## البحث الرابع (بحث رقم ٤ فى قائمة الأبحاث محل تقييم اللجنة الموقرة )

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| **Title** | 5-fluorouracil Synergized with Raloxifene and Cytosine β-D-arabinofuranoside to Combat Colorectal Cancers *in vitro* via Controlling Lipolysis |
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**Abstract:**

**Background:**Colorectal cancers (CRCs) are the 3rd leading mortality cause in the states. Raloxifene (RX) was recently approved for cancerprevention. Therefore, 5-flurouracil (FU), a DNA blocker, stimulates apoptotic cascade in CRC cells. Unfortunately, many of the therapiesthat use FU and RX are likely to become ineffective due to drug resistance. Therefore, providing cytosine-$-D-arabinoside (CYT), anS-phase specific chemotherapeutic drug, may be of great support. Lipases are principally elaborated in energy metabolism and canceraggressiveness. Human colorectal cells (HCT 116 and Caco-2) were cultivated in their proper conditions. **Materials and Methods:** Thesecells were seeded to perform cell proliferation assay using MTT upon RX, FU and CYT combinations. Moreover, cells were proceeded formeasuring lipase expression in the supernatant using appropriate lipase assay kit. **Results:**This study observed that RX alone has the mosteffective cytotoxicity against Caco-2 cells, scoring a very low IC50 equal 19.8 µM. Intriguingly, the triple therapy of RX+FU+CYT was themost effective against HCT 116 cells at 100 µM which kills approximately 90% of the cells and scoring a very low IC50 equal 38.4 µM.**Conclusion:**This study concluded that the synergistic effect of the triple therapy in the aggressive HCT 116 cells has the potential to killthose cells by inhibiting lipase activity. Killing colorectal cancer cells using FU combinations.