عنوان مقاله:

Decreasing of viability in H۲O۲treated of ITPA down-regulated human umbilical vein endothelial cells

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: ۱۳۹۷)

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خلاصه مقاله:

Human inosine triphosphatase (ITPase), encoded by the ITPA gene is required for high-fidelity DNA and RNA replication. ITPA has been identified as a key gene involved in the removal deaminated nucleotides from the cellular nucleotide pool, maintains the stability of the genome. Defects in ITPA can result in inosine triphosphatase deficiency and accumulation of modified or damaged bases in genomic DNA or cellular RNAs that is a major cause of altered genetic information and mutagenesis.Oxidative deamination is a common chemical modification that damages DNA and RNA molecules. Free radicals of oxygen and nitrogen produced by oxidative stress in cells contribute to cell dysfunction via the apoptotic induction of endothelial cells (ECs). This study was focused on investigating the survival of stable ITPA down-regulated HUVEC compared to normal HUVEC in the presence of H۲O۲. To evaluate the cell viability assay, we used the ۳-(۴, ۵-dimethylthiazol-۲-yl) -۲, ۵- diphenyltetrazolium bromide (MTT) method. Briefly, ۱x۱۰۴ cells were incubated in a ۹۶-well plate in the presence of various concentrations of H۲O۲ for ۱۲-۲۴ hours to determine the effect on endothelial cell proliferation. H۲O۲ decreases proliferative activity in ITPA down-regulated compared to normal HUVEC cells. The proliferation of treated cells was significantly lower (than in the control wells (p<۰.۰۵).

کلمات کلیدی:

Inosine triphosphatase (ITPA), H۲O۲,Endothelial cells