

Zap70-W163C(Balb/c)

Nomenclature	BALB/cAnSmoc- <i>Zap70</i> ^{em(W163C)Smoc}
Cat. NO.	NM-KI-210366
Strain State	Repository Live

Gene Summary

Gene Symbol Zap70	Synonyms	Srk; mur; mrtle; ZAP-70
	NCBI ID	22637
	MGI ID	99613
	Ensembl ID	ENSMUSG00000026117
	Human Ortholog	ZAP70

Model Description

These mice carry a W163C mutation of Zap70 gene.

Research Application: Rheumatoid arthritis model, Ankylosing spondylit, SKG mouse arthritis modelis model

*Literature published using this strain should indicate: Zap70-W163C(Balb/c) mice (Cat. NO. NM-KI-210366) were purchased from Shanghai Model Organisms Center, Inc..

Disease Connection

Rheumatoid Arthritis	Phenotype(s)	MGI:3698734
	Reference(s)	Sakaguchi N, Takahashi T, Hata H, Nomura T, Tagami T, Yamazaki S, Sakihama T, Matsutani T, Negishi I, Nakatsuru S, Sakaguchi S, Altered thymic T-cell selection due to a mutation of the ZAP-70 gene causes autoimmune arthritis in mice. Nature. 2003 Nov 27;426(6965):454-60

Validation Data



Fig.1 Clinical score of joint swelling in HO Zap70-W163C (Balb/C) mice(A) and representative diagram of hind limb joints of mice in each group on day 52(B) (female, 6-8wks). Compared with the control group, the mannan-induced mice gradually increased their joint swelling scores over time.

Signs of arthritis were assessed by a visual score where 0= Normal paw, 1 = one toe inflamed or swollen, 2 = more than one toe, but not entire paw, or mild swelling of the entire paw, 3 = entire paw inflamed and swollen, and 4 = very inflamed and swollen paw or ankylosed paw.

