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ABSTRACT SUBMISSION – DEADLINE 10 May 2013

Title (up to 30 words, Arial, 11 pt, single line spaced, in sentence case. Like this:	Preventive effect of Tribulus Terrestris extract on exercise-related immunosuppression and its mechanism
Authors (Underline the presenting author)	YIN Liang, LIU Gui, <u>WANG Xiaohui</u>
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YIN Liang, LIU Gui, WANG Xiaohui

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Department of Sport Science; Shanghai University of Sport; Shanghai, China.

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ABSTRACT

This is my abstract introducing the interesting study I recently completed. Reference lists are not generally included. The text is limited to 400 words and must fit on a single page. See notes on figures and tables above. Remember to direct any questions you may have about this online submission process to Dr. Brian McFarlin (brian.mcfarlin@unt.edu) to ensure your abstract is formatted properly and submitted successfully.

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Introduction: To investigate preventive effect of Tribulus terrestris extract (TT) on exercise-related immunosuppression in rats and explore the mechanisms- the role of Glucocorticoid (GC), Glucocorticoid Receptor (GR) and NF-kB inhibitor protein alpha (IκBa). **Methods:** Thirty male SD rats were randomly divided into control group, over-trained group and over-trained plus TT group. The last two groups were trained on a motor-driven treadmill with a progressively increased load for 6 weeks. The over-trained plus TT rats took the medicine by gastric irrigation while the others ingested the same amount of saline. The numbers of CD3+, CD4+, and CD8+ T cells and natural killing (NK) and NKT cells were detected by Flow Cytometry. The plasma levels of testosterone and corticosterone and the protein levels of GR and IκBa in livers of rats were determined by ELISA and Western blot, respectively. **Results:** □ Distinct decreases of body weigh, testosterone/corticosterone (T/C) ratio, the numbers of CD3+T and NK cells were found in over-trained rats compared with that of control rats, indicating successful establishment of exercise-related immunosuppression. □ Supplement of TT lead to significant increases of T/C ratio, CD4+/CD8+ ratio and the amounts of CD8+ cells, NK and NKT cells in the over-trained rats. □ The plasma levels of GC in over-trained rats kept unchanged compared to control rats, while obvious decrease (about 50% of over-trained rats) was observed in over-trained plus TT rats. □ The protein levels of GR decreased in the livers of over-trained rats, while obvious increases of protein expression of GR were observed in over-trained plus TT rats. □ The protein levels of IκBa raised significantly in the livers of over-trained rats, while reduced protein levels of IκBa were shown in over-trained plus TT rats. **Conclusions:** These results indicated that: □ supplement of TT improved the suppressed immune function resulted from over-training in rats. □ TT decreased the plasma levels of GC and the protein levels of IκBa in livers of over-trained rats and increased the protein levels of GR in livers of over-trained rats, which might be related to the preventive effect of TT on exercise-related immunosuppression.

Key words: Tribulus terrestris; exercise-related immunosuppression; glucocorticoid receptor; glucocorticoid; IκBa

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