Background

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Even though a large number of drugs are available for the treatment of cancer, the search for new molecules still continue because of the deleterious side effects of the available therapies (Shoja et al., 2015). Natural products have been always a source of various anti-tumor drugs (Li et al., 2014). A wide variety of natural compounds exist that possess significant cytotoxic (through induction of apoptosis) as well as chemo preventive activity in cancer cells (Patel and Thakkar, 2014). Herbal drugs are believed to have fewer side effects, capable of acting on multiple cancer events. Natural compounds or their plant sources have a history of safe human use as food or in traditional medicine. Plants also provide basic compounds and effective lead molecules for preparation of more efficacious analogues (Boik, 2001).

*Glycosmis pentaphylla* (Retz.) DC, is a plant belonging to the Rutaceae family and found throughout India. The whole plant has been used traditionally for the treatment of rheumatism, skin disorders, jaundice, bronchitis etc. (Satyavati et al., 1976, Warrier et al., 2004). The plant is traditionally considered as anti-cancer medicine (Panda, 2002). The traditional healers in Gazipur district of Bangladesh use the plant to treat all forms of cancers (Mollik et al., 2010, Sreejith et al., 2012). The plant also finds useful as vermifuge, febrifuge and against snake-bite. Even though the plant has ethnopharmacological importance not much of studies has been done to give it a scientific basis.

The past studies reported on this plant were concentrated on the identification of the chemical components and not much of importance was given to the pharmacological activities of the plant in general and anticancer potential in particular. Our own preliminary studies on the plant revealed that it was active against cancer cell lines and was more potent towards breast cancer cell lines. Hence, we proposed to take this plant further to evaluate its anti-cancer effect.
References