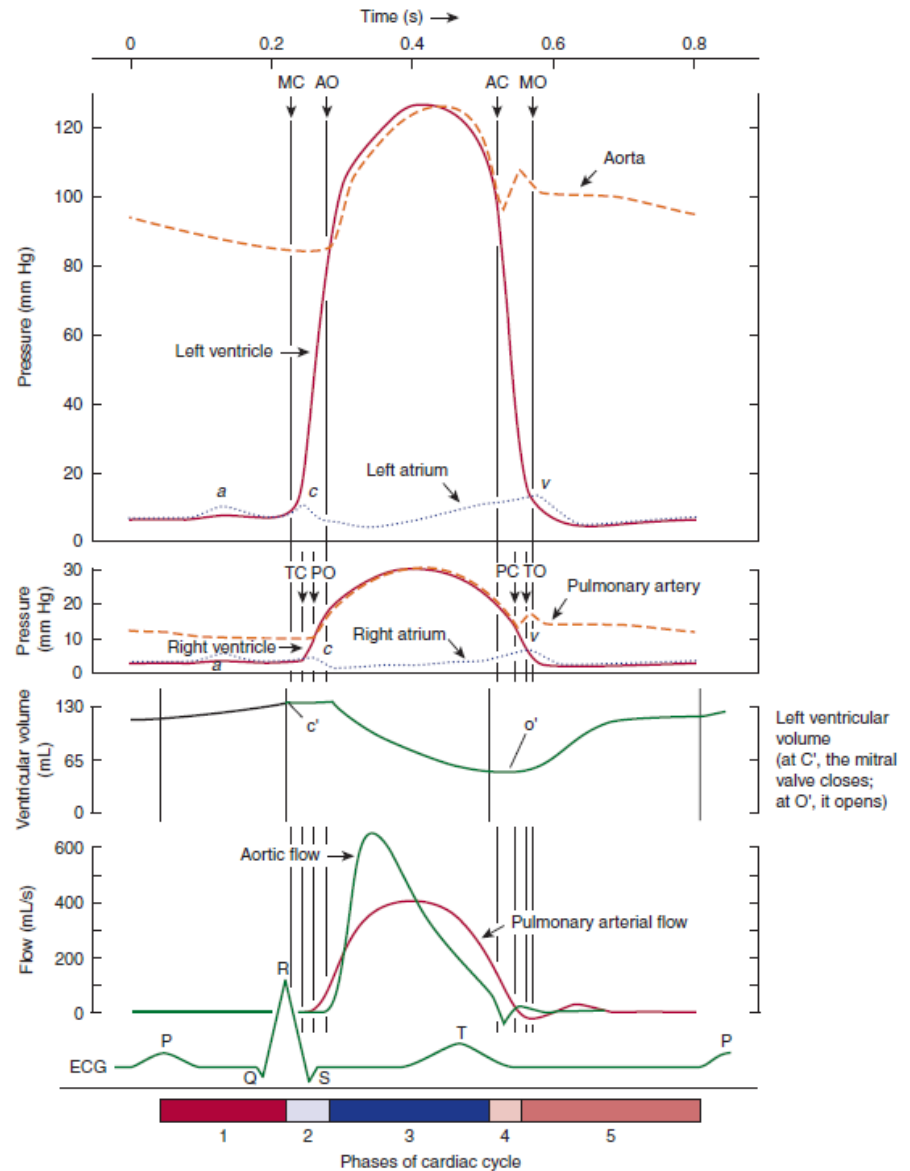
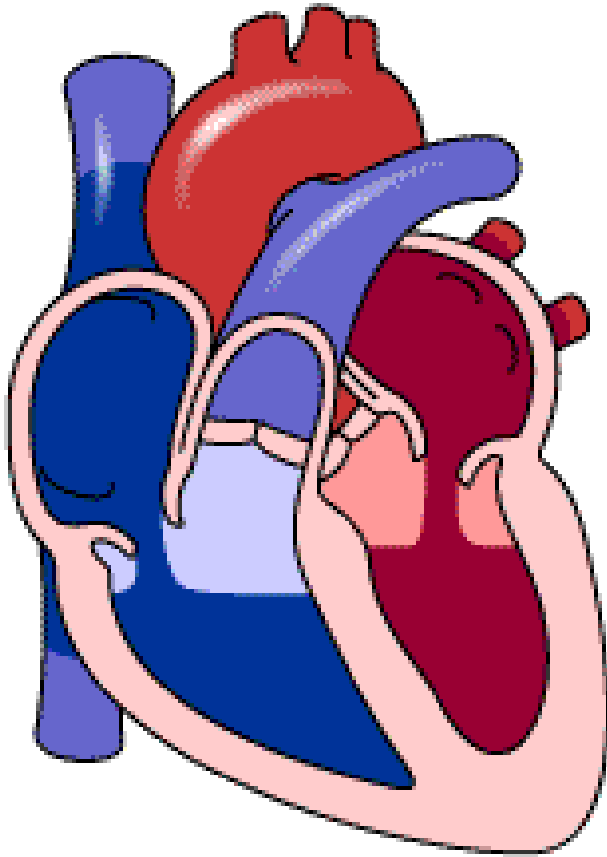


