

**EFFECT OF A NEW POSITIVE INOTROPIC AGENT, YS-49, A
NOVEL TETRAHYDROISOQUINOLINE COMPOUND**

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Tetrahydroisoquinoline (THI) compounds have various pharmacological actions in the cardiovascular system. Recently, we have synthesized 1- α -naphthylmethyl-6,7-dihydroxy-1,2,3,4-tetrahydroisoquinoline, YS 49. In the present study, we evaluated the effect of YS-49 on positive inotropic and chronotropic action using isolated rat heart, and on blood pressure and heart rate using anesthetized rabbit. Vasodilating action was also assessed in isolated rat thoracic aorta. YS 49, concentration-dependently relaxed rat aorta precontracted with phenylephrine (PE, 0.3 μ M) and high potassium (high K⁺, 65.4 mM). The 50% inhibitory concentration (IC₅₀) of YS 49 in PE-induced and high K⁺-induced contraction was 5.36 μ M and 2.52 μ M, respectively. In isolated rat atria, YS 49 increased both heart rate and force, and in anesthetized rabbit, it decreased blood pressure but increased heart rate. In addition, to know the mechanism of action of the compound, propranolol, nonselective β -antagonist, and phentolamine, α -blocker, were used. Furthermore, a comparison with the effect of higenamine, trimetoquinol on the vasodilating action in rat thoracic aorta was also made. The action of YS 49 was inhibited by the presence of propranolol, not pentolamine. These results indicate that cardiotonic and vasodilatory action of YS 49 is attributable, at least in part, for β -receptor stimulation.