**Assessment of antioxidant and cytotoxic potential of silver nanoparticles synthesized from root extract of *Reynoutria japonica* Houtt**.

Fazli Khuda 1,\*, Mudassir Jamil 1, Atif Ali Khan Khalil 2, Riaz Ullah 3, Naveed Ullah 4, Faiza Naureen 5, Muhammad Abbas 5, Muhammad Shafiq Khan 6, Sajid Ali 7, Hafiz Muhammad Umer Farooqi 8, Mi-Jeong Ahn 9

1 Department of Pharmacy, University of Peshawar, Peshawar, Pakistan.

2 Department of Pharmacognosy, Institute of Pharmacy, Lahore College for Women University, Lahore, Pakistan

3 Department of Pharmacognosy (Medicinal Aromatic and Poisonous Plants Research Center) College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

4 Department of Pharmacy, University of Swabi, Swabi, Pakistan

5 Department of Pharmacy, Abdul Wali Khan University, Mardan, Pakistan

6 Department of Pharmacy, Abbottabad University of Science and Technology, Abbottabad

7 Department of Biotechnology, Abdul Wali Khan University, Mardan, Pakistan

8 Department of Ocean System Engineering, Jeju National University, Jeju-do, South Korea

9 College of Pharmacy and Research Institute of Pharmaceutical Sciences, Gyeongsang National University, Jinju 52828, Republic of Korea

\*Corresponding author

Dr. Fazli Khuda

Tel.: +92 91 9216750

Fax: +92 91 9218131

E-mail address: [fazlikhuda@uop.edu.pk](mailto:fazlikhuda@uop.edu.pk) (F. Khuda)

The figures (S1-S3) shows the percent viability of cancer cell lines while the figures (S4 & S5) shows the percent cell viability of normal human cell lines. Silver NPs exhibited significant cytotoxic effect against cancer cell lines A549, HepG2 and MDA-MB-231 percent cell viability values 9, 15 and 16% at the highest dose (100 mg/ml), compared to cyclophosphamide and doxorubicin which showed (3 and 4%), (3 and 6%) and (2 and 6%) cell viability, respectively at the same dose. In case of normal human cell lines HPAEpiC and HRPTEpiC, the percent cell viability values of AgNPs were 17 and 23%, respectively at 10 mg/ml dose (Figure S4 & 5). The standards cyclophosphamide and doxorubicin showed (10 and 10%) and (15 and 13%) cell viability, respectively against the same cell lines at the same dose. The results confirmed the safety of AgNPs for normal cells.

E:\MPhil Scholars\Mudasir\Manuscript\Cell viability\1.tif

Figure S1. Percent cell viability of standards, extract and AgNPs against A549 at different concentration

E:\MPhil Scholars\Mudasir\Manuscript\Cell viability\2.tif

Figure S2. Percent cell viability of standards, extract and AgNPs against HepG2 at different concentration

E:\MPhil Scholars\Mudasir\Manuscript\Cell viability\3..tif

Figure S3. Percent cell viability of standards, extract and AgNPs against MDA-MB-231 at different concentration

E:\MPhil Scholars\Mudasir\Manuscript\Cell viability\4.tif

Figure S4. Percent cell viability of standards, extract and AgNPs against HPAEpiC at different concentration

E:\MPhil Scholars\Mudasir\Manuscript\Cell viability\5.tif

Figure S5. Percent cell viability of standards, extract and AgNPs against HRPTEpiC at different concentration

C:\Users\Dr Fazl e Khuda\Desktop\Figs\A549600 (1).tif

Figure S6. A549 cells treated with standard, AgNPs and blank.

C:\Users\Dr Fazl e Khuda\Desktop\Figs\Hep-G2600.tif

Figure S7. Hep-G2 cells treated with standard, AgNPs and blank.

C:\Users\Dr Fazl e Khuda\Desktop\Figs\MDA-MB-231600.tif

Figure S8. MDA-MB-231 cells treated with standard, AgNPs and blank.

C:\Users\Dr Fazl e Khuda\Desktop\Figs\RPTEC600.tif

Figure S9. HRPTEpiC cells treated with standard, AgNPs and blank.