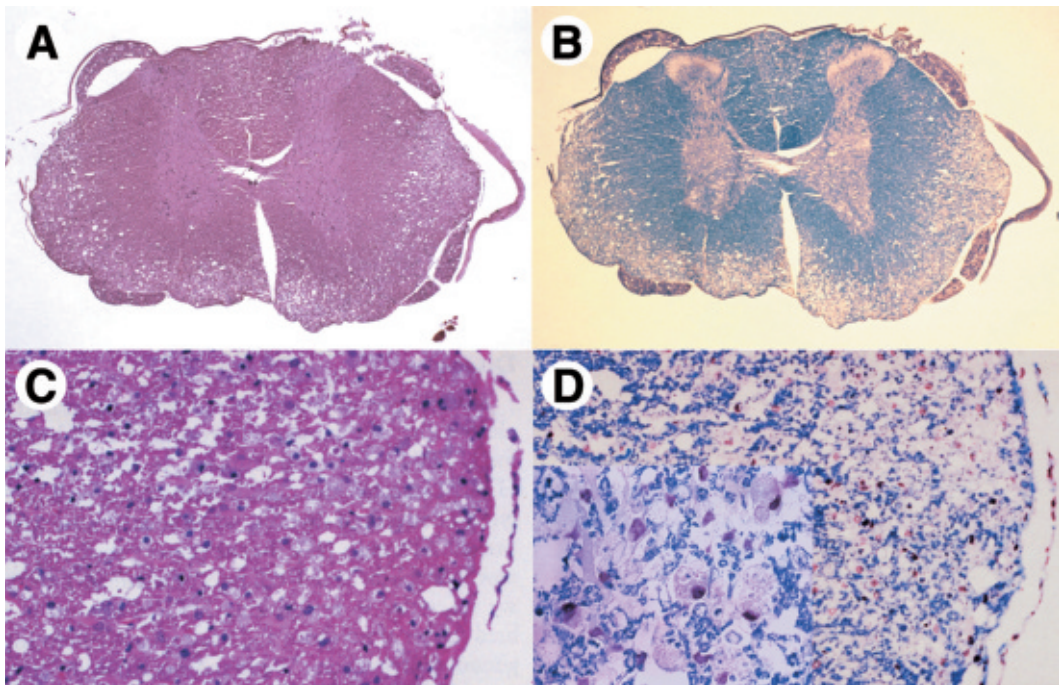
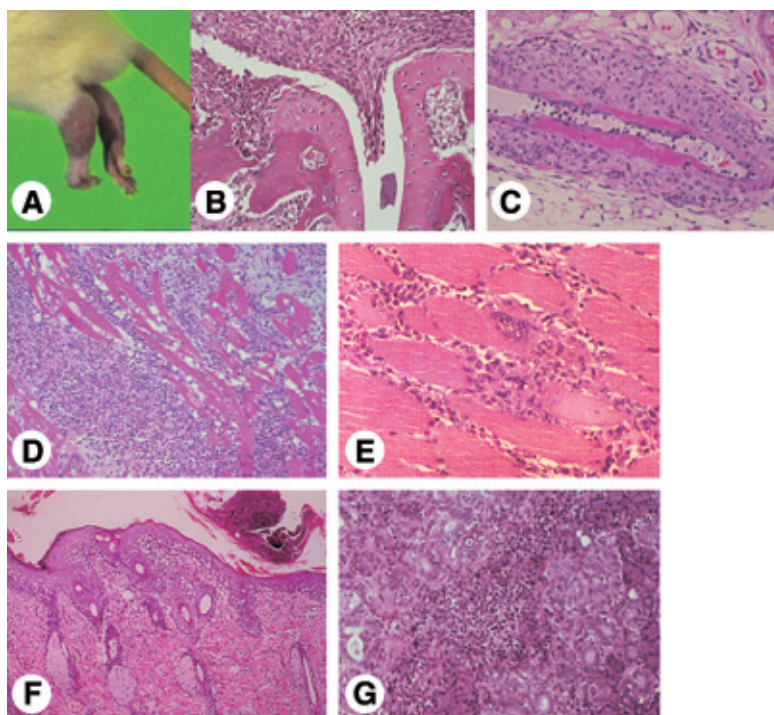




