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(54) **Title**: MODULAR TRANSPORT PLATFORM FOR TARGETED DELIVERY OF THERAPEUTIC AGENTS

(57) **Abstract**: The invention relates to a modular transport platform (MTP) for delivering active, diagnostic or research substances to predesigned intracellular compartments of target cells. The MTP includes functional modules within one molecule to accomplish one or more of the following: penetration of the modular transport platform into a target cell type, pH-dependent membrane disruption activity within the target cell, directed intracellular transport into preselected intracellular compartment, and delivery of a substance to be transported to the intracellular compartment. The modular transport platform includes the following modules: (1) a ligand module to target a specific receptor on the surface of the target cell; (2) an endosomolytic module that provides pH-dependent membrane disruption activity within the target cell; (3) an intracellular transport module to cause delivery of the MTP to a particular subcellular compartment; (4) a module for intracellular retention to ensure retention of the MTP within the subcellular compartment of the target cell; (5) a module for subcellular recognition; (6) a substance to be transported by the MTP; and (7) a carrier module for unifying the modules and coupling the modules with the transported substance.