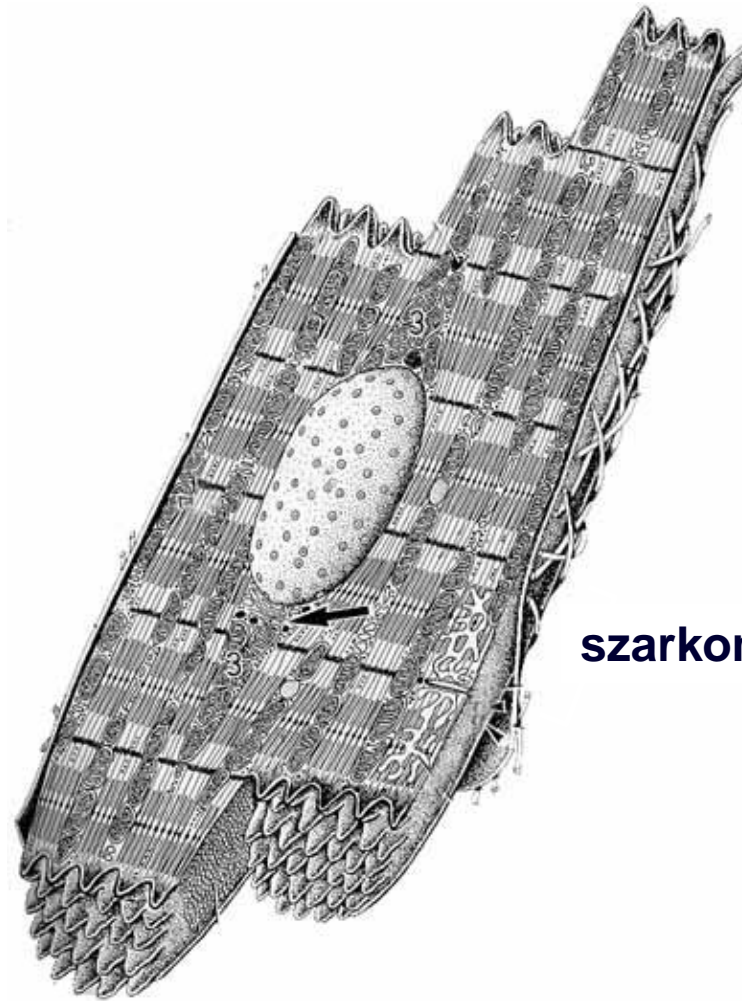
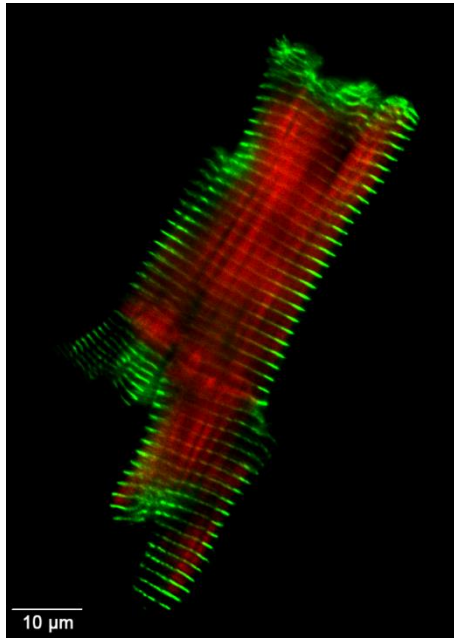
A szívizom kóros kontraktilitása

**Dr. Papp Zoltán
DE ÁOK Kardiológiai Intézet
Klinikai Fiziológiai Tanszék**

A szívciklus eseményei



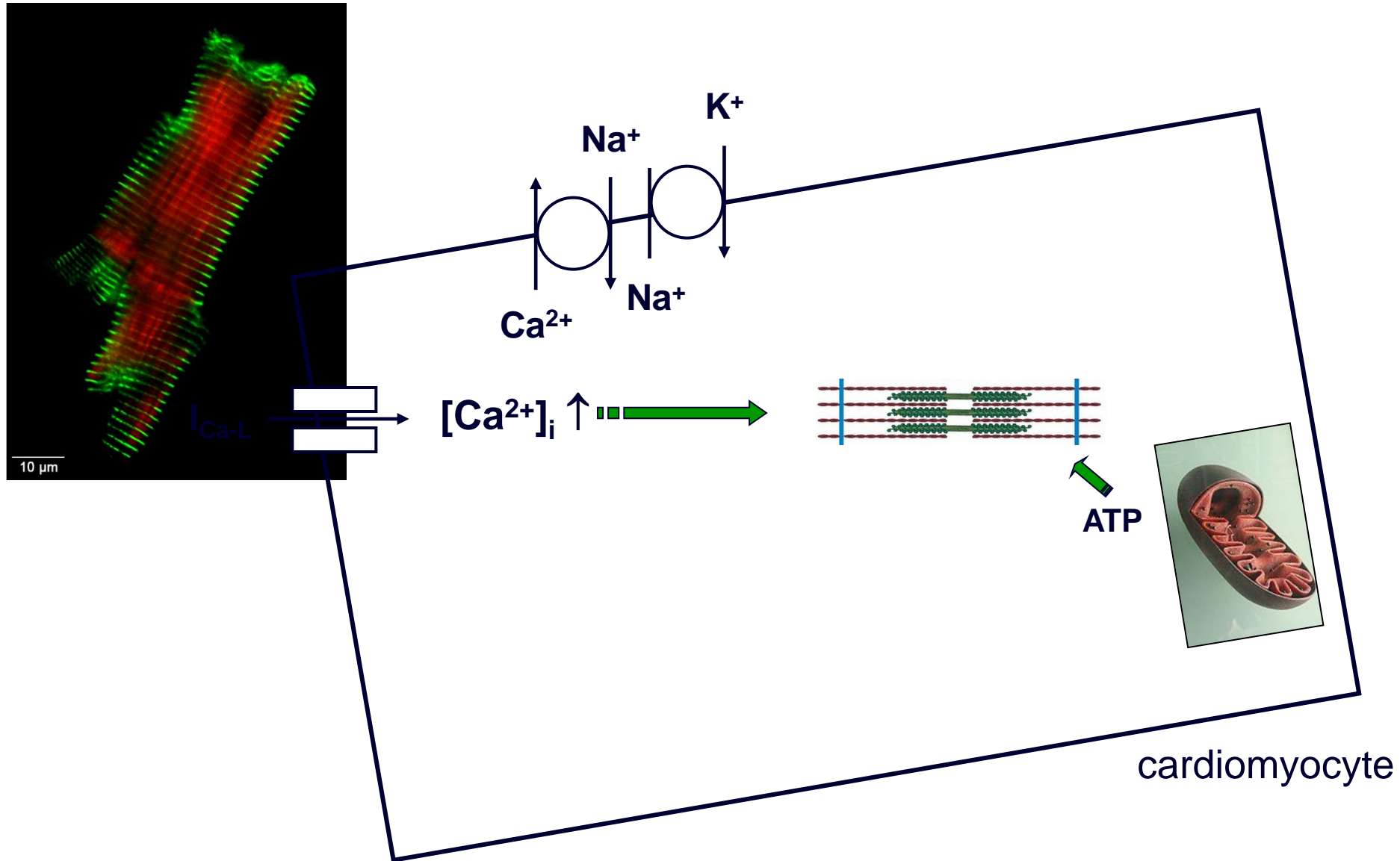
A szívizom erőgenerálásának alapja a szarkomerek megrövidülése