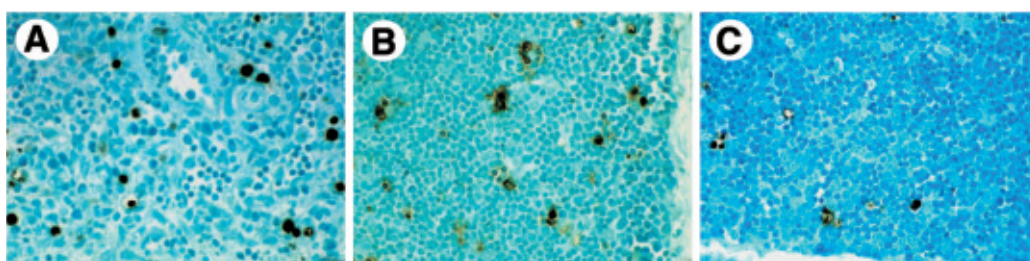
Suppl. Fig. 1 HAM rat disease



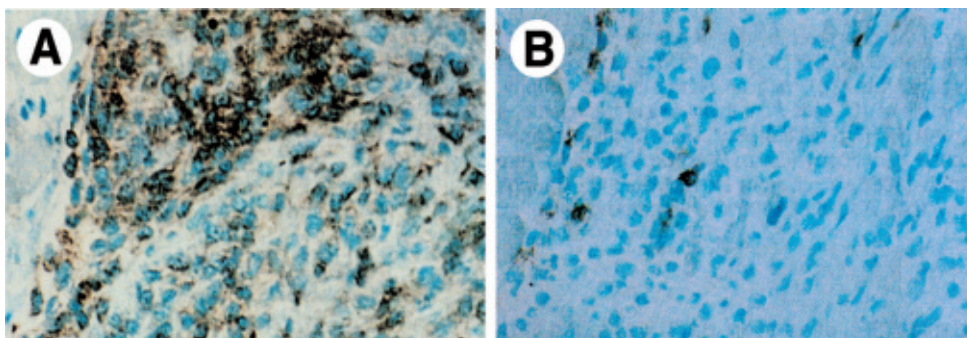
Suppl. Fig. 2 Histopathology of affected thoracic spinal lesion. **A** and **C** are HE staining and **B** and **D** are KB-PAS staining. A high power magnification figure is inserted in **D**.



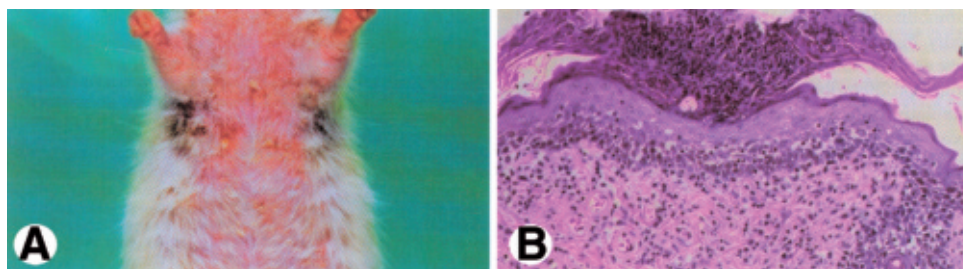
Suppl. Fig. 3 Diseases developed in env-pX rats. **A** and **B**: Gross (**A**) and microscopic (**B**) findings of the affected joints. **C**: Necrotizing arteritis. **D**: Myocarditis. **E**: Myositis. **F**: Dermatitis. **G**: Sialoadenitis.



