**Sample abstract (Spacing 1.5 lines, font colour: black)**

**Topical *trans*- resveratrol Reduces Intraocular Pressure via A1 Adenosine Receptor in Steroid- induced Oculohypertensive Rat Model ( Times New Roman, Bold, Centred, Font 12)**

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**Introduction**: Glaucoma, a leading cause of irreversible blindness worldwide is associated with raised intraocular pressure (IOP). Steroid-induced glaucoma is a common type of secondary glaucoma, associated with increased IOP and excessive extracellular matrix deposition in the trabecular meshwork. Currently available antiglaucoma treatments aim to reduce IOP, however they often have suboptimal efficacy and associated with side effects affecting patients compliance. This study evaluated the oculohypotensive effects of topical *trans*-resveratrol (TR) in steroid-induced oculohypertensive (SIOH) rats and whether this effect is mediated by adenosine receptors (AR). **Methods**: Involvement of AR was studied by observing the oculohypotensive effect of TR by pre-treating the animals with AR subtype-specific blockers. We also looked at the involvement of ERK1/2, PLC and increased MMP secretion in the aqueous humour as a downstream mechanism of AR involvement in TR-induced oculohypotension. **Results:** Topical TR 0.2% produced maximum IOP reduction and twice-daily dose for 3-week significantly sustained the IOP reduction in SIOH rats. The oculohypotensive effect of TR was inhibited with adenosine A1AR antagonist pre-treatment. TR-induced MMP-2 secretion was antagonised when SIOH rats were pre-treated with A1AR, PLC and ERK1/2 inhibitors. **Conclusion**: IOP reduction induced by TR involves agonistic action at the A1AR leading to PLC activation, ERK1/2 phosphorylation and elevated MMP-2 level. Further investigations are warranted to fully understand the mechanisms of *trans*-resveratrol as a potential future antiglaucoma drug. (Times New Roman, Justified, Font 12)

(221 words)

**Keywords**: animal glaucoma model; intraocular pressure; ocular hypotensive; resveratrol; steroid-induced glaucoma (4-5 keywords, in alphabetical order)