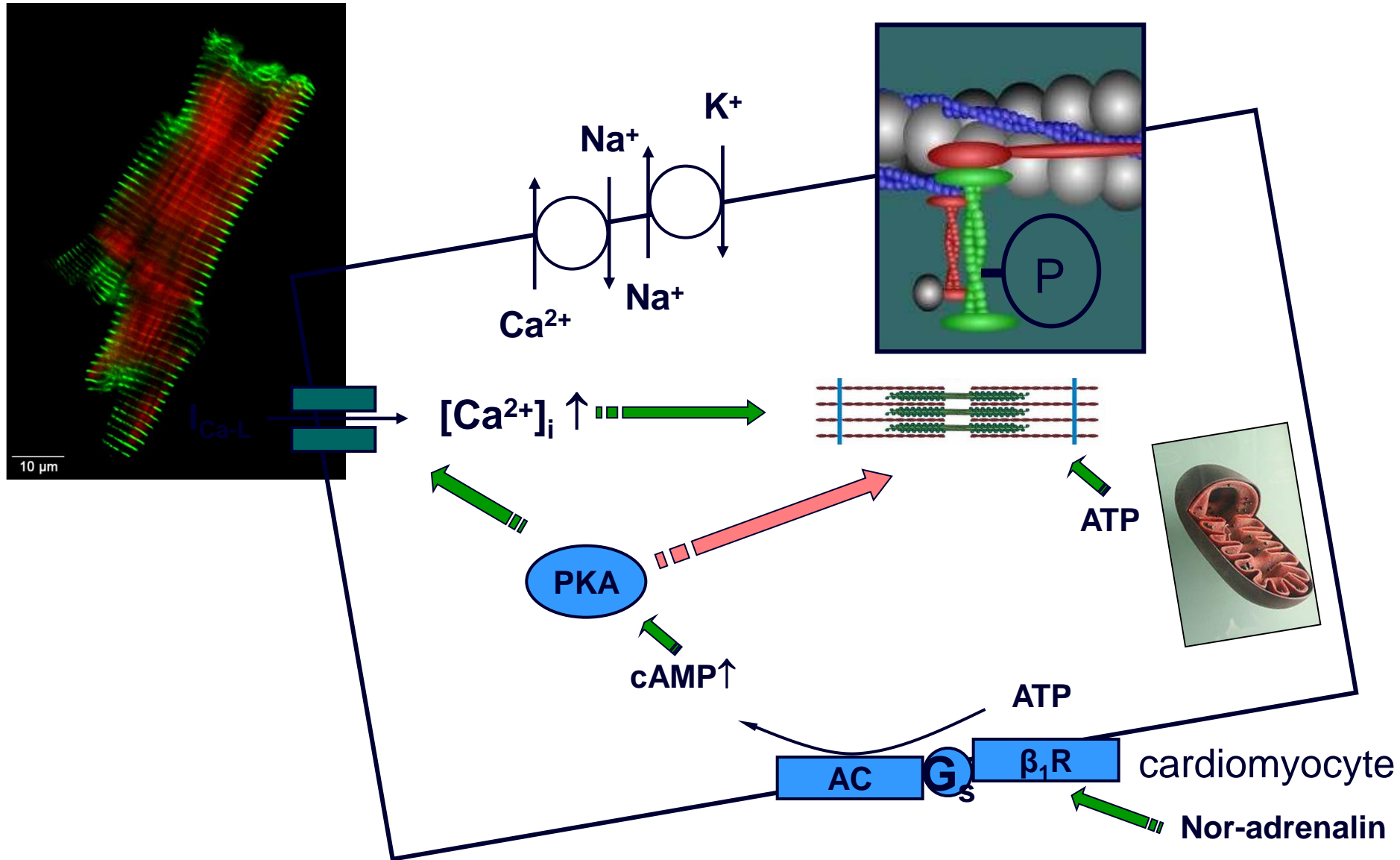
szarkomer



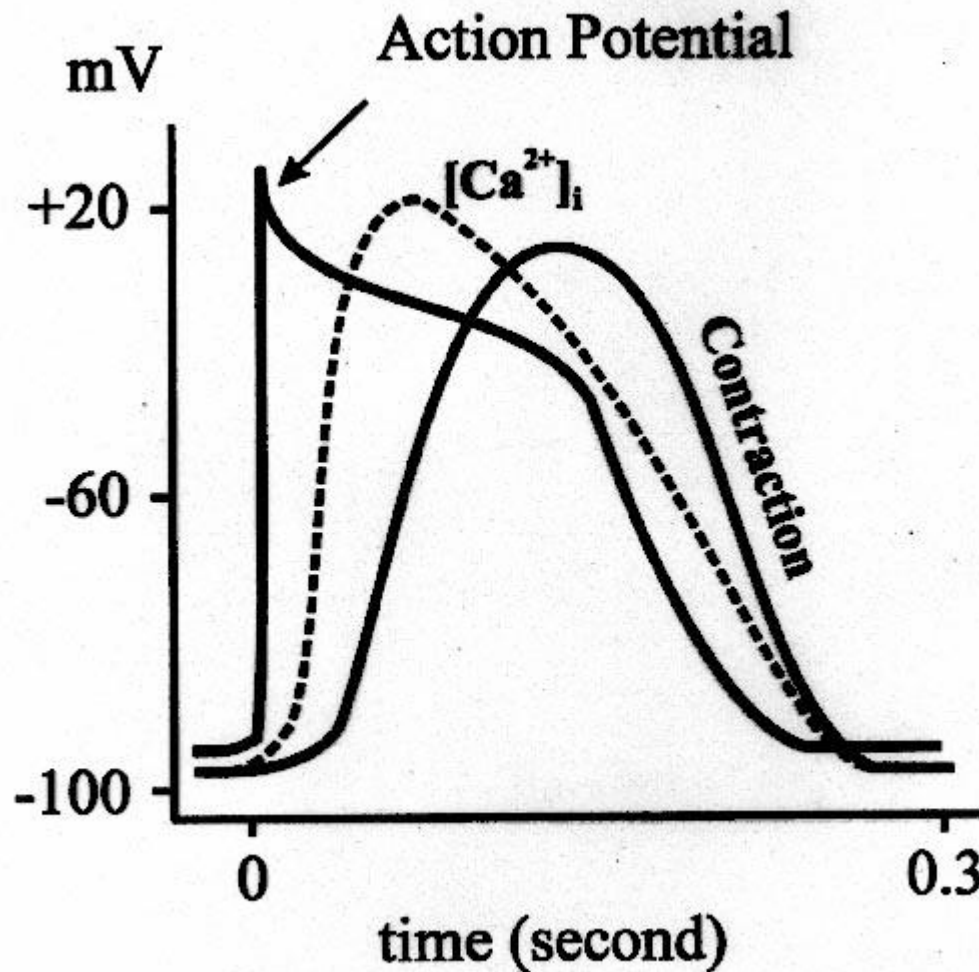
A szívizom kontraktilitása = Ca^{2+} -koncentráció + Ca^{2+} -érzékenység



