The effectiveness of the transdermal therapeutic system

Xenon is the only enhancer that does not affect the integrity of the epidermis. The proposed mechanism of action is the modification of the interphases of the intercellular matrix in the presence of xenon. As well during transdermal diffusion xenon has an analgesic effect, restores microcirculation of blood and lymph, normalizes tissue metabolism.

Contact person:
Verkhovsky Alexander Yuryevich
International Laboratory
of Biochemistry of Transport
Systems FIT TSU
alverkhovniy@mail.ru
+7 953 910 3872

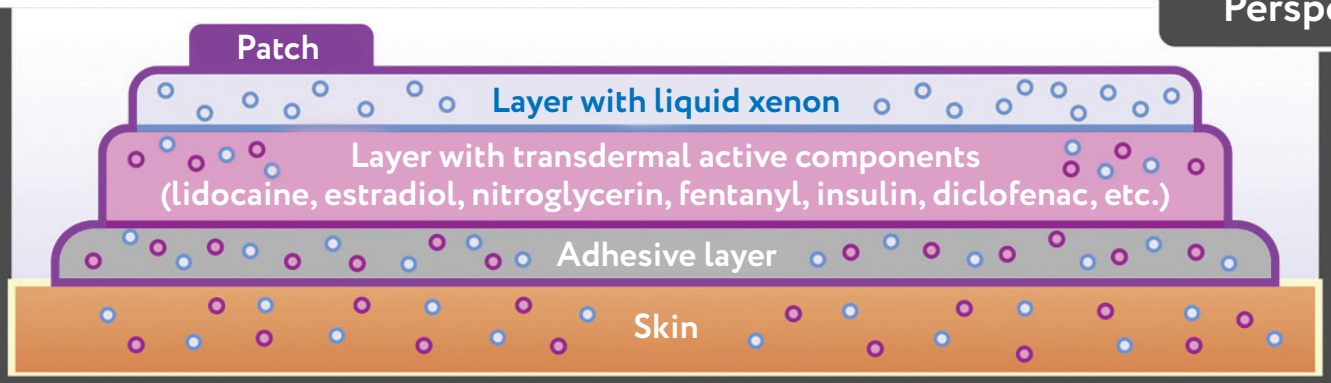
The work was done within the frame of the competitiveness enhancement program at National Research Tomsk State University

Russia, 634050,
Tomsk, 36, Lenin Avenue,
Phone: +7 (3822) 529-852;
e-mail: rector@tsu.ru

National Research
Tomsk State University

Laboratory of Biochemistry
of Transport Systems of the Faculty
of Innovative Technologies

Xenon-containing transdermal therapeutic system (TTS) in the form of patch



Transdermal therapeutic system in the form of xenon-containing patch

Perspectives

An external mean for the prevention and treatment of frostbite in the Arctic

Xenon-containing transdermal therapeutic system (TTS) in the form of patch

It is a universal, effective and safe intra- and transdermal delivery system for active components. For the first time in the world, the technology of external means has been created in cosmetology, dermatology and transdermal drug delivery with xenon, including in the form of a patch.

The basis of the TTS is the «noble» gas xenon, which is used in technology (lamps, plasma displays, space industry) and in medicine (anesthesia, inhalation therapy).

In external means xenon exhibits enhancer properties by increasing the transport of active components of external agents through skin preparations and membrane analogues of the skin (in vitro studies). High efficiency of xenon-containing agents in wound healing of burn and traumatic skin lesions is shown in vivo, such as in treatment of acne, skin bleaching, tanning, treatment of seborrheic dermatitis.

Particularly relevant is the use of TTS with xenon in the form of originally designed patch to improve the efficiency of transdermal administration of existing drugs and the creation of new ones.