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2nd International Conference on
Food Safety and Regulatory Measures
June 06-08, 2016 London,UK

Teratogenesis study in rats fed N-acetyl glucosamine produced by *Chitinibacter tainanensis* fermentation

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N-Acetyl glucosamine (NAG), a fermentation product conducted by *Chitinibacter tainanensis*, is safe to use according to the 90-day rat feeding results. This research further investigated the embryonic development during gestation by the NAG uptake. A total of 96 pregnant Sprague-Dawley rats were divided into 4 groups. NAG at daily dosage of 0 (D.I. water), 1.5, 3 or 5 g/kg bw were given orally from the 6th to the 15th day of pregnancy. Rats were scarified and dissected at 20 days post coitum (dpc) to observe the fetal development and maternal reproductive performance. The results revealed that orally administrated NAG had no obvious effects upon the sex ratio and average weight of fetuses. Additionally, histological checks showed no morphological abnormalities on the appearances, organs and skeletons. The performance of maternal reproduction estimated by the number of corpora lutea, implants, dead implants, resorptions, and % of pre- and post-implantation loss had no significant difference among all groups. To sum up, the no-observed-adverse-effect level (NOAEL) of NAG for pregnant rat was 5 g/kg bw/day, equivalent to 100 times of the recommended dose for human (3 g/60 kg bw/day). NAG produced by the new species, *C. tainanensis*, is considered to be safely used.

Biography

Hsiao Ping Lee has completed her PhD from National TsingHua University. She is working as a Quality Assurance Manager in RMRI.

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