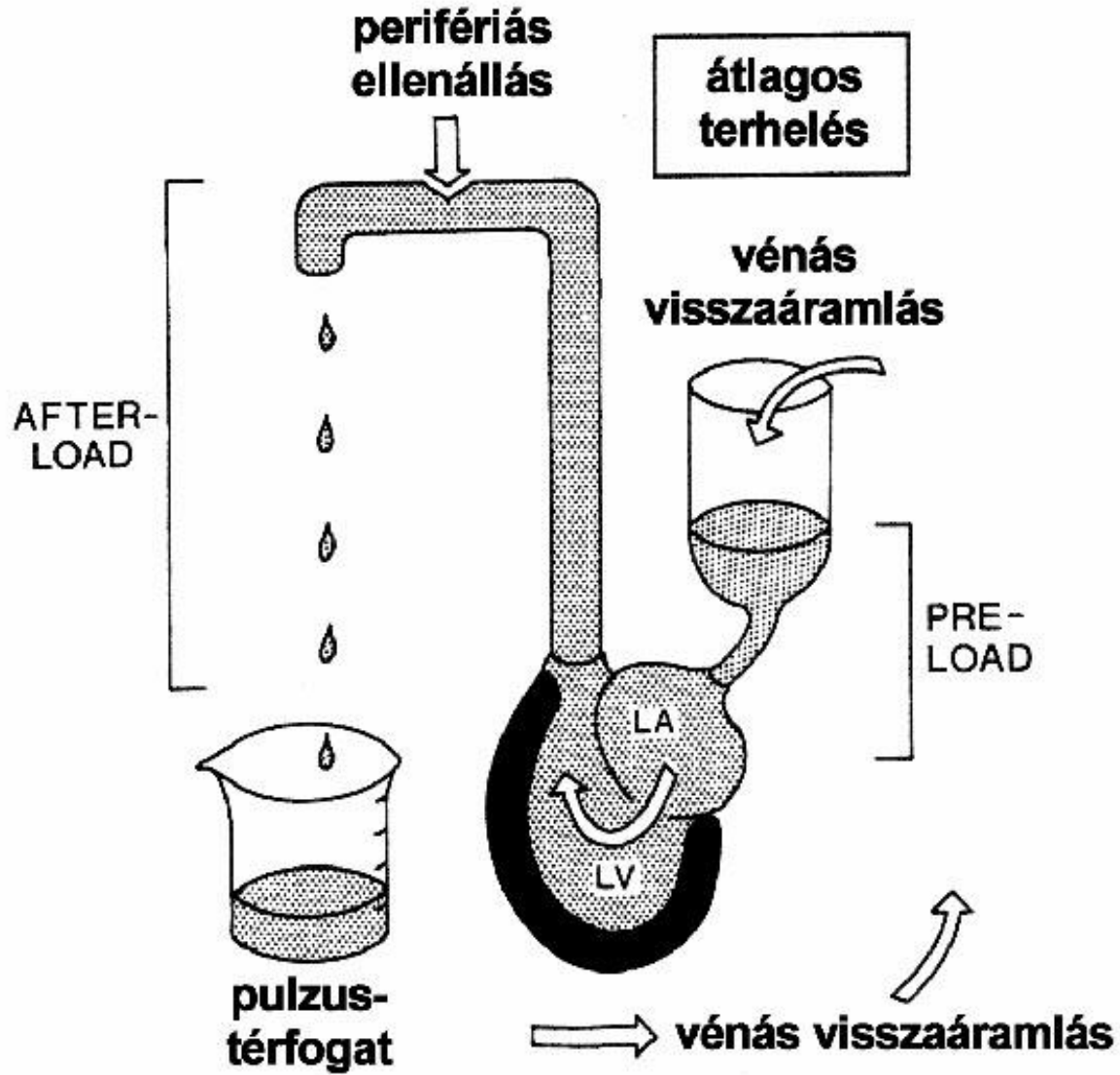
A szívizom kontraktilitása = Ca^{2+} -koncentráció + Ca^{2+} -érzékenység



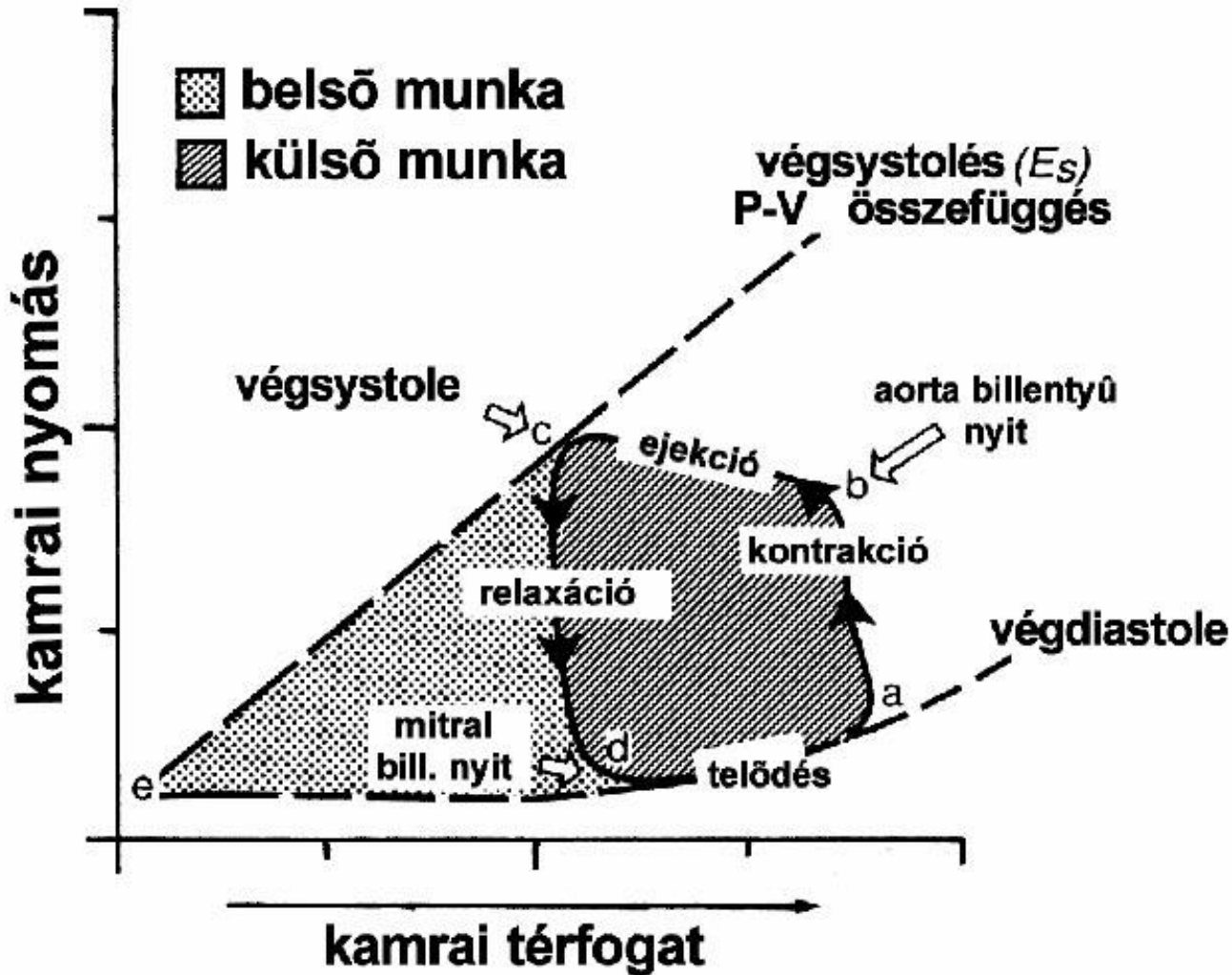
Akciós potenciál, Ca^{2+} tranziens, kontrakció



