EuroSciCon

15th International Conference on

Immunology

July 05-07, 2018
Vienna, Austria

Jongseon Choe et al., Insights Allergy Asthma Bronchitis 2018, Volume: 4
DOI: 10.21767/2471-304X-C1-003

OPPOSING ROLE OF ERK AND P38 IN THE POSITIVE FEEDBACK PRODUCTION OF PROSTAGLANDINS BY HUMAN FOLLICULAR DENDRITIC CELL LIKE CELLS

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Prostaglandins (PGs) are recognized as important immune regulators. Using human follicular dendritic cell (FDC) like cells, we have investigated the immunoregulatory role of PGs and their production mechanisms. We have recently reported on the positive feedback effect of PGs, and the present study was aimed at determining the role of ERK and p38 MAP kinases in PG-induced cyclooxygenase-2 (COX-2) expression by immunoblotting. COX-2 is the key enzyme responsible for PG production in FDC-like cells, which produce PGE2, PGI2, and PGF2α. An ERK inhibitor inhibited PGF2α from inducing COX-2 whereas a p38 inhibitor prevented PGE2- and PGI2-stimulated COX-2 induction. In line with these results, PGE2 and PGI2 treatment resulted in up-regulation of p38 phosphorylation while PGF2α stimulation led to phosphorylation of ERK. We are currently confirming these results with RNA interference technology. These findings suggest that ERK and p38 play differential roles in COX-2 expression in FDC-like cells and shed a therapeutic potential in the treatment of immune inflammatory disorders.

Biography

Jongseon Choe had completed Ph.D. degree in immunology at Seoul National University, Korea in 1995 and worked at Ochsner Medical Institute (New Orleans, USA) as a research fellow. His published papers include "In this issue" article in Journal of Immunology (180:1390-1397) and "Highlighted article" in International Immunopharmacology (12:635-642). As a faculty member of Kangwon National University, he is currently interested in the production mechanisms and inherent roles of eicosanoids in the germinal center of peripheral lymphoid tissue.

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