

## The Antitumor Activity of Eu (III) and Er (III) Complexes of 3 - (1H-Benzimidazol-2-Yl) - 6 - Methyl - 2 (1H) - Quinolinone

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**Abstract :** [Eu(BMQ)<sub>2</sub>(NO<sub>3</sub>)<sub>3</sub>(CH<sub>3</sub>OH)(H<sub>2</sub>O)] (1), and [Er(BMQ)<sub>2</sub>(NO<sub>3</sub>)<sub>3</sub>(CH<sub>3</sub>OH)(H<sub>2</sub>O)] (2), were synthesized. Compounds 1 and 2 exhibit a certain extent cytotoxicity against Hep G2, Hela 229, MGC80-3 and BEL-7404 cell lines invitro, with IC<sub>50</sub> values in the 14.51±1.41μM to 52.49±4.01μM range. Compound 1 exhibited significantly enhanced cytotoxicity against MGC80-3 cell line, comparing with free 3-(1H-benzimidazol-2-yl)-6-methyl-2(1H)-quinolinone. The binding abilities of 1 to DNA were stronger than that of 2. Intercalation is the most probable binding mode for both the complexes.

**Keywords :** quinolinone, Eu(II) complex, Er(III) complex, cytotoxicity.

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