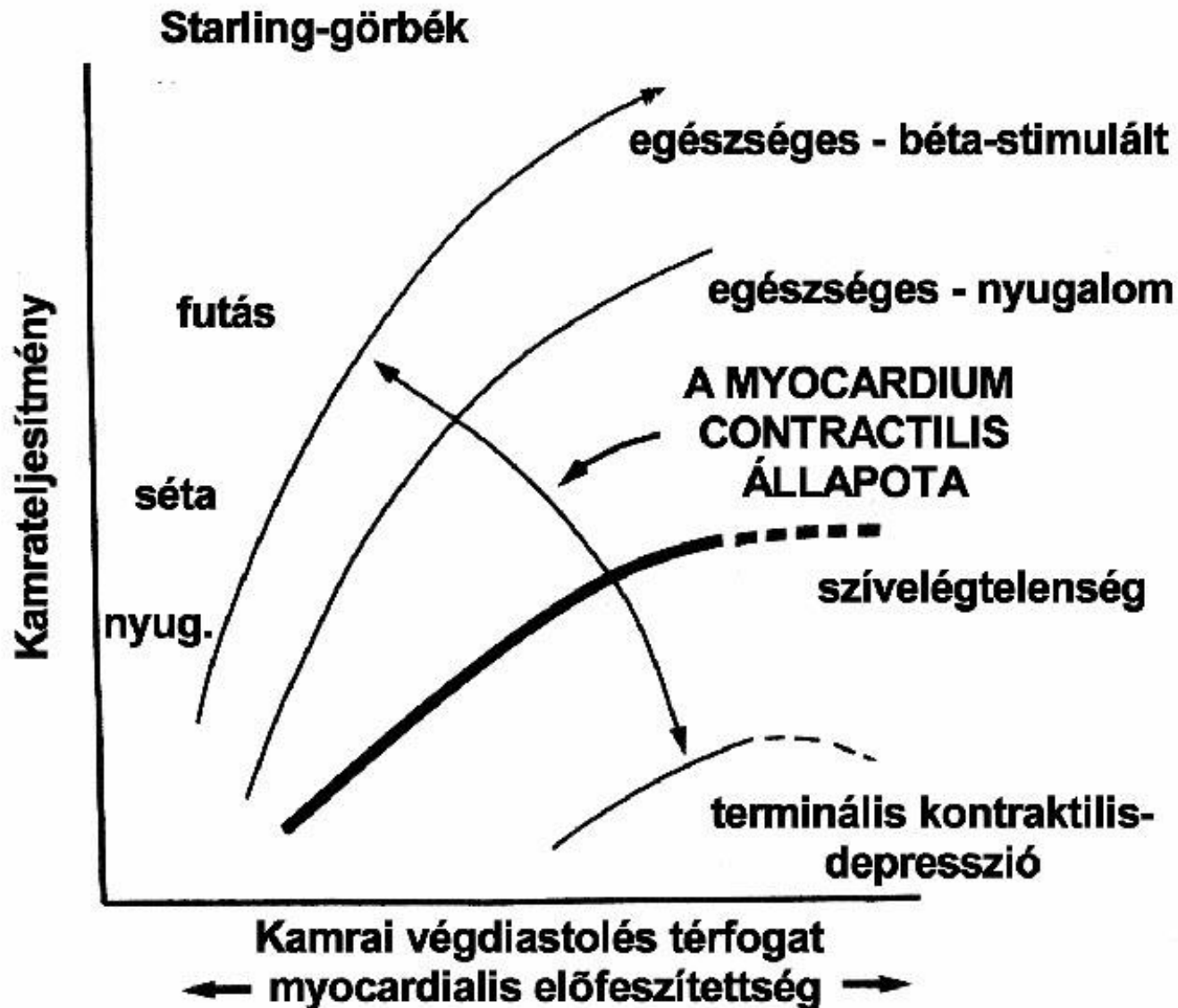
Előterhelés (preload) és utóterhelés (afterload)



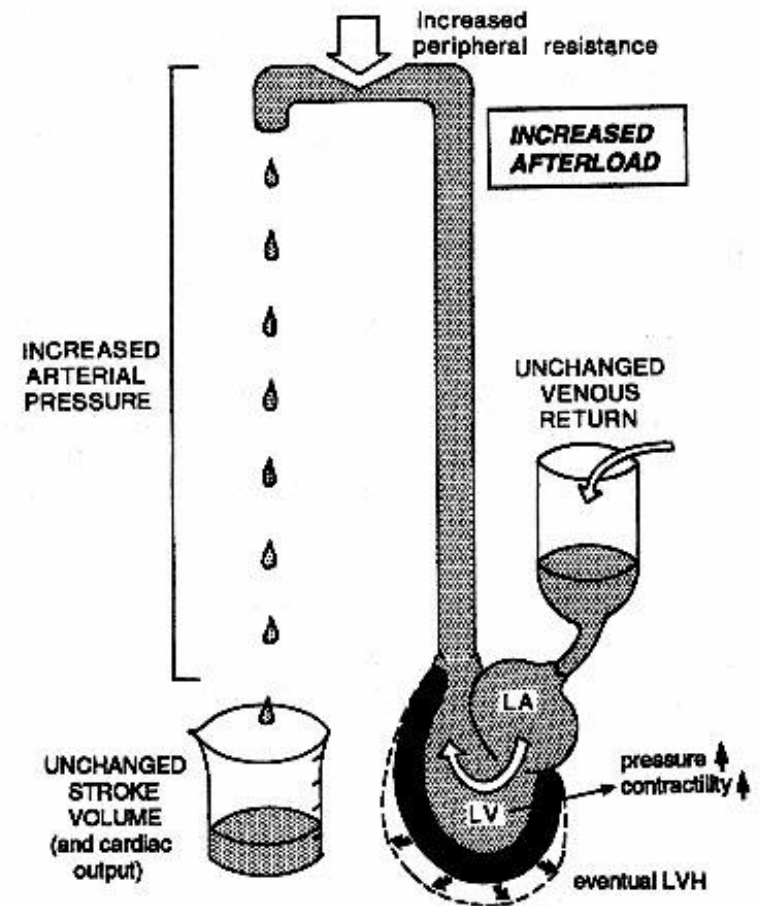
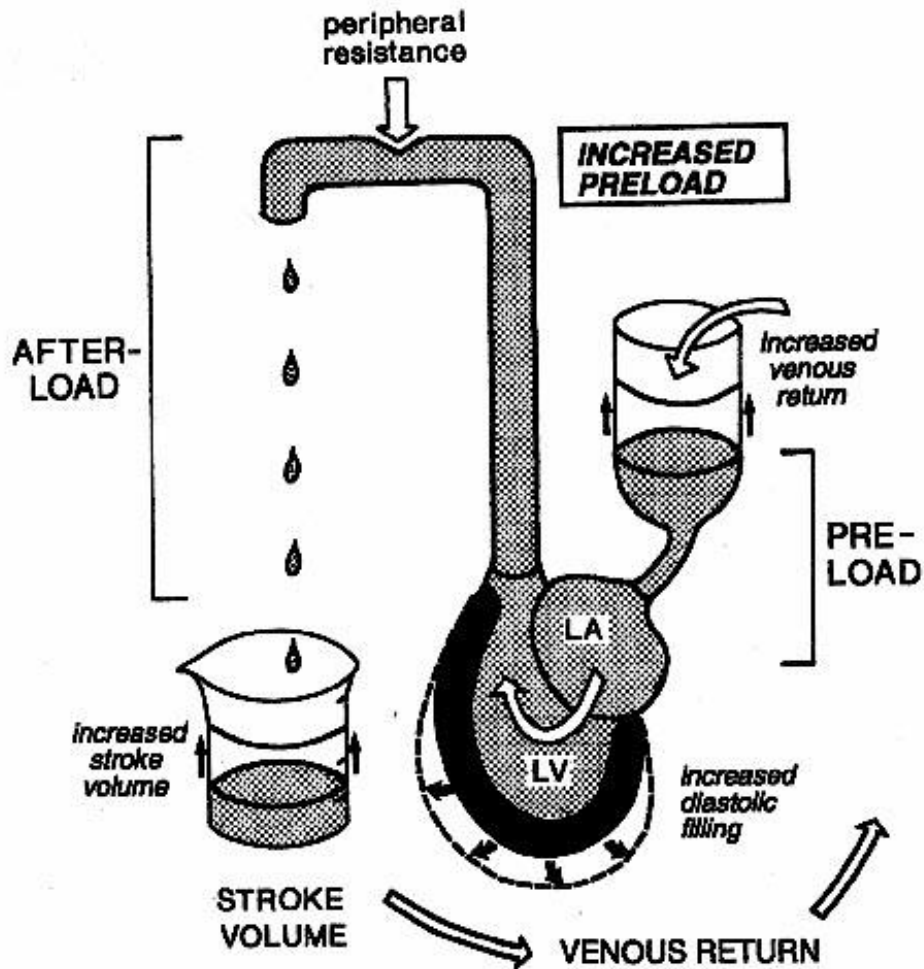
Szívciklus és a szív munkavégzése



