A new thiophene, echinothiophenegenol (1), together with seven known thiophenes was isolated from the crude ethanol extract of roots of *Echinops grijisii* Hance. The structure of 1 was elucidated on the basis of spectroscopic data. Compounds 2 and 5, isolated from the plant for the first time, and compounds 1–7 were tested for their cytotoxicity against two human cancer cell lines, HL60 and K562. The thiophenes showed better activity than the bithiophenes.

**Key words:** *Echinops grijisii* Hance, Echinothiophenegenol, Cytotoxic Activity