

Pharma industry and plant natural products: today and tomorrow

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Vegetal natural products (VNPs) have been the most successful sources of drugs in history. The development of High Throughput Screening (HTS) in the 80s generated a substantial shift towards plants extracts and VNPs in the Pharma Industry. This "Green Rush" terminated in the early 2000s when the Pharma companies stopped their HTS and bioprospecting programmes due to the intrinsic difficulties of this approach plus increasing costs and legal uncertainty to access genetic resources.

Current drug discovery avenues include the bioprospection of marine organisms and microorganisms (which still have more "low hanging fruits" than VNPs), mining databases like DNP[®] with biochemoinformatics and artificial intelligence tools, repositioning "old" drugs from vegetal origin, as well as extensive pharmacological profiling of pure compounds. The development of Natural Fragment Libraries such as the NFL[®] developed at Pierre Fabre is also rather promising.

Plants still have a bright future as Medicines despite the complexity of the recent Access and Benefit Sharing regulations. The use of standardized, purified extracts can bring effective public health solutions notably in developing country for a large part of pathologies. Their use in cosmetology is ever increasing.

These aspects of the future of VNPs will be discussed from the perspective of our 30-year industrial experience at Pierre Fabre (an international medium size Pharma and Dermocosmetics company, 13,000 employees worldwide which derives 40% of its turnover from plants).

References

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