
Mitishamba database: A web-based in silico database of natural products from Kenyan plant for the design of antiplasmodial compounds

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What is mitishamba database?

Mitishamba Database is a collection of chemical structures of Natural Products isolated from plants of Kenya. It also contains detailed information about the botanical source, physicochemical properties and biological activity of the compounds. Mitishamba is a Kiswahili word which refers to traditional herbal medicine. The database is developed and maintained by the Department of Chemistry, University of Nairobi, Kenya.

Why mitishamba database has been created.

Over the years hundreds of compounds have been isolated from plants of Kenya some of which have shown promising biological activities. However, no attempt has so far been made to organize these chemical information in the form of an in silico database to ease access to this information from a single source.

As a result it was impossible to conduct either structure or ligand based virtual screening on these natural products to determine their potential in drug design. Recognizing the need to organize the data so that it can be accessed from a single source, we collated information on natural products isolated from plants of Kenya and organized it in the form of a searchable web-based database. The database is constructed in a form that can be used for virtual screening.

Whom the mitishamba database could be useful, but not limited, to:

- Natural Products Chemists
- Traditional Herbalists
- Medicinal Chemists
- Pharmacists
- Ethnobotanists
- Organic Chemists
- Drug Designers

How mitishamba database can be used?

With this database you can:

- Search for phytochemical information on Plants of Kenya.
- Search for biological activities of Natural Products of Kenya.
- Obtain physicochemical properties such as LogP, MW, PSA, HBA, HBD, e.t.c....
- Download the entire database for virtual screening
- Conduct Text, Structure and Functional groups searches

In this presentation, the main feature of the database and the application of the database in the design of antiplasmodial compounds will be discussed.