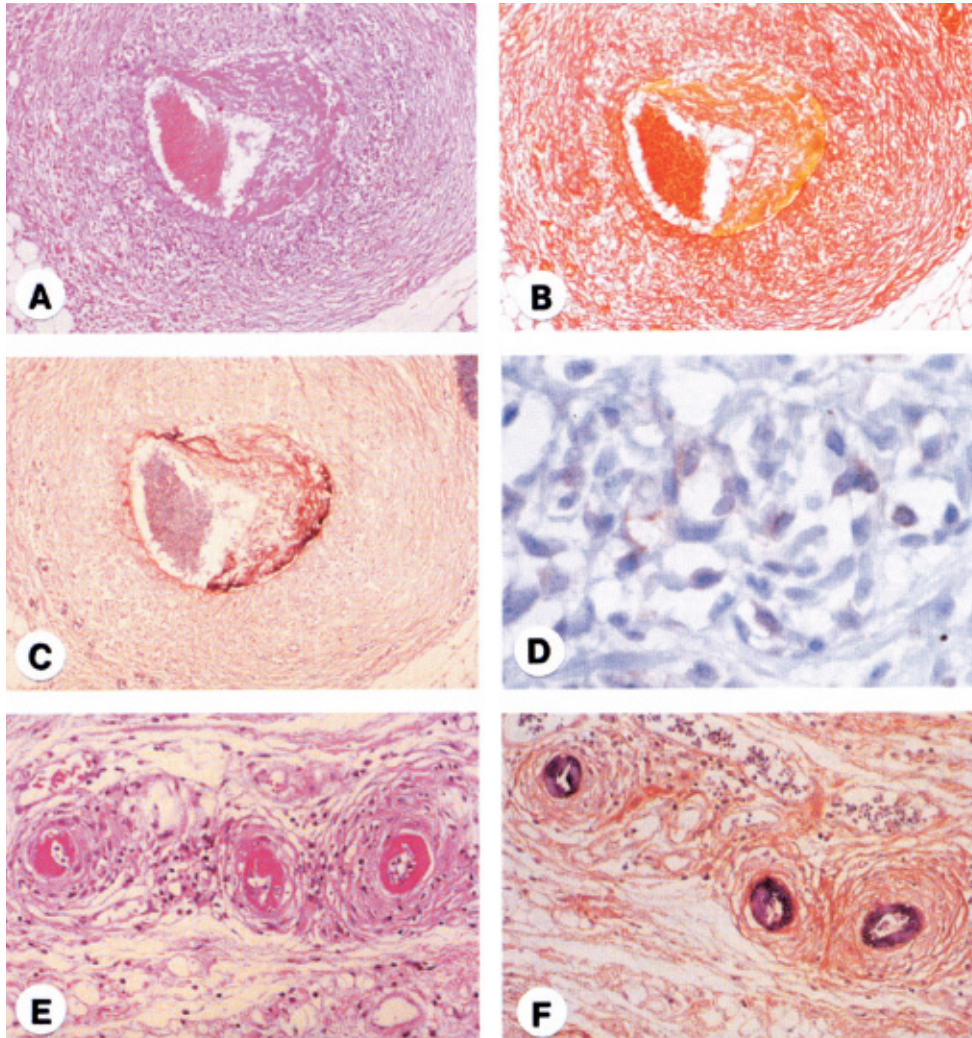
Suppl. Fig. 4 Detection of apoptotic death of thymocytes in the thymic cortex of env-pX rats by TUNEL. Atrophied thymus (**A**) and non-atrophied thymus (**B**) in env-pX rat. **C**: Thymus of age-matched non-transgenic control rat.



