**Table 1**.Zeta potential and size related to Fe3O4 magnetite nanoparticles (MNPs), PEI-MNPs (PM) binary complex including MNPs and polyethylenimine (PEI) and three-component magnetic nanocomplexes (PMC) comprising PEI, MNP and cisplatin.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PMC** | **PM** | **MNPs** | **PEI** |  |
| 16±6 | 19 ± 2 | -25±4 | 34±3 | **Zeta potential (eV)** |
| 151±21 | 88±15 | 69±5 | 91±17 | **Size (nm)** |

**Table 2.** The inhibitory concentration 50% (IC50) of CIS, PEI, PC, PM, PM/C and PMC treatments were calculated in A2780/CP and A2780 cells in presence and absence of 20 mT static magnetic field (SMF).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PMC** | **PM/C** | **PM** | **PC** | **PEI** | **CIS** | **Cells** |
| 3.9±0.9 | 4.8±0.9 | 4.7±0.8 | 5.9±1.3 | 14.5±2.2 | 25.9±2.3 | 13.2±3.1 | 14±1.1 | 27.4± 2.2 | 28.4± 1.3 | 15.2±2.3 | 15.7±1.1 | **A2780/CP (24 h)** |
| 3.2±0.7 | 3.9±0.7 | 4±1.1 | 5.1±0.8 | 12.5±3.1 | 23.6±3.4 | 7.9±2.9 | 8.5±0.5 | 20.2±0.9 | 23.8±3.1 | 10.1±3.2 | 11.1±0.6 | **A2780 (24 h)** |
| 1.6±0.2 | 2.7±0.2 | 2.7±0.2 | 3.7±0.8 | 11±0.9 | 17.3±1.7 | 10.1±0.8 | 11±1.1 | 18.9±0.9 | 21.9 ±2.4 | 13.1 ±0.3 | 14 ±0.8 | **A2780/CP (48 h)** |
| 0.6±0.2 | 1.6±0.3 | 2.3±0.3 | 3.2±0.3 | 9.3±1.8 | 19.8±1.9 | 7.3±0.4 | 8.4±0.6 | 15.9±0.3 | 18.4±1.6 | 9.5±0.4 | 10.6±1.2 | **A2780 (48 h)** |
| **+** | **-** | **+** | **-** | **+** | **-** | **+** | **-** | **+** | **-** | **+** | **-** | **SMF (20 mT)** |

**Table 3.** The mechanisms, functions,isoelectric point (pI) and net charge of enzymes involved in the drug resistance of cancer cells.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Net charge** | **Isoelectric point (pI)** | **Function** | **Mechanism** | **Enzyme** |
| **-1** | **3.3** | GSH scavenges electrophiles and ROS (14) | pre-target resistance | **GSH, reduced glutathione** |
| **-3** | **5.3** | inactivation of cisplatin can occur through conjugation with GSH (13) | pre-target resistance | **GST glutathione S-transferase** |
| **-13** | **5.7** | GST conjugates GSH to CDDP,thus facilitating its extrusion | pre-target resistance | **γ-GCS, g-glutamylcysteine synthetase** |
| **-11.9** | **6.2** | Copper ion transmembrane transporter involved in the export of copper and CDDP out of the cells (9, 10) | pre-target resistance | **ATP7B** |
| **-19.9** | **5.9** | Copper ion transmembrane transporter involved in the export of copper and CDDP out of the cells (10) | pre-target resistance | **ATP7A** |