

ゼノパス変態アッセイ法によるオクタクロロスチレンの 甲状腺に対する影響評価

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オクタクロロスチレン(octachlorostyrene)は、甲状腺の内分泌作用に関わる可能性が指摘され(Chu *et al.*, 1986)、SPEED98 でリスク評価を求められた物質である。我々は、アフリカツメガエル(*Xenopus laevis*)の幼生を用いて、発生段階、変態期の成長、尾の退縮、甲状腺の組織学的観察と甲状腺サイズの測定等により、オクタクロロスチレンが甲状腺ホルモンに対する内分泌攪乱作用を有しているか否かを調べた。オクタクロロスチレンは、いずれの指標にも対照群と有意差を示さなかった。1 μ g/L~50 μ g/L の濃度の暴露実験(6 週間)により甲状腺に対する内分泌攪乱作用を有している可能性は低いと考えられた。一方、高濃度(100 μ g/L~2000 μ g/L)処理により、幼生の死亡率が有意に高くなる等、強い毒性があることが明らかになった。

The assessment of octachlorostyrene on thyroid-disrupting effects using *Xenopus* metamorphosis Assay (XEMA)

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Octachlorostyrene (OCS) is one of the 8 substances, which have been asked to the risk assessment on Strategic Programs on Environmental Endocrine Disrupters, SPEED'98, in 2000. The purpose of this study is to elucidate the endocrine-disrupting effects of OCS on the thyroid system. The XEMA test used here was newly designed to detect endocrine-disrupting effects caused by chemicals during metamorphosis in *Xenopus laevis* (Kloas *et al.*, personal communication). We raised tadpoles and observed their developmental stages, and measured the body and tail lengths and the thyroid size during metamorphosis. In 6 weeks of exposure in 5 different concentrations (1 μ g/L~50 μ g/L) of OCS, the rates of development and growing in the tadpoles were compared to tadpoles treated in control, T₄ and ethylene thiourea (ETU) solutions. Based on all parameters in the OCS treatments, no significant difference was observed in comparison with control. The high embryonic mortality was observed in 3 days-treatments with higher concentrations (>100 μ g/L) of OCS. According to the present study, it is suggested that OCS did not have any significant thyroid-disrupting effect, but the chemical is a highly toxic substance.