## **Description of Additional Supplementary Files**

## File type: Supplementary Movie. 1:

**Description:** R-Atg5i mice 4 months post dox removal highlighting the stochastic response to autophagy restoration. All mice were treated on dox for 4 months before dox removal for 2 months. At this stage, 100% of mice show kyphosis. The movie represents three examples with different levels of recovery. Mouse I exhibits little recovery, whereas mouse III looks normal with no sign of kyphosis. Mouse II appears active but with mild kyphosis.