بسم الله الرحـــــمن الرحيم

Contribution of Nitric Oxide and Epidermal Growth Factor Receptor in Anti-Metastatic Potential of Paclitaxel in Human Liver Cancer Cell (HebG2)

Mohamed M. Sayed-Ahmed

Mohamed A. Mohamed

Journal of the Egyptian Nat Cancer Inst

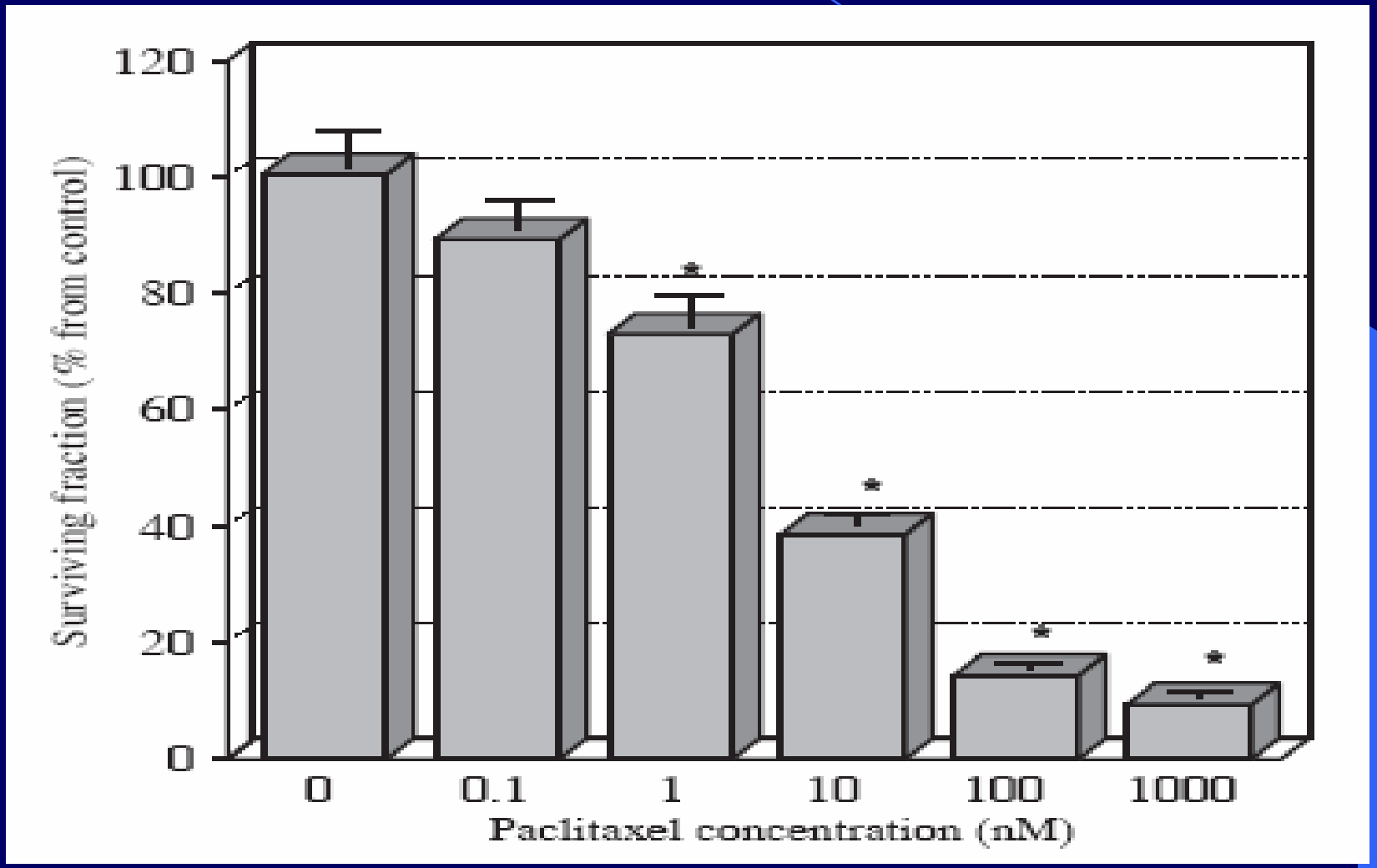
