Data in Brief 7 (2016) 423–427

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib

Data Article

Early LPS-induced ERK activation in retinal pigment epithelium cells is dependent on PIP_2-PLC ☆

Melina V. Mateos *, Constanza B. Kamerbeek, Norma M. Giusto, Gabriela A. Salvador

Instituto de Investigaciones Bioquímicas de Bahía Blanca (INIBIBB), Universidad Nacional del Sur (UNS) and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Camino La Carrindanga km 7, 8000 Bahía Blanca, Argentina

ARTICLE INFO

Article history:
Received 18 December 2015
Received in revised form
2 February 2016
Accepted 20 February 2016
Available online 27 February 2016

Keywords:
Retinal pigment epithelium (RPE)
Inflammation
Phosphatidylinositol bisphosphate-phospholipase C (PIP_2-PLC)
Phospholipase D (PLD)
Extracellular signal-regulated kinase (ERK1/2)
Lipopolysaccharide (LPS)

ABSTRACT

This article presents additional data regarding the study "The phospholipase D pathway mediates the inflammatory response of the retinal pigment epithelium" [1]. The new data presented here show that short exposure of RPE cells to lipopolysaccharide (LPS) induces an early and transient activation of the extracellular signal-regulated kinase (ERK1/2). This early ERK1/2 activation is dependent on phosphatidylinositol bisphosphate-phospholipase C (PIP_2-PLC). On the contrary, neither the phospholipase D 1 (PLD1) nor the PLD2 inhibition is able to modulate the early ERK1/2 activation induced by LPS in RPE cells.

DOI of original article: http://dx.doi.org/10.1016/j.biocel.2014.08.016

Abbreviations: ERK, extracellular signal-regulated kinase; HRP, horseradish peroxidase; LPS, lipopolysaccharide; PIP_2-PLC, phosphatidylinositol bisphosphate-phospholipase C; PLD, phospholipase D; RPE, retinal pigment epithelium

☆The data presented here is additional data related to the publication "The phospholipase D pathway mediates the inflammatory response of the retinal pigment epithelium" Melina V. Mateos, Constanza B. Kamerbeek, Norma M. Giusto, Gabriela A. Salvador, Int. J. Biochem. Cell. Biol., vol. 55, October 2014, pp. 119–128, doi: 10.1016/j.biocel.2014.08.016, Epub 2014 August 27.

* Corresponding author. Tel.: +54 291 4861201; fax: +54 291 4861200.
E-mail address: mvmateos@criba.edu.ar (M.V. Mateos).

http://dx.doi.org/10.1016/j.dib.2016.02.057

Specifications table

Subject area	*Biochemistry*
More specific subject area	*Cell biology*
Type of data	*WB images, bar graphs*
How data was acquired	*Western blot. Densitometry values were obtained using the ImageJ software*
Data format	*Raw and analyzed*
Experimental factors	*ARPE-19 cells were exposed to LPS. Pharmacologycal inhibitors of PLD1, PLD2 and PIP_2-PLC were used.*
Experimental features	*ERK1/2 activation was evaluated by Western blot*
Data source location	*Instituto de Investigaciones Bioquímicas de Bahía Blanca (INIBIBB), Universidad Nacional del Sur (UNS) and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), 8000 Bahía Blanca, Argentina.*
Data accessibility	*Data is provided within the article*

Value of the data

- The data can be useful to other scientists investigating the effects of LPS on RPE cells.
- The data provide additional information regarding the LPS-induced ERK1/2 signaling in RPE cells.
- Results shown here demonstrate that the early and the late LPS-induced ERK1/2 activation are differentially modulated by PIP2-PLC and PLD pathways.

1. Data

The data presented here show that in RPE cells, ERK1/2 activation induced by 5 min treatment with LPS depends on PIP_2-PLC but is not affected by classical PLDs inhibition.

2. Experimental design, materials and methods

2.1. Retinal-pigmented epithelium cell culture and treatments

Human retinal-pigmented epithelium cells (ARPE-19) were maintained in Dulbecco's Modified Eagle's Medium (DMEM) supplemented with 10% fetal bovine serum (FBS, Natocor, Argentina), 100 U/ml penicillin, 100 μg/ml streptomycin and 0.25 μg/ml amphotericin B at 37 °C under 5% CO_2. Confluent 35 mm diameter cell dishes were serum-starved for 2 h prior to stimulation for 5 min or 2 h with 10 μg/ml of *Pseudomonas aeruginosa* LPS in serum-free DMEM. Sterile ultra pure water was added to the control condition. In order to inhibit PIP_2-PLC and PLDs pathways ARPE-19 cells were preincubated with selective inhibitors for 1 h at 37 °C prior to cell stimulation with LPS. 0.15 μM EVJ was used to inhibit PLD1 activity and 0.5 μM APV to inhibit PLD2. For PIP_2-PLC inhibition, cells were preincubated with U73122 (10 μM). DMSO (vehicle of the inhibitors) was added to all conditions to achieve a final concentration of 0.025% [1,2].