



Matrix and device and use thereof for optically-controlled release of chemicals

The use of these devices may assist in performing advanced and personalized pharmacological therapies, in which the release of precise drug amounts to specific body regions is required. The chemical species to be released can be a drug or in general any substance to be administered for therapeutic, diagnostic and/or cosmetic use. In a possible realization form, the device can be shaped like a film or a patch and applied on the surface of the skin or under the skin. Illumination to induce drug release can be provided e.g. by a low power LED source, shaped like a pen.

Assembly comprising an absorber of near infrared (NIR) light covalently linked to an inhibitor of carbonic anhydrase:

These nanoparticles are administered systemically in the body to reach the hypoxic core of a solid tumor, and then activated by laser radiation to achieve minimally invasive cancer therapies, such as laser hyperthermia or intracellular release of pre-loaded anti-cancer drugs.

