

## Isolation and Identification of Cytotoxic Compounds from Fruticose Lichen *Roccella montagnei*, and It's in Silico Docking Study against CDK-10

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**Abstract :** *Roccella montagnei* belongs to lichen family Roccelleceae growing luxuriantly along the coastal regions of India. As *Roccella* has been shown to be bioactive, we prepared methanolic extract and assessed its anticancer potential. The methanolic extract showed significant in vitro cytotoxic activity against four human cancer cell lines such as Colon (DLD-1, SW-620), Breast (MCF-7), Head and Neck (FaDu). This prompted us to isolate bioactive compounds through column chromatography. Two compounds Roccellic acid and Everninic acid have been isolated, out of which Everninic acid is reported for the first time. Both the compounds have been tested for in vitro cytotoxic activity in which Roccellic acid showed strong anticancer activity as compared to the Everninic acid. CDK-10 (Cyclin-dependent kinase) contributes to proliferation of cancer cells, and aberrant activity of these kinases has been reported in a wide variety of human cancers. These kinases, therefore, constitute biomarkers of proliferation and attractive pharmacological targets for the development of anticancer therapeutics. Therefore both the isolated compounds were tested for in silico molecular docking study against CDK-10 isomer enzyme to support the cytotoxic activity.

**Keywords :** cytotoxic activity, everninic acid, roccellic acid, *R. montagnei*

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