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"DT56a Stimulates Creatine Kinase Specific Activity in Vascular Tissues of Rats"

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Abstract

The novel natural product DT56a (Se-cure Pharmaceuticals, Israel), derived from soybean, has been shown to relieve menopausal vasomotor symptoms and increase in bone mineral density with no effect on sex steroid hormone levels or endometrial thickness. In single injection, like 17beta-estradiol (E₂), DT56a stimulated bone, cartilage and uterus in immature or ovariectomized female rats, by measuring the changes in the specific activity of the BB isozyme of creatine kinase (CK). When administered in multiple oral doses, DT56a stimulated skeletal tissues similarly to E₂ but not uterine CK. The selective estrogen receptor modulator raloxifene blocked the stimulation of CK by either DT56a or by E₂ in all tissues tested. In the present study we measured the effects of DT56a on vascular tissues i.e. aorta (Ao) and the left ventricle of the heart (Lv). Both types of animals responded to either single or multiple administration of DT56a like to E₂. In the Ao from both animals and in the Lv from ovariectomized rats, raloxifene completely blocked CK activity induced by DT56a, whereas in the Lv of immature female rats the inhibition was partial. Our experimental findings suggest that DT56a acts as estrogen; it has beneficial effects not only on skeletal tissues, but also on vascular tissues, however contrary to estrogen DT56a, did not affect the uterus. These findings suggest that DT56a - which has similar beneficial effects on vascular tissues like that of E₂ - is probably mediated via common receptor(s).