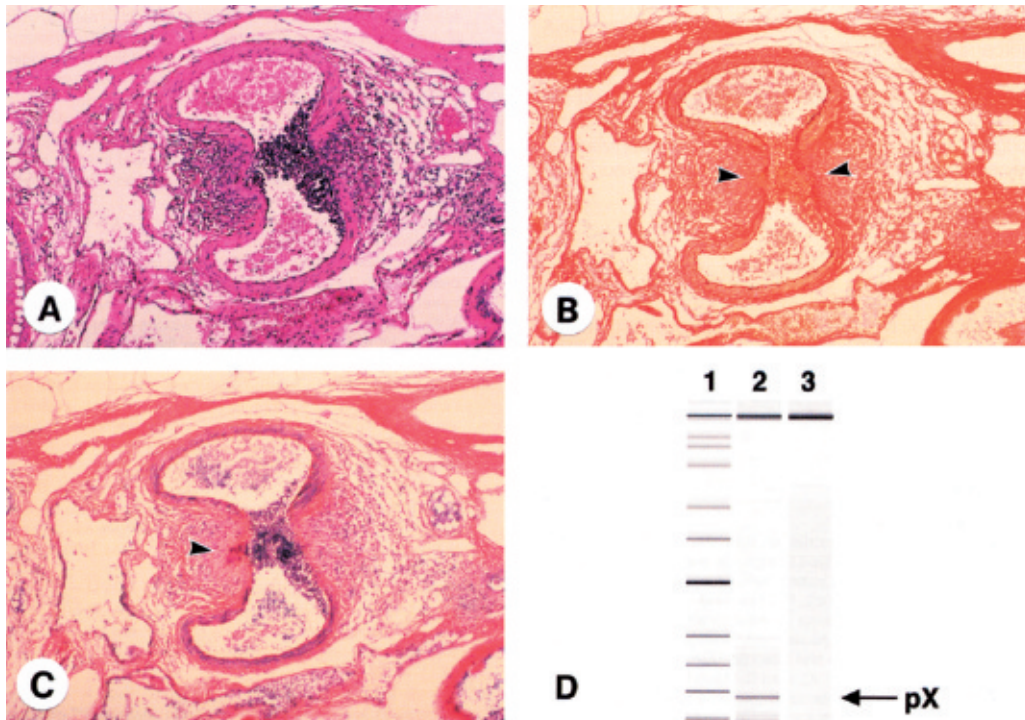
Suppl. Fig. 5 Immunohistochemistry of infiltrating lymphocytes in the diseased heart of env-pX rat. **A:** with anti-CD4 antibody, **B:** with anti-CD8 antibody.



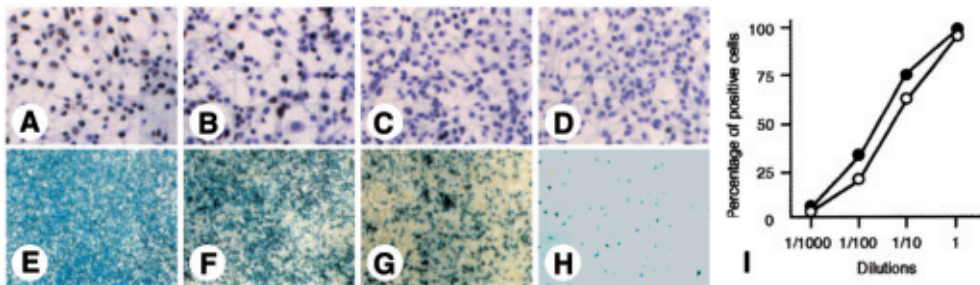
Suppl. Fig. 6 Dermatitis developed in a lethally irradiated WKAH rat reconstituted by BMC from env-pX rats. Macro- (**A**) and microscopic findings (**B**).



