

## CELL VIABILITY OF A DRUG DELIVERY SYSTEM USING A POLYETHYLENE GLYCOL BIOPOLYMER AND RETINOL

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Cervical cancer is a disease in which severe changes occur in the cells that line the walls of the cervix, causing them to become precancerous. Cervical cancer is the second most common cancer in women worldwide, 86% of cases of this type of cancer occur in developing countries but it is still within the classification of cancers that can be prevented and cured. There are several risk factors that increase the possibility of suffering cervical cancer such as human papilloma virus, smoking, vitamin deficiency, mainly of vitamin A, E and C, among others. Vitamin A is a fat-soluble vitamin that improves the function of the immune system and protects the cervix harmful free radicals that can cause the appearance of precancerous and cancerous cells on the outside of the cervix; Vitamin A also has positive inhibitory effects on the sequence of the carcinogenesis chain, controlling cell differentiation. When vitamin A is administered orally there may be a hypervitaminosis A which causes various adverse effects in the body, one of the most important is the growth of liver tissue and spleen. The present work is based on the development of suitable drug carriers that can transmit a sufficient dose of vitamin A to diseased lesions. A polyethylene glycol biopolymer has been tested as drug carrier that allows the encapsulation and release of vitamin A. System cell viability by MTT assay is emphasized.

**Keywords:** Drug delivery system, Retinol, Polyethylene glycol

### Acknowledgment:

Thanks to CONACYT for the project that has the name of SEP-CONACYT CB 2016-01-86011

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