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CUTTING EDGE

Testosterone therapy ameliorates experimental autoimmune encephalomyelitis and induces a T helper 2 bias in the autoantigen-specific T lymphocyte response

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Female SJL mice are more susceptible than male mice to experimental autoimmune encephalomyelitis (EAE) induced by myelin basic protein (MBP)-specific T lymphocytes. In the present study, we examined mechanisms involved in this gender-related difference in disease susceptibility. MBP-specific T lymphocytes derived from spleens of males during the effector phase of adoptive EAE produced significantly higher levels of IL-10, an anti-inflammatory cytokine in EAE. A protective effect of testosterone was then shown. Females implanted with dihydrotestosterone pellets demonstrated a significantly less severe course of EAE as compared with females implanted with placebo pellets. Finally, MBP-specific T lymphocytes derived from dihydrotestosterone-implanted females produced significantly higher levels of IL-10 than those from placebo. Together these data indicate that testosterone exerts a protective effect in EAE that is mediated at least in part by enhanced production of IL-10 by autoantigen-specific T lymphocytes.

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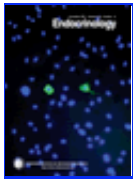
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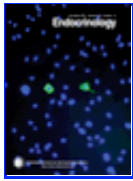
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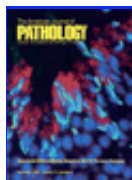
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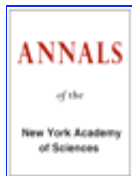
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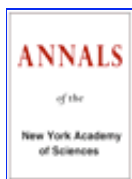
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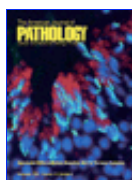
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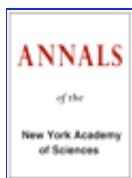
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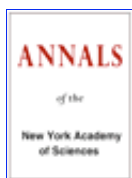
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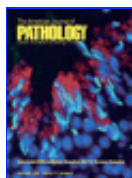
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