

## عنوان مقاله:

A Comparative Study to Visualize PtdIns (۴,۵) P<sub>2</sub> and PtdIns (۳,۴,۵) P<sub>3</sub> in MDA-MB-۲۳۱ Breast Cancer Cell Line

## محل انتشار:

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## خلاصه مقاله:

Background: Phosphatidylinositol ۳,۴,۵-trisphosphate [PtdIns (۳,۴,۵) P<sub>3</sub>] and Phosphatidylinositol ۴,۵-trisphosphate (PtdIns (۴,۵) P<sub>2</sub>) form an insignificant number of phospholipids but play important roles in controlling membrane-bound signalling. Little attention has been given to visualize and monitor changes or differences in the local generation of PtdIns (۴,۵) P<sub>2</sub> and PtdIns (۳,۴,۵) P<sub>3</sub> in the cell membranes of MDAMB- ۲۳۱ breast cancer cell lines. Methods: PLCδ<sub>1</sub>-PH-GFP and Btk-PH-GFP were used as biosensors to detected PtdIns (۴,۵) P<sub>2</sub> and PtdIns(۳,۴,۵)P<sub>3</sub> respectively. These biosensors and antibodies were transfected, immuostained and then visualized by confocal microscopy on different cell surfaces. Results: Our results showed that PLCδ<sub>1</sub>-PH-GFP/mCherry was localized at the cell membrane, while Btk-PH-GFP/mCherry was sometimes localized at the cell membrane but there was also a large amount of fluorescence present in the cytosol and nucleus. Our results also showed that the cells that expressed low levels of Btk-PH-GFP the fluorescence was predominantly localised to the cell membrane. While the cells that expressed high levels of Btk-PH-GFP the fluorescence was localization in the cytosol and cell membrane. Our results demonstrated that both anti-PtdIns(۴,۵)P<sub>2</sub> and anti-PtdIns(۳,۴,۵)P<sub>3</sub> antibodies were localized everywhere in cell. Conclusions: Our results suggest that PLCδ<sub>1</sub>-PH-GFP and Btk-PH-GFP/mCherry have more specificity, reliability, suitability and accuracy than antibodies in binding with and detecting PtdIns(۴,۵)P<sub>2</sub> and PtdIns (۳,۴,۵)P<sub>3</sub> and in .studying the molecular dynamics of phospholipids in live and fixed cells

## کلمات کلیدی:

.Antibodies, Biosensors, MDA-MB-۲۳۱, Phosphatidylinositol

## لینک ثابت مقاله در پایگاه سیویلیکا:

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