacity to neutralize a wide variety of HIV strains.

A major question for further research is whether an HIV vaccine method could temporarily relax the body’s line of defense against autoimmune conditions without leading to autoimmune-related damage.

To read a press release about the study, click here.

To read the study, click here.

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