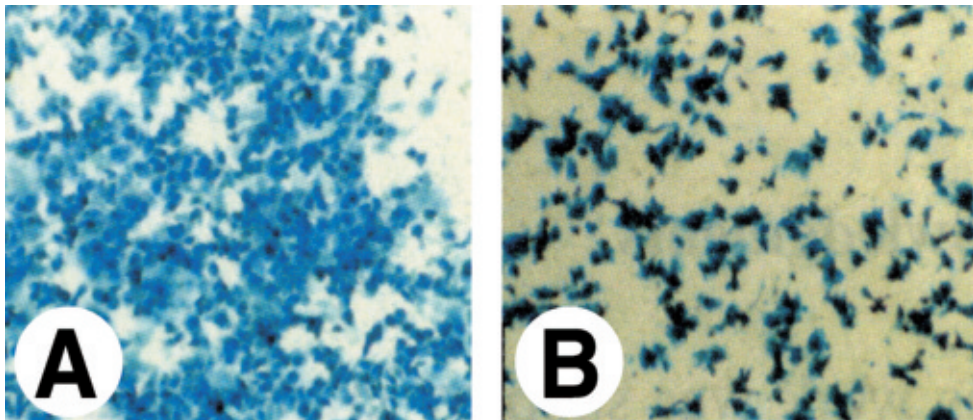
Suppl. Fig. 7 Necrotizing arteritis in lethally irradiated WKAH rats reconstituted by env-pX SC. **A** and **E**: HE staining. **B**: EVG staining. **C** and **F**: PTAH staining. **D**: immunostaining for CD3.



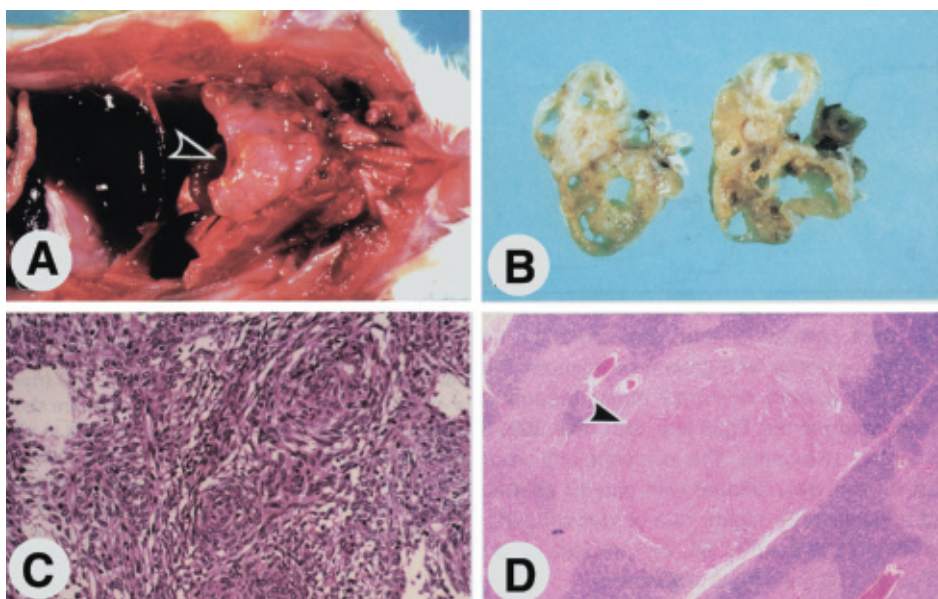
Suppl. Fig. 8 Necrotizing arteritis in a WKAH rat with an env-pX thymus framework. **A:** HE staining. **B:** EVG staining. Disruption of elastic fibers is evident (arrows). **C:** PTAH staining. Fibrinoid degeneration of the arterial wall is evident (arrow). **D:** Detection of the pX gene in DNA extracted from microdissected samples by nested PCR. Lane 1: ladder marker. Lane 2: env-pX lymph node cells as positive control. Lane 3: sample from lymphocytes accumulating at the arteritis lesion in a WKAH rat with an env-pX thymus framework. An expected molecular size of the nested PCR product is 90bp.



