Taxol is a million dollar anti-cancer drug that can be acquired from various plant and fungal sources. Different kinds of cancers are treated using taxol e.g., breast cancer, ovarian cancer etc. Nonetheless, its considerably increasing use and escalating demand highlighted the importance of looking for novel sources of the drug production. In the presented research, twenty five fungal strains were screened for taxol production. Fungal strain P_4F_4 showed maximum taxol production (i.e., 500 µg/L) that was identified as *Aspergillus niger*. Static fermentation procedure was used to get maximum production of the drug at 37^{O}C with incubation period of 21days. Extraction of the drug was then done using the solvent dichloromethane. Furthermore, TLC and HPLC were the analytical techniques used for confirmation and estimation of taxol. The extracted taxol was subjected to silica gel column chromatography for purification. Solvent systems methylenechloride: methanol and chloroform: acetonitrile were used during purification in different ratios, with former solvent system providing high purity results.