Solasodine (Purapuridine) is a poisonous alkaloid chemical compound that occurs in plants of the Solanaceae family. Solasodine showed selective cytotoxicity against cervical cancer cell line (HeLa) and human myeloid leukemia cell line (U937). IC50 Value: 12.17 ± 3.3 μM (HeLa cell line) [1]. Target: Anticancerin vitro: Mouse embryonic teratocarcinoma P19 cells exposed to solasodine for 2 days followed by a 5-day washout differentiated into cholinergic neurons that expressed specific neuronal markers and displayed important axonal formation that continued growing even 30 days after treatment [2]. in vivo: A 2-week infusion of solasodine into the left ventricle of the rat brain followed by a 3-week washout resulted in a significant increase in bromodeoxyuridine uptake by cells of the ependymal layer, subventricular zone, and cortex that co-localized with doublecortin immunostaining, demonstrating the proliferative and differentiating properties of solasodine on neuronal progenitors. Solasodine treatment in rats resulted in a dramatic increase in expression of the cholesterol- and drug-binding translocator protein in ependymal cells, suggesting a possible role played by neurosteroid production in solasodine-induced neurogenesis. In GAD65-GFP mice that express the green fluorescent protein under the control of the glutamic acid decarboxylase 65-kDa promoter, solasodine treatment increased the number of GABAergic progenitors and neuroblasts generated in the subventricular zone and present in the olfactory migratory tract [2]. Intraperitoneal (i.p.) injection of solasodine (25 mg/kg) significantly delayed ($p < 0.01$) latency of hind limb tonic extensor (HLTE) phase in the PCT-induced
convulsions. In the MES model, solasodine significantly reduced (p < 0.001) duration of HLTE at 25, 50, and 100 mg/kg, i.p. in a dose-dependent manner [3]. Oral administration (80 mg/kg body wt/day for 30 days) of solasodine (extracted and isolated from the berries of the Solanum xanthocarpum) to intact dogs significantly decreased the epithelial cell height of cauda epididymides [4].

REFERENCES

[1]. Sarthak Bhattacharya, et al. Isolation of Solasodine from the Unripe Fruits of Solanum xanthocarpum Schrad and Wendl.(Solanaceae) and it’s Anti Cancer Activity against Hela and U937 Cell Lines.