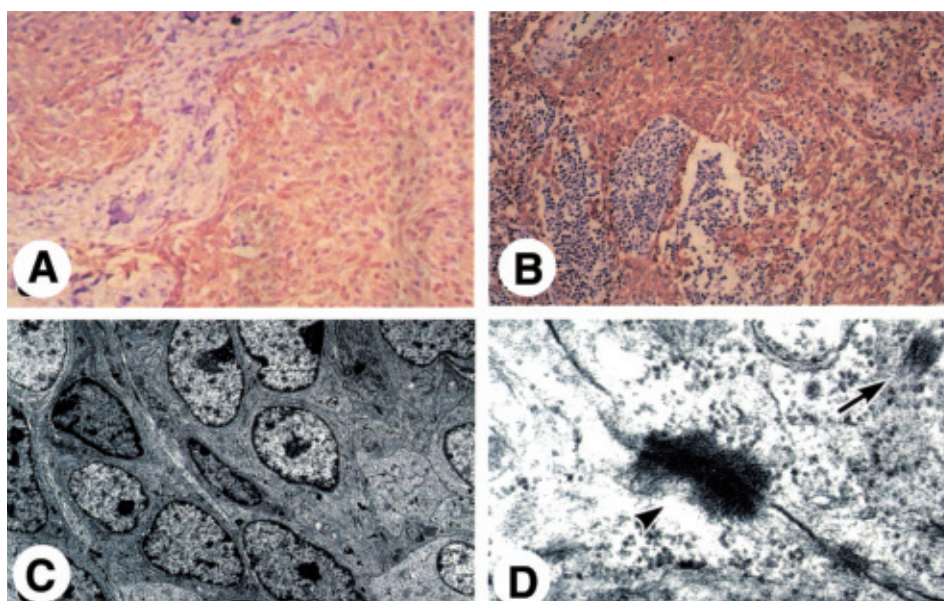
Suppl. Fig. 9 Titration of ATF-1DN/BB (A-D) and lacZ/BB (E-H). The undiluted (A and E) and diluted (1:10, B and F; 1:100, C and G; 1:1000, D and H) vector solutions were added to BHK cells (1ml/2x10⁵ cells). Twenty-four h later, cells were stained for anti-ATF-1 antibody (A-D) and for β -galactosidase activity (E-H). The percentage of positive cells was plotted (I). Open and closed circles represent results from A-D and from E-H, respectively.



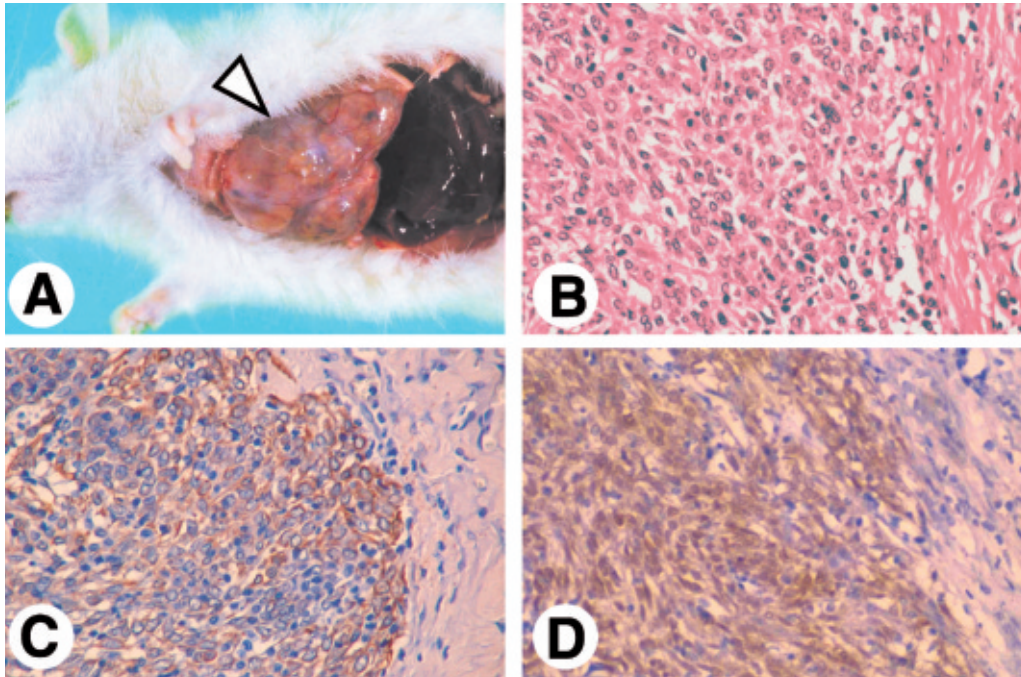
Suppl. Fig. 10 Susceptibility to the Sindbis virus vector. BHK (A) and rat joint fibroblastic cells (B) were infected with lacZ/BB (1ml/2x10⁵ cells), respectively. Twenty-four h later, cells were stained for β -galactosidase activity.