2005; 17: 35-41

Aim of Work

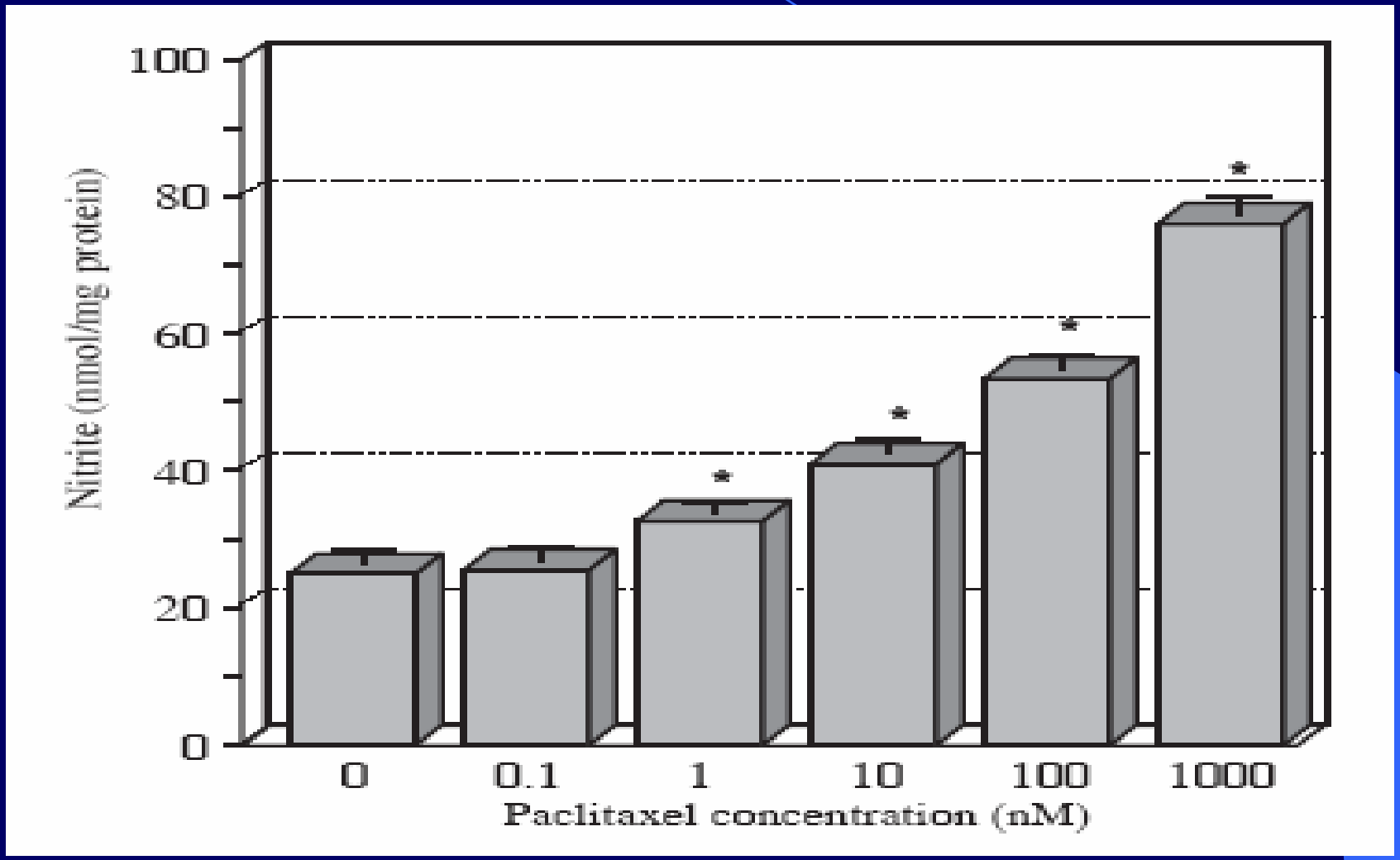
1- To determine whether paclitaxel stimulates NO production in HebG2 cells, and if so, whether NO interferes with the metastatic potential of HebG2 cells and contributes to paclitaxel cytotoxicity.

