# INTISARI

Munculnya berbagai masalah kesehatan yang semakin kompleks mendorong profesional kesehatan untuk berinovasi melalui usaha penemuan dan pengembangan obat baru. Senyawa sintesis turunan kalkon baru, 1-(2,5-dihidroksifenil)-(3-piridin-2-il)-propenon, dilaporkan memiliki nilai $LD_{50}$>5000 mg/kg BB. Perlu dilakukan uji toksisitas subkronis untuk mengetahui potensi toksisitas yang ditimbulkan senyawa 1-(2,5-dihidroksifenil)-(3-piridin-2-il)-propenon pada pemberian oral berulang selama 90 hari.

Prosedur penelitian yang dilakukan mengacu pada *OECD Test Guideline 408: Repeated Dose 90-day Oral Toxicity Study in Rodents* dengan menggunakan mencit betina galur *Swiss-Webster* usia 6 minggu. Terdapat 4 kelompok hewan uji (n=10), yaitu kontrol PVP 0,5%, dosis 14 mg/kg BB, 28 mg/kg BB, dan 56 mg/kg BB, serta 2 kelompok satelit (n=5) kontrol PVP 0,5% dan dosis 56 mg/kg BB. Dilakukan pemeriksaan terhadap gejala klinik, perkembangan berat badan, perkembangan asupan pakan dan minum, serta parameter biokimia darah. Data kualitatif dianalisis secara deskriptif, sementara data kuantitatif dianalisis secara statistik dengan taraf kepercayaan 95%.

Pemberian senyawa 1-(2,5-dihidroksifenil)-(3-piridin-2-il)-propenon secara oral berulang selama 90 hari menimbulkan gejala klinik berupa piloreksi, kerontokan rambut, kelemahan fisik, perlambatan gerak, dan gangguan sistem vestibuler. Pemberian senyawa dosis 14 mg/kg BB, dosis 28 mg/kg BB, dan dosis 56 mg/kg BB menunjukkan pengaruh terhadap perkembangan berat badan yang terkait dengan asupan pakan dan minum, tetapi tidak bermakna secara statistik ($p \geq 0,05$). Tidak ditemukan wujud efek toksik terhadap glukosa darah, kolesterol total, ALT, AST, ureum darah, dan kreatinin darah. Efek toksik yang termanifestasi dalam gejala klinik dan perkembangan berat badan bersifat tidak terbalikkan dalam waktu 14 hari.

**Kata kunci: toksisitas subkronis, 1-(2,5-dihidroksifenil)-(3-piridin-2-il)-propenon, *Swiss-Webster*, biokimia darah**

# ABSTRACT

The escalating complexity of health problems has long prompted health professionals to strive on the advance of new drugs discovery and development. A newly synthesized chalcone derivative compound called 1-(2,5-dihydroxyphenyl)-(3-pyridine-2-yl)-propenone is reported to exhibit $LD_{50}$ value of >5000 mg/kg BW. This study is then performed to obtain preliminary information regarding the potential toxicity of 1-(2,5-dihydroxyphenyl)-(3-pyridine-2-yl)-propenone given in 90-day repeated oral dose.

The testing procedure was designed based on the OECD Test Guideline 408: Repeated Dose 90-day Oral Toxicity Study in Rodents with 6-week old female *Swiss-Webster* mice. They were assigned into four groups (n=10) of PVP 0,5%-treated (control) group, 14 mg/kg BW, 28 mg/kg BW, and 56 mg/kg BW compound-treated group. There were also two satellite groups (n=5) of PVP 0,5% and 56 mg/kg BW. Clinical signs of toxicity and body weight changes were observed along with food and water consumption. Several blood biochemical parameters were also measured before and after the test. Descriptive analysis was used to interpret qualitative results, whereas quantitative results were statistically analyzed at 95% confidence level.

The 90-day repeated oral administration of 1-(2,5-dihydroxyphenyl)-(3-pyridine-2-yl)-propenone shown to exhibit clinical signs of piloerection, hair loss, overall weakness, sluggish movements, and signs of vestibular syndrome. Dose of 14 mg/kg BW, 28 mg/kg BW, and 56 mg/kg BW found to affect body weight in relation to food and water consumption, albeit not statistically significant ($p \geq 0,05$). No substantial toxic effect observed in biochemical parameters of blood glucose, total cholesterol, ALT, AST, blood urea, and blood creatinine. The elicited toxic effect in clinical signs and body weight seen to be irreversible within 14 days.

**Keywords: subchronic toxicity, 1-(2,5-dihydroxyphenyl)-(3-pyridine-2-yl)-propenone, Swiss-Webster, blood biochemistry**