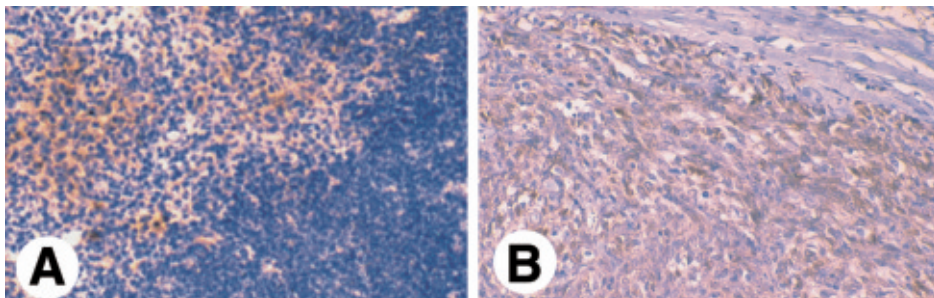
Suppl. Fig. 11 Development of thymoma in lck-pX rats. **A:** A lethally expanded tumor in the anterior mediastinum (arrowhead) of a Tg38 male rat. **B:** Cross section of the tumor. **C:** Microscopic finding of the tumor (HE staining). **D:** A small tumor (arrowhead) locates in the medulla in a 15 week old lck-pX rat before development of any clinical symptoms (HE staining).



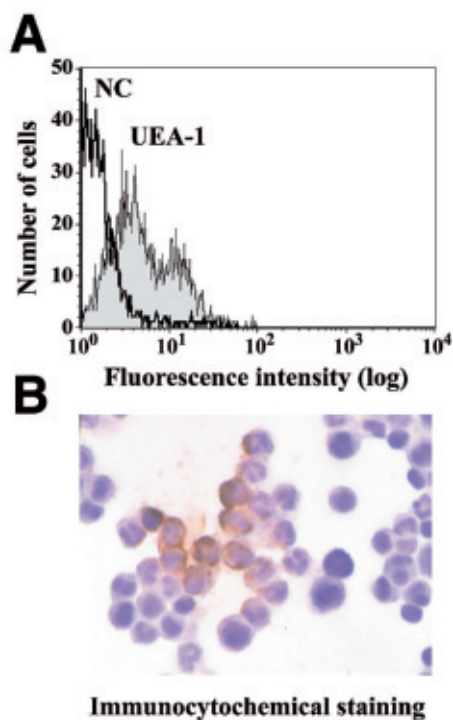
Suppl. Fig. 12 Immunohistochemistry and ultrastructure of the thymoma. **A:** Immunostaining using anti-Tax monoclonal antibody. **B:** Immunostaining using a monoclonal anti-cytokeratin antibody. **C:** Electron microscopic findings of tumor cells. **D:** Desmosomes between tumor cells (arrowhead) and tonofibrils (arrow) in the cytoplasm are clearly evident.



