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**RESEARCH PROGRESSES OF MONOTERPENOID INDOLE ALKALOID BIOSYNTHESIS IN CATHARANTHUS ROSEUS**

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*Catharanthus roseus* is an important source of the anticancer alkaloids vinblastine and vincristine and the antihypertensive compounds ajmalicine and serpentine. Vinblastine and vincristine are produced in small quantities within the leaves of the plant. Plant cell and tissue cultures and genetic engineering of monoterpenoid indole alkaloid biosynthetic pathways have been investigated as an alternate source of production; however, low yields of these compounds and the absence of vindoline (a precursor of vinblastine and vincristine) are the key bottlenecks to this technology. In this review research progress about these important secondary metabolites has been discussed in detail and the future vision will be expressed.

**Keywords:** Anticancer, *Catharanthus roseus*, Genetic engineering, Monoterpenoid indole alkaloid, Vinblastine, Vincristine.