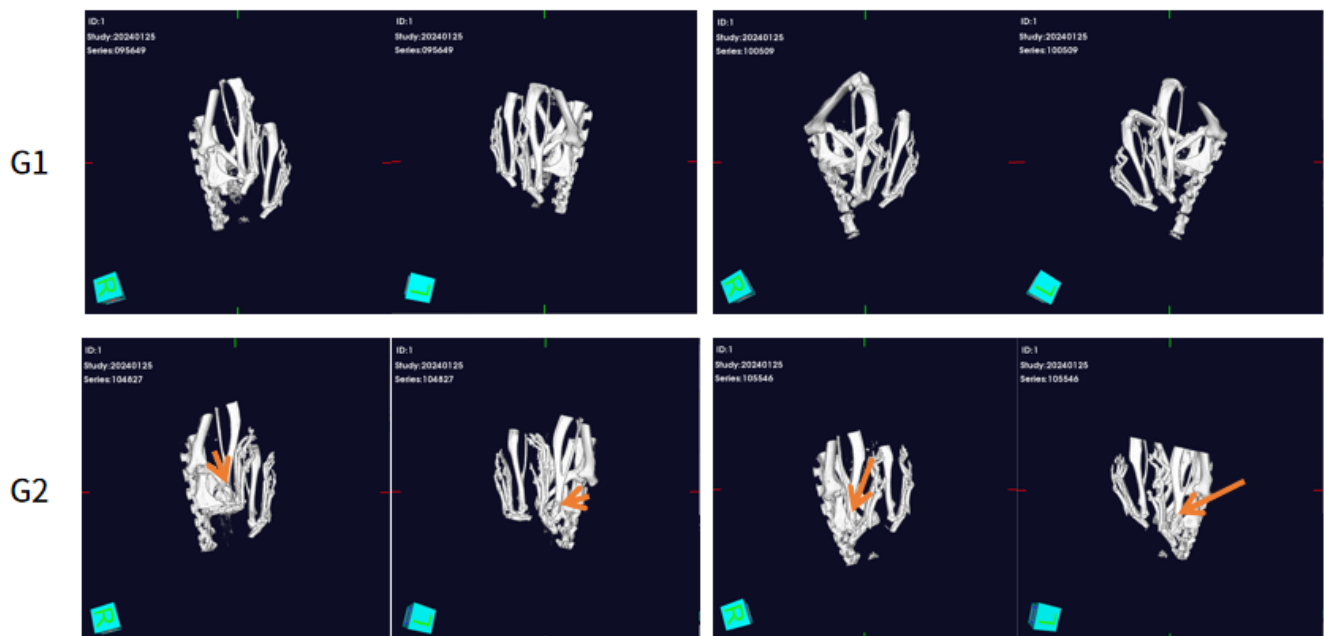


Fig.2 Hindlimb micro-CT image of HO Zap70-W163C(Balb/C) mice in the control (G1) and model groups (G2) (female, 6-8wks). The orange arrows point to osteophytes.

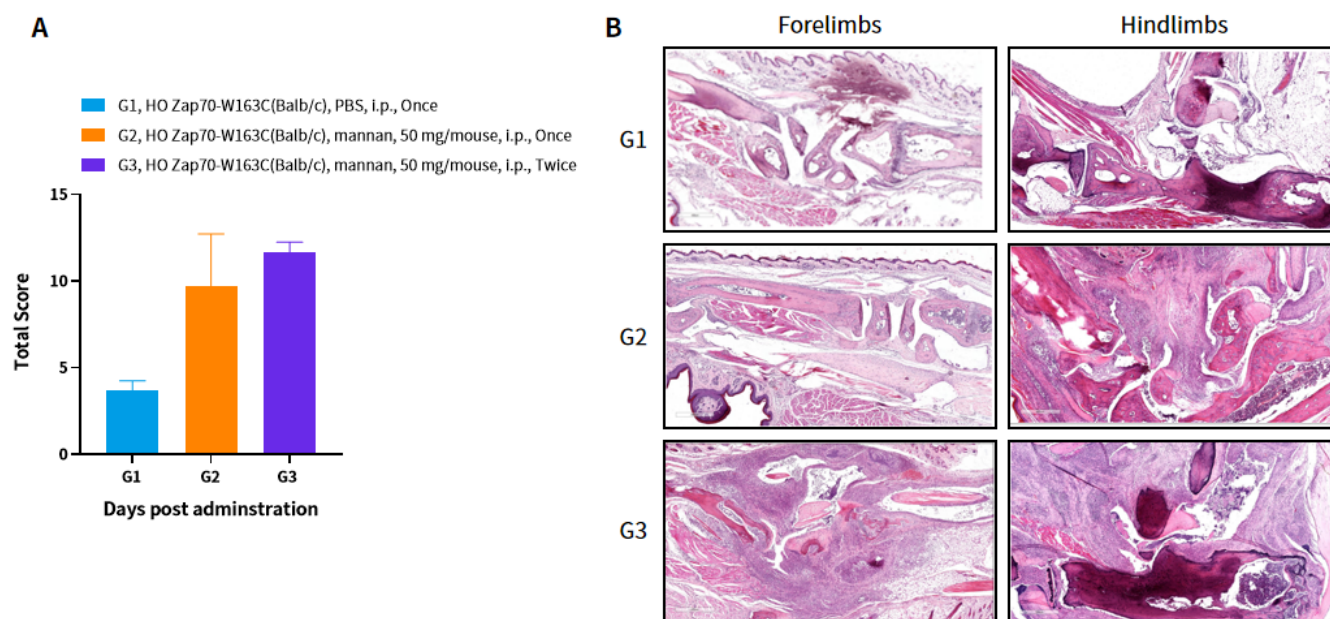


Fig.3 Score of HO Zap70-W163C(Balb/C) mice (A) and H&E pathology(B). (female, 6-8wks, n=3)

Compared with G1, the infiltration of mixed inflammatory cells in the induced group was significantly increased, and the synovial membrane of the joints showed obvious hyperplasia, pannu formation, fibrous tissue formation, and cartilage erosion.

Publications

[A novel Anti-ROS osteoblast-specific delivery system for ankylosing spondylitis treatment via suppression of both inflammation and pathological new bone formation](#)

References: Journal of Nanobiotechnology