Meetings International
SciTechnol

Wipawee Thukham-mee et al., J Food Nutr Disor 2018, Volume 7
DOI: 10.4172/2324-9323-C1-009

Joint Event on

NUTRACEUTICALS & DIET- NUTRITION 2018

May 14-15, 2018 | Singapore City, Singapore

The protective effect against cataract and retinopathy of ICAM601, the polyphenol-rich supplement, in Streptozotocin rats

Wipawee Thukham-mee, Jintanaporn Wattanathorn, Supaporn Muchimapura and **Panakaporn Wannannon**
ICAM R&D Center, KKU, Khon Kaen, Thailand

Statement of the Problem: Diabetic cataract and retinopathy, the leading causes of poor vision and blindness, are regarded as one of the major public health problems worldwide. Based on the crucial role of oxidative stress on the pathogenesis of cataract and retinopathy in diabetic condition, the protective effect against aforementioned conditions of the polyphenol- rich supplement was focused. Therefore, the purpose of this study is to determine the anti-cataract and anti-retinopathy potentials of ICAM601, the polyphenol- rich supplement in streptozotocin rats. Methodology & Theoretical

Orientation: Male Wistar rats weighing 200-250 g were induced diabetic condition by using Streptozotocin (55 mg/kg BW). Rats which showed blood sugar more than 250 mg/dl were recruited for further study. They were orally administered the ICAM601at doses of 2, 10 and 50 mg/kg BW once daily for 8 weeks. The animals were determined lens opacity, histology of lens and retina, lens oxidative stress status, aldose reductase activity and signal transduction via mitogen activated kinase (MAPK) and extracellular recognition kinase (ERK).

Findings: All doses of ICAM601 improved lens opacity and lens histology whereas the increased number of ganglion was observed only in STZ rats treated with either low or medium dose of ICAM601. No significant changes in lens oxidative stress status and aldose reductase activity were observed but the significant decreased in MAPK was observed in medium and high doses treatment groups. Therefore, MAPK was responsible partly for anti-cataract and anti-retinopathy effects of ICAM601.

Conclusion & Significance: These data suggested that ICAM601is the potential candidate for decreasing diabetic cataract and diabetic retinopathy. The mechanism occurs partly via MAPK but the précised understanding is still required further studies.

Biography

Wipawee Thukhammee is currently working as Assistant Professor and the Secretary of Integrative Complementary Alternative Medicine Research and Development Center, Khon Kaen University, Khon Kaen, Thailand. Her research interest is to develop the functional food and herbal health product as well as in alternative medicine.

wipath@kku.ac.th

Notes: