

TRANSCRIPTION FACTORS IN CARDIAC REMODELING: THE LATEST ADVANCES

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Transcription factors govern various functions in the cell such as proliferation, repair, regenerative programs, etc. Currently, there are no available drugs on the market or subjected to clinical trials that can combat cardiac remodeling. Understanding the role of transcription factors in cardiac remodeling may open the door to developing agents that can reverse structural remodeling of the heart and prevent heart failure. Recent studies shed light on the function of transcription factors involved in cardiac remodeling. Pharmacological modulation of signaling involving transcription factors may present as a novel mechanism for improving cardiac metabolism, promoting cardiac cell survival, etc. Various transcription factor-targeting agents were tested in animal models and showed promising results. Nevertheless, despite significant advances, the role of transcription factors in cardiac remodeling presents an extremely unexplored area. The main goal of this literature review was to summarize the latest advances made in our understanding of the role of transcription factors in cardiac remodeling and their potential to be used as molecular therapy targets.

Key words: transcription factors, cardiac remodeling, ventricular hypertrophy, cardiac hypertrophy, heart failure, literature review.

ФАКТОРИ ТРАНСКРИПЦІЇ В РЕМОДЕЛЮВАННІ СЕРЦЯ: ОСТАННІ ДОСЯГНЕННЯ

Фактори транскрипції регулюють різні функції в клітині, зокрема, проліферацію, репарацію, регенеративні програми тощо. Наразі на ринку не існує препаратів, які можуть боротися з ремоделюванням серця, або препаратів, які проходять клінічні випробування. Розуміння ролі факторів транскрипції у ремоделюванні серця може відкрити шлях до розробки препаратів, здатних зупини-

ти структурне ремоделювання серця і запобігти серцевій недостатності. Нещодавні дослідження проливають світло на функції факторів транскрипції, що беруть участь у ремоделюванні серця. Фармакологічна модуляція сигналізації за участю факторів транскрипції може бути новим механізмом покращення серцевого метаболізму, сприяючи виживанню серцевих клітин тощо. Різноманітні агенти, спрямовані на фактори транскрипції, були протестовані на тваринних моделях і показали багатобіччі результати. Проте, незважаючи на значні досягнення, роль факторів транскрипції у ремоделюванні серця залишається вкрай недослідженою. Основною метою цього огляду літератури було узагальнення останніх досягнень у розумінні ролі факторів транскрипції в ремоделюванні серця та їхнього потенціалу для використання в якості мішеней молекулярної терапії.

Ключові слова: фактори транскрипції, ремоделювання серця, гіпертрофія шлуночків, гіпертрофія серця, серцева недостатність, огляд літератури.

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