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### **The anti-inflammatory properties of potassium humate**

Mechanistic studies done by my research group on brown coal derived potassium humate indicates that potassium humate inhibits the activation of complement, the expression of adhesion molecules and the release of cytokines associated with inflammation. In studies done on rats we found that potassium humate is safe at an oral dosage of up to 1g per kg. According to toxicity studies by us in rats potassium humate has no effect on the safety parameters when administered to rats at a dosage of 1g per day nor did it have any effect on the pups if administered to pregnant female rats at 500mg per day. Efficacy studies indicated that this product, at an oral dosage of 60mg/kg, inhibits a delayed type hypersensitivity reaction in rats immunised with sheep red blood cells as well as a carrageenan-induced oedema and a graft-vs-host reaction. We also found that the product inhibited a contact hypersensitivity reaction in rats sensitised to dinitrofluorobenzene. In these studies potassium humate compared favourably with indomethacin and prednisolone. Interestingly, immune-incompetent rats (induced with cyclophosphamide treatment in the graft-vs-host experiment) treated with potassium humate did not suffer from the normal weight loss as was the case with rats treated with cyclophosphamide alone.

In clinical studies we have shown that potassium humate reduces CRP (C reactive protein) levels in osteoarthritis patients as well as the wheel and flare reaction of hay fever patients at a dosage of 600mg three times per day. No side effects were documented in either the preclinical or clinical studies.

### **Biography**

CE Jansen van Rensburg obtained a BSc (agric) in Microbiology in 1964, an MSc in 1982 and a Ph.D in Immunology in 1986 (at the age of 43). Up till now she has been employed by the University of Pretoria for 43 years after which she retired. Twenty nine MSc and nine PhD completed their studies under her supervision. After 4 years of retirement she returned to the University of Pretoria, Faculty of Medical Sciences as Research Mentor. She has published 128 research papers in ISI accredited international journals and presented at 44 International Conferences.

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