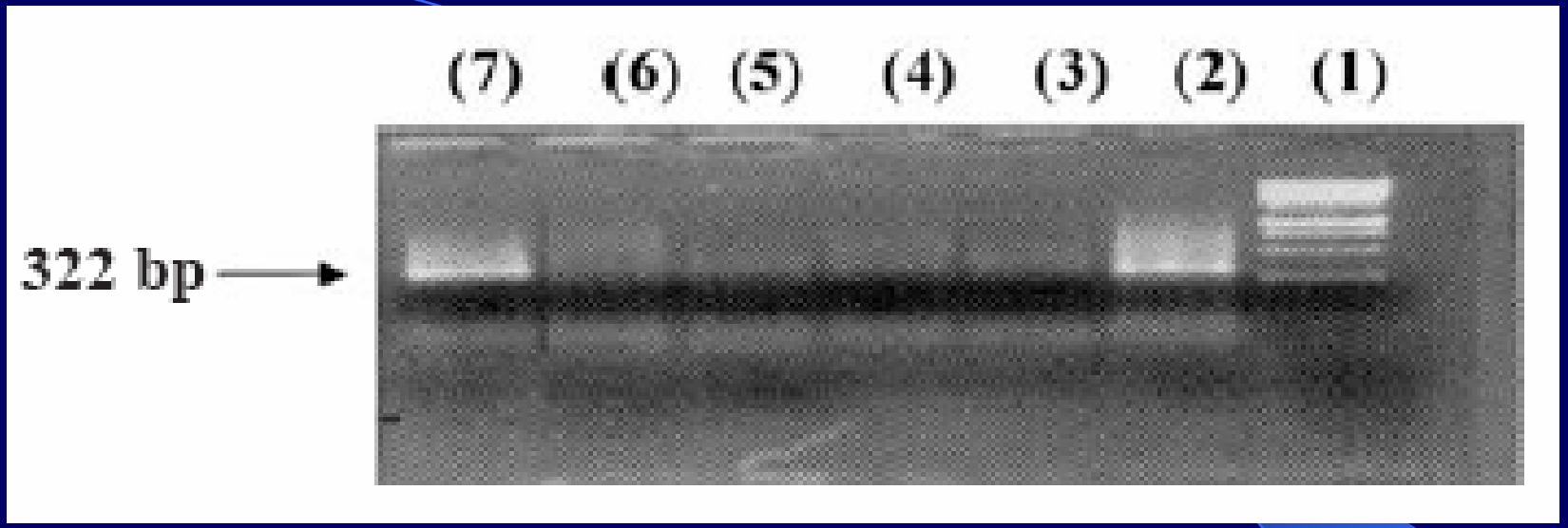
2- To determine the relationship between NO production and the expression of epidermal growth factor receptor (EGFR) and matrix metaloproteinases (MMPs) in HebG2 cells.

Effects of paclitaxel(0.1-1000 nM) on surviving fraction of HebG2 cells.



Effects of paclitaxel (0.1-1000 nM) on nitric oxide production in HebG2 cells.