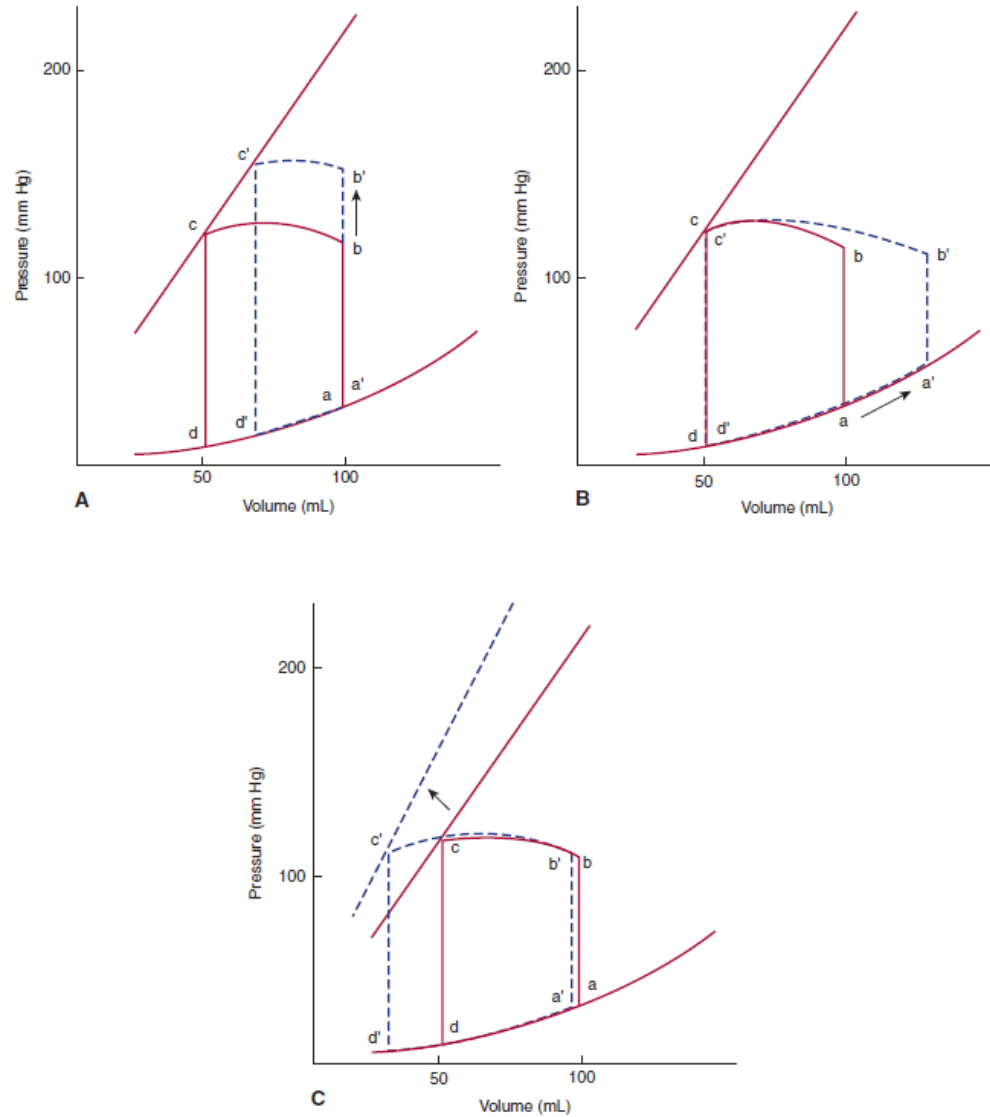
Szívkamrai funkciók görbék



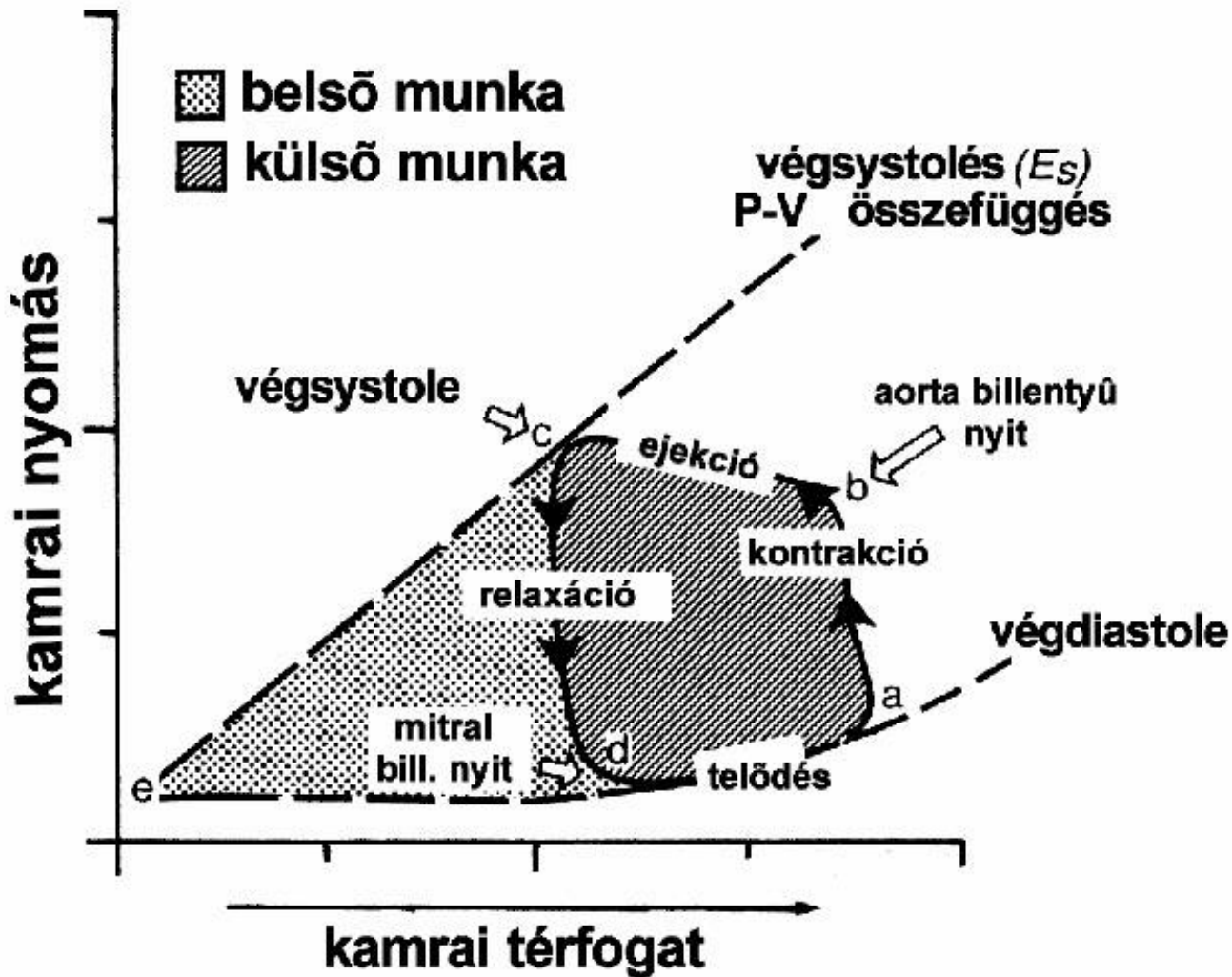
Fokozott „preload” és „afterload”