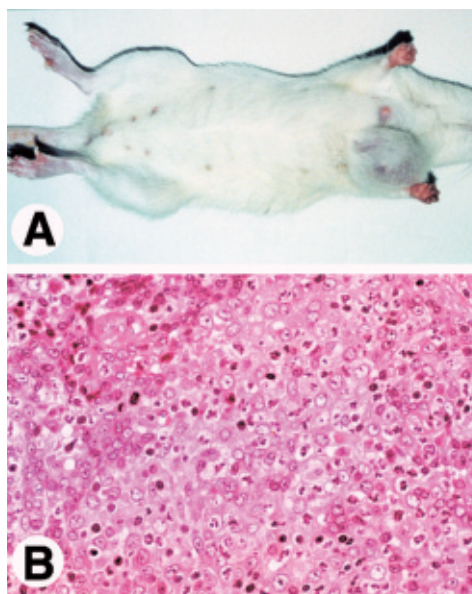
Suppl. Fig. 13 Development of thymomas in normal F344 (non-transgenic recipient) rats after being given total BMC of lck-pX rats. **A:** A large tumor (arrow-head) in the anterior mediastinum of a recipient rat. **B:** Microscopically, the tumor resembling the lck-pX thymoma. **C** and **D:** Immunostaining using anti-cytekeraatin (**C**) and anti-Tax monoclonal antibodies (**D**).



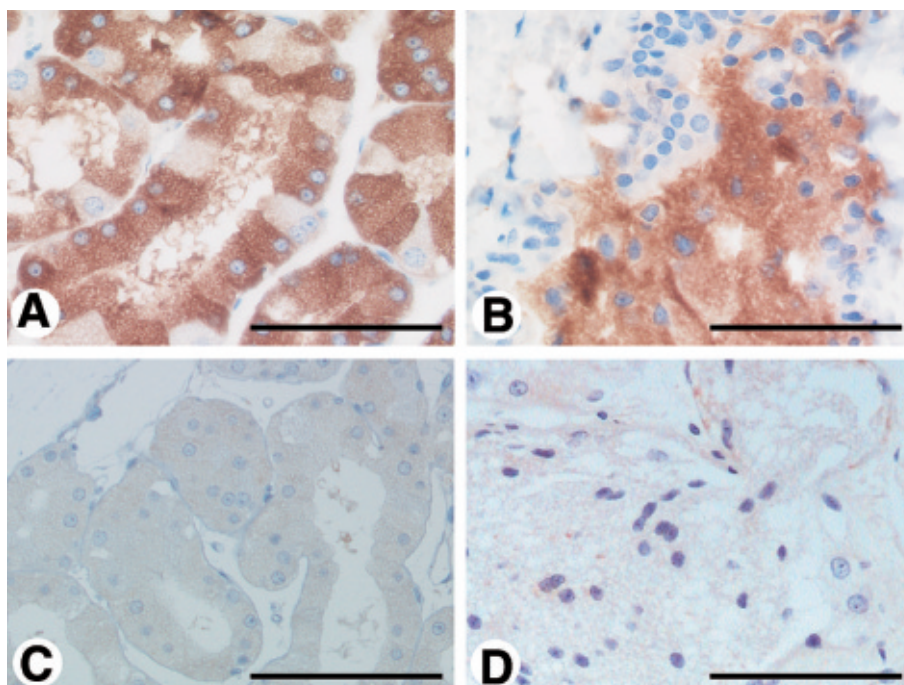
Suppl. Fig. 14 Distribution of the UEA-1 positive cells in the lck-pX rat thymus (**A**) and the lck-pX rat thymoma (**B**).



Suppl. Fig. 15 UEA-1 expression of the BMMC in the lck-pX rat. **A:** Flow cytometry revealed about 7.5% strongly UEA-1 positive cells in the lck-pX BMC. NC means BMC without UEA-1 staining as a negative control. **B:** Immunocytochemistry of UEA-1 positive cells (brown) in the lck-pX BMC.



Suppl. Fig. 16 Development of mammary carcinoma in H2-pX rats. Gross (**A**) and microscopic (**B**) findings of the mammary carcinoma. **B:** HE stainig.



Suppl. Fig. 17 Immunohistochemistry in Harderian gland of ETR5 rats, using an anti-Env peptide antibody.

A and **B**: ETR5 rat, **C** and **D**: non-transgenic control rat. Harderian glands (**A** and **C**) and ducts of the glands (**B** and **D**) are shown. Bars indicate 100 μ m.