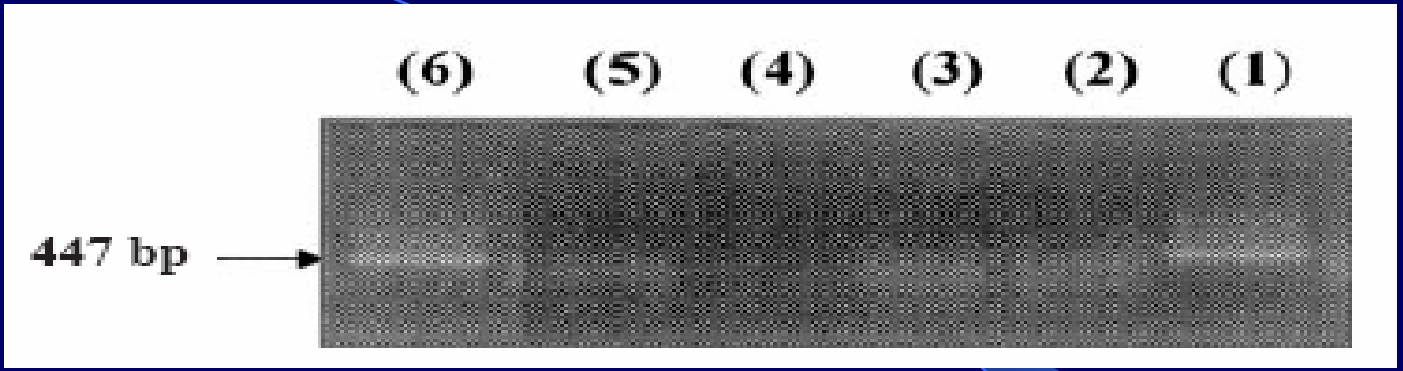




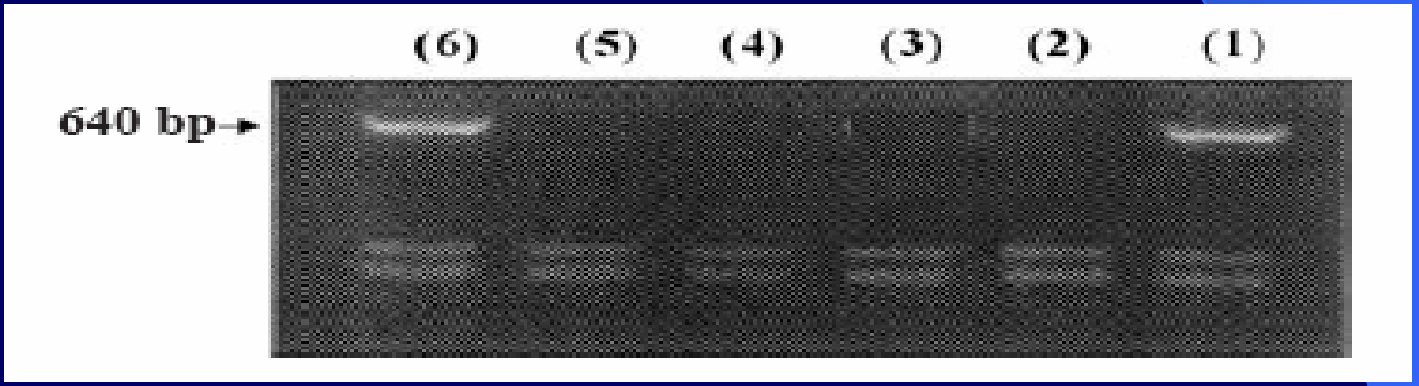
RT-PCR identified 322bp fragment of cDNA

Lane 1: 1kb DNA ladder marker
Lane 2: Control untreated cells showing EGFR positive result
Lane 3: Cells treated with Paclitaxel (1000 nM) showing negative results
Lane 4: Cells treated with Paclitaxel (100 nM) showing negative results
Lane 5: Cells treated with Paclitaxel (1 nM) showing negative results
Lane 6: Cells treated with Paclitaxel (1 nM) showing negative results
Lane 7: Cells treated with paclitaxel (0.1 nM) showing positive results

MMP-2



MMP-9



CONCLUSION

1- Increased production of NO may contribute to paclitaxel's cytotoxicity against HebG2 cells

2- Paclitaxel may inhibit tumor metastasis via inhibition of the expression of EGFR and MMPs

3- An inverse correlation exists between NO production and the expression of EGFR and MMps.