



**Effects of Supplemented Humic Acid on the Haematological Parameters of Iron Depleted Anaemic Rats**

(for experimental details see the enclosed Study Plan)

**Iron Depleted Anaemic Rats**

For the experiment SPRD rats (Charles River Hungary Ltd) were fed with either normal rat chow (control group) or iron depleted rat chow ( $Fe < 10$  ppm) during the whole gestation and lactation period. After weaning the offsprings ( $n = 40$ ) were separated into the following experimental groups:

- ◆ control group                      fed with normal rat chow
- ◆ anaemic control    fed with iron depleted chow
- ◆ test material group fed with iron depleted chow and SHA administered
- ◆ reference group    fed with iron depleted chow and reference material (Actiferrin) administered

**Test material:**

Supplemented humic acid (SHA) 30 g/L suspension containing 18.7 mg  $Fe^{2+}$ /100 mg humic acid

**Reference material:**

Actiferrin (Ludwig Merckle GmbH) containing 680 mg  $Fe^{2+}$ /100 mL preparation

**Administration:**

After weaning the selected dose administered daily between 9.00-10.00 per os via a gastric tube for 21 days.

**Dose:**

Test material: 0.66 mL SHA suspension/kgbw ( $3.7$  mg/kgbw  $Fe^{2+}$ )

Reference material: 0.54 mL/kgbw ( $3.7$  mg/kgbw  $Fe^{2+}$ )

### **Measurements:**

After establishing the iron depleted rat experimental groups (regular check-up, measuring body weight and weekly chow consumption, post natal check-up) clinical tests were performed before treatment and on the 7th, 14th and 21st day of treatment.

### **Preliminary results based on the 7th day data:**

After weaning before treatments with the test material and with the reference material haematological parameters of the control and anaemic control groups were established. In the pre- and postnatal iron depleted chow fed animals the body weight of the offsprings were 60 % less, the RBC, MCV, Hgb, Htc, Fe and Sat values were significantly lower and the ZP and TIBC values were significantly higher than in the control groups.

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After the 7-days treatment in both the reference group and the test group the Hgb, Htc, and MCV values have reached, the RBC, ZP, Fe and TIBC values were close to that of the control group. There was no significant difference between the Actiferrin and SHA effects.

The experiment is still in progress thus evaluation of the longer treatment groups will be available upon termination of the whole experiment. This is due in mid-July.