

DNA protein pharmacology

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Abstract

The dna of medicinal plants contain the protein structure to obtain natural drugs from hystorical sources and traditional medicine

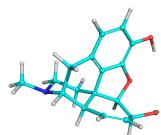
Many ethnicities have explored the preparation of drugs through millennia of attempt, and observation, of the Nature: the evolution by means of the natural selection has explored (over millions of years) the genetic, and protein, space obtaining a variety of protein structures.

I write some example of ancient, and modern, plant-derived drugs:

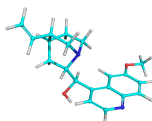
drug	drug class	plant
morphine	pain medication	papaver somniferum
quinine	antimalarial	cinchona tree
artemisinin	antimalarial	artemisia annua
atropine	anticholinergic	deadly nightshade
bromelain	anti-inflammatory	ananas comosus
colchicine	antigout	colchicum autumnale
vincristine	antineoplastic	catharanthus roseus
salicin	anti-inflammatory	white willow
ephedrine	sympathomimetic	ephedra
scopolamine	anticholinergic	solanaceae
elliptinium	antineoplastic	aspidosperma subicanum
tubocurarine	muscle relaxants	chondrodendron tomentosum

it is interesting to note the structural variability of Nature's production in the figure (the source are PubChem structure data format files).

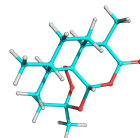
It could be possible to associate to each plant (classified by DNA sequencing) the drug-proteins produced by the plant; a database of scientific



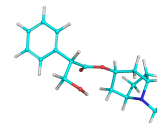
morphine



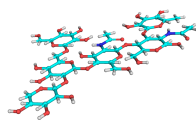
quinine



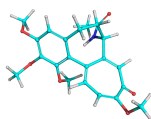
artemisinin



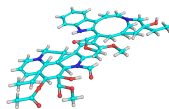
atropine



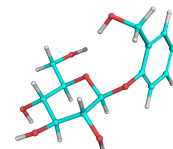
bromelain 2d



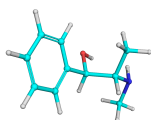
colchicine



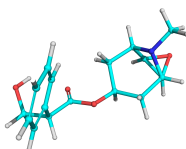
vincristine 2d



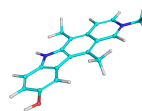
salicin



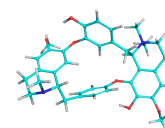
ephedrine



scopolamine



elliptinium



tubocurarine chloride

articles (from any official scientific source) associated with drugs preparations from the medicinal plant could speed up the search for cures for a particular disease: in general it could be possible to obtain any complex compound of organic chemistry through the construction from scratch of certain genes of the bacterial DNA.

Genetically modified bacteria, or better cyanobacteria (to reduce carbon dioxide in the atmosphere with the production of drugs), could manufacture the drug-protein through the artificial inclusion of the DNA region capable of producing the drug-proteins (bioreactor).

The sequencing of plants (and organism) could potentially allow the conservation of the species (like the Svalbard Global Seed Vault) for future times, when new reproduction processes become available (a scientific Noah's Ark).

Each ethnographic research that collects knowledge of small populations could provide new cures through the sequencing of medicinal plants; each historical research of traditional medicine could provide new cures (if medicinal plants could be identified, from historical sources, before the sequencing)

Each endangered plant could be sequenced in an open database to make it available for research, or reproduction.