Antioxidative and anticancer activities of *Julbernardia globiflora* extract

Hyun Ju Kwon, You Na Oh, Soojung Jin, and Byung Woo Kim
Dong-Eui University, South Korea

*Julbernardia globiflora*, a tropical African tree widespread in Miombo woodland, has been used in folk medicine for the treatment of depression and stomach problems. However, the bioactivities of *J. globiflora* have not yet been fully determined. The objective of this study was to evaluate the antioxidative and anticancer effects of methanol extract of *J. globiflora* (MEJG) and the molecular mechanism of its anticancer activity in human colon carcinoma HT29 cells. MEJG exhibited significant antioxidative activity and cell growth inhibitory effect on HT29 cells in a dose-dependent manner. MEJG induced apoptosis of HT29 cells with the increase of apoptotic cells and apoptotic bodies using Annexin V staining and 4,6-diamidino-2-phenylindole (DAPI) staining, respectively. The MEJG-induced apoptosis was associated with the increase of Fas, a death receptor, and Bax, a pro-apoptotic protein, and the decrease of Bcl-2, an anti-apoptotic protein, resulting in the release of cytochrome c from the mitochondria into the cytosol and activation of caspase-3, -8 and -9. The apoptotic effects of MEJG were confirmed by cleavage of poly (ADP-ribose) polymerase (PARP). Collectively, these results suggest that MEJG may exert the anticancer effect in HT29 cells by inducing apoptosis via both the intrinsic and extrinsic pathways.

Recent Publications:


Biography

Hyun Ju Kwon has completed her PhD in Bioengineering from Osaka University, Osaka, Japan. She is presently working as a Professor at Division of Applied Bioengineering, Biopharmaceutical Engineering Major, Dong-Eui University and as an Assistant Director of Blue-Bio Industry Regional Innovation Center, Dong-Eui University, Busan, Korea. Her research field is Natural Products and Oncology.

Notes: