Breast cancer is emerging as the most common cancer among females in India, especially in the younger age group (Chopra, 2001). In the year 1990, cervix was the leading site of cancer followed by breast cancer in almost all the cancer registries like Bangalore (23.0% vs. 15.9%), Bhopal (23.2% vs. 21.4%), Chennai (28.9% vs. 17.7%) and Delhi (21.6% vs. 20.3). By the years 2000-3, the scenario had changed and breast had overtaken as the leading site of cancer in all the registries (Takiar and Srivastava, 2008). Often, these tumors are Estrogen receptor (ER) and/or Progesterone receptor (PR) negative and are characterized by aggressive clinicopathological features such as higher mean tumor size, tumor grade and a higher rate of node positivity (Chopra, 2001). Invasive ductal carcinoma (IDC) accounts for about 75-80% of all breast tumors worldwide and has also been found to be the most common type in India (Saxena et al, 2005).

The breast cancers are often diagnosed in advanced stages and triple negative (ER, PR, Her2/neu negative) tumors are more common in India. The biology of these tumors is not well understood. There is urgent need to identify molecular targets in breast cancers in Indian patients that can serve as diagnostic and/or prognostic biomarkers and novel therapeutic targets.

Secreted signaling factors of the Wnt protein family regulate many cellular processes including cell fate decisions, cell proliferation, cell differentiation and oncogenesis. Till date there are documented expressions of 19 Wnt genes in mammals. Although there has been no complete survey of Wnt gene expression in breast tissues, at least 7 Wnt genes are expressed in the mouse mammary gland and there is documented expression of Wnts 2, 3, 4, 5A, 5B, 7B, 9A, 10B, 13, 14, and 16 in human breast tissues (Bergstein et al, 1995; Kirikoshi et al, 2001; Benhaj et al, 2006).
Therefore, the aim of the present study was to analyze the expression patterns of key components of Wnt/β-catenin signaling in invasive ductal breast carcinomas and determine their relationships with clinicopathological features to understand the clinical significance of activated β-catenin pathway in sporadic breast cancer tissues. Further, we were interested in determining the potential of chemopreventive agent, Curcumin (diferuloylmethane, C_{21}H_{20}O_{6}) as an interfering agent in Wnt/β-catenin signaling pathway to establish its usefulness in breast cancer therapeutics.