

MOLECULAR CONCEPTS OF MACROPHAGE TARGETING

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Abstract. Macrophages play an important role in the pathological development of such disorders as cancer, inflammatory and certain infectious diseases, such as tuberculosis, HIV, dengue virus, and leishmaniasis. Therefore, macrophage targeting represents an important challenge in design of new medicines. This review gives a general presentation of small molecule-recognition concepts with application in drug design for macrophage targeting. It describes different mechanisms and systems for macrophage-targeted delivery, including ligands or small molecule motifs recognizable by macrophage specific proteins, like receptors (e. g. sialoadhesin, folate, galactose, mannose, β -glucan, and scavenger, tuftsin receptors) or enzymes (carboxylesterase-1), pathways for their obtaining and routes of their application.

Keywords: macrophage receptor targeting, macrophage enzyme targeting, inflammatory disorders, tuberculosis, cancer.