

## عنوان مقاله:

The Investigation of the Induction of Diketocarotenoids Senescence in SHSY-5Y Cells

## محل انتشار:

مجله گزارش بهداشت و درمان، دوره 5، شماره 1 (سال: 1398)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

.Zahra Zare Dorahi - Stem Cell Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

.Mojtaba Ilani - Department of Physiology, School of Veterinary Medicine, Shiraz University, Shiraz, Iran

Mohabbat Jamhiri - Department of Medical Physiology, Faculty of Medicine Shahid Sadoughi University of Medical Sciences, Yazd, Iran

.Afrooz Daneshparvar - Stem Cell Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

.Shahrokh Zare - Stem Cell Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

.Meysam Zare - Clinical Microbiology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

.Iman Jamhiri - Stem Cell Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

## خلاصه مقاله:

**Introduction:** Recently, studies of diketocarotenoids such as astaxanthin (Ax) and canthaxanthin (Cx) with powerful antioxidant have focused on numerous biological mechanisms such as singlet oxygen quenching, radical scavenging, anti-diabetic, anti-carcinogenesis, anti-inflammatory, anti-obesity and anti-melanogenesis activities. There is evidence demonstrating that diketocarotenoid confers neuroprotective effects in experimental models of chronic neurodegenerative disorders and neurological diseases. This study used Ax and Cx to detect its role on senescence of SHSY-5Y Cells. **Methods:** In this study, the sample included the cell control group (SH-SY5Y cell line) that did not receive Ax and Cx, and the experimental group that received Ax and Cx (۲۰ mM). Ax and Cx were treated with SH-SY5Y cell line at ۴۸ hours. To measure the expression of BAX, Bcl-۲ and PPAR $\gamma$  different groups were compared by real-time PCR analysis. The cell senescence effects of Ax and Cx, a  $\beta$ -galactosidase (SA- $\beta$ -gal) senescence assay was evaluated. The results were analyzed by the one-way analysis of variance (ANOVA) using Prism version ۶.۰ software. **Results:** The results showed that treatment with Ax and Cx (۲۰ mM) for ۴۸h induced apoptosis and senescence. The BAX and Bcl-۲ gene expression analysis revealed a significant impact of Ax and Cx in apoptosis induction ( $P < 0.05$ ). The measuring of cell senescence also indicated that Ax and Cx exhibited a senescence inductive activity as determined by an increase in  $\beta$ -galactosidase activity and PPAR $\gamma$  gene expression ( $P < 0.05$ ). **Conclusion:** It appears that Ax and Cx have therapeutic properties in SH-SY5Y cells and can cause the proliferation of these cells to cease. The results suggest that Ax and Cx treatment may be beneficial for therapy of neuroblastoma and neurodegenerative disorders.

## کلمات کلیدی:

**لینک ثابت مقاله در پایگاه سیویلیکا:**

<https://civilica.com/doc/1907756>

