The 23th Global and Local Infectious Diseases Research Seminar

RCGLID
OITA UNIVERSITY

January 23th , 2024
16:30-17:30

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Presenter : Lecturer Sita Virakul

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Epigenetic reader domain inhibition attenuates activation of myofibroblast from Graves' Ophthalmopathy patients

Graves' ophthalmopathy (GO) is an autoimmune thyroid eye disease that is observed in patients with Graves' disease (GD). Orbital fibroblasts play an important role in GO pathogenesis as platelet-derived growth factor (PDGF)-BB could stimulate myofibroblast activation including hyaluronan, collagen and vimentin production. As epigenetic reader domains play important roles in several diseases, this study aimed to investigate the effect of pan-BET inhibitor, JQ1, on PDGF-BB-stimulated orbital fibroblast. Orbital fibroblasts (n=9) isolated from GO orbital tissues were treated with JQ1, hyaluronan production was measured by ELISA. Moreover, collagen type 1 and vimentin protein expression level were also measured by western blot. Our results showed that JQ1 significantly decreased hyaluronan production (n=6; $p<0.01$) and collagen type 1 protein expression (n=6; $p<0.05$) in PDGF-BB-stimulated orbital fibroblasts. However, JQ1 did not affect vimentin protein expression (n=6). This study is the first to show that BET proteins play an important role in the pathogenesis of GO which could potentially be a target for novel GO treatment.

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