A szív terhelésre és változó kontraktilitásra adott válasza

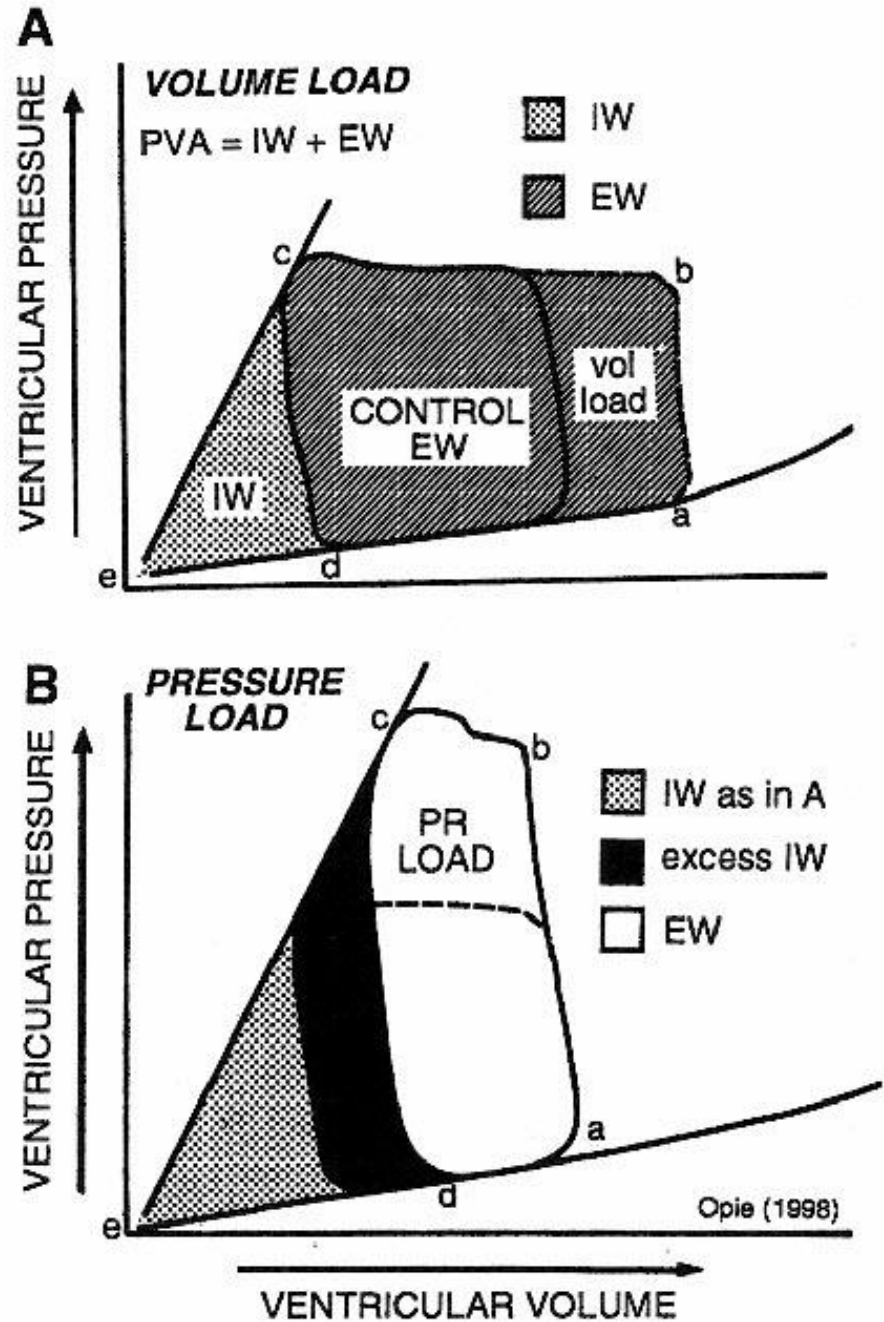


Szívciklus és a szív munkavégzése

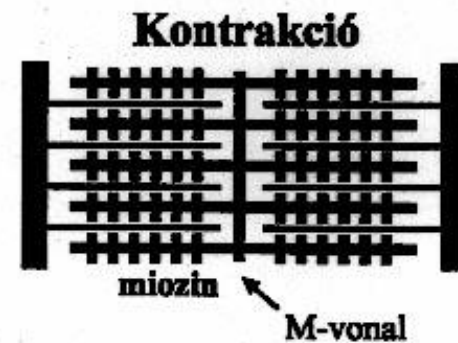
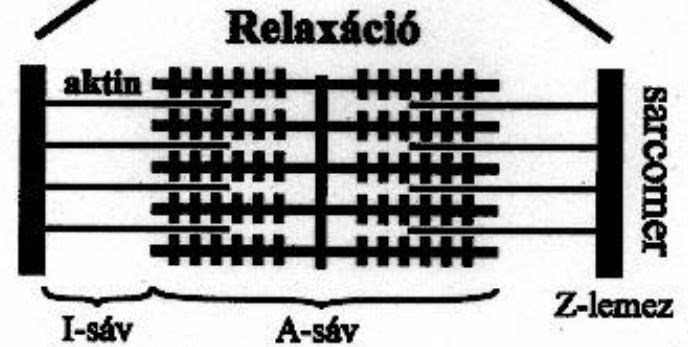
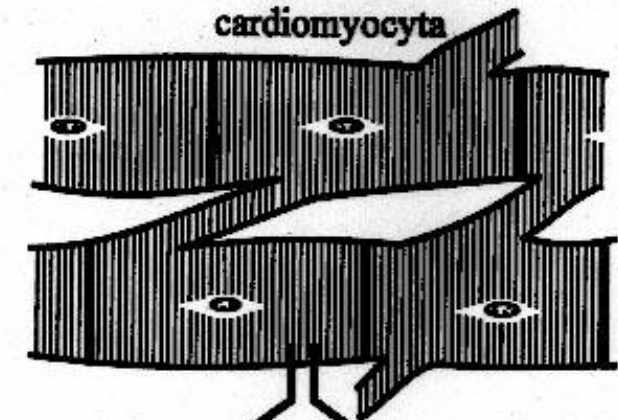
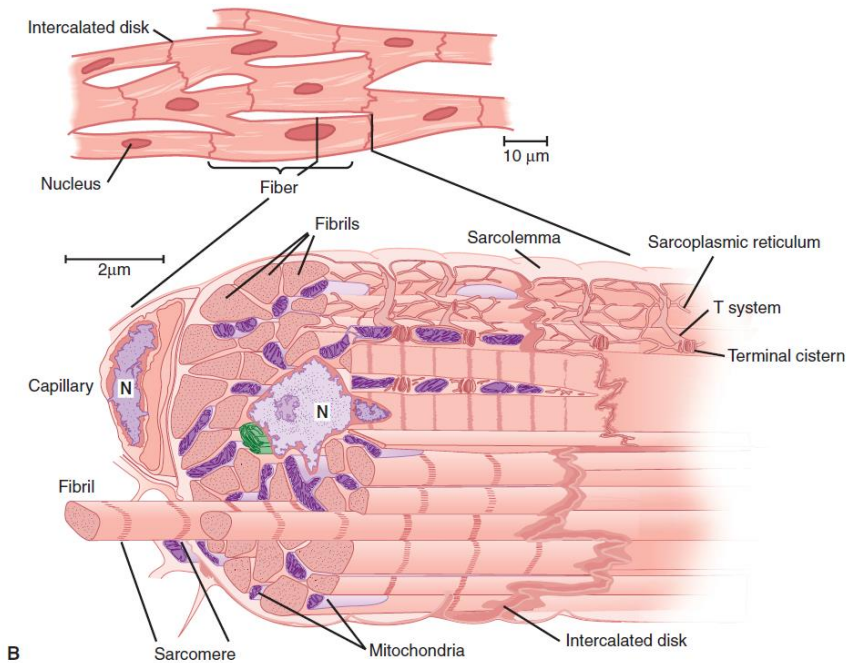


**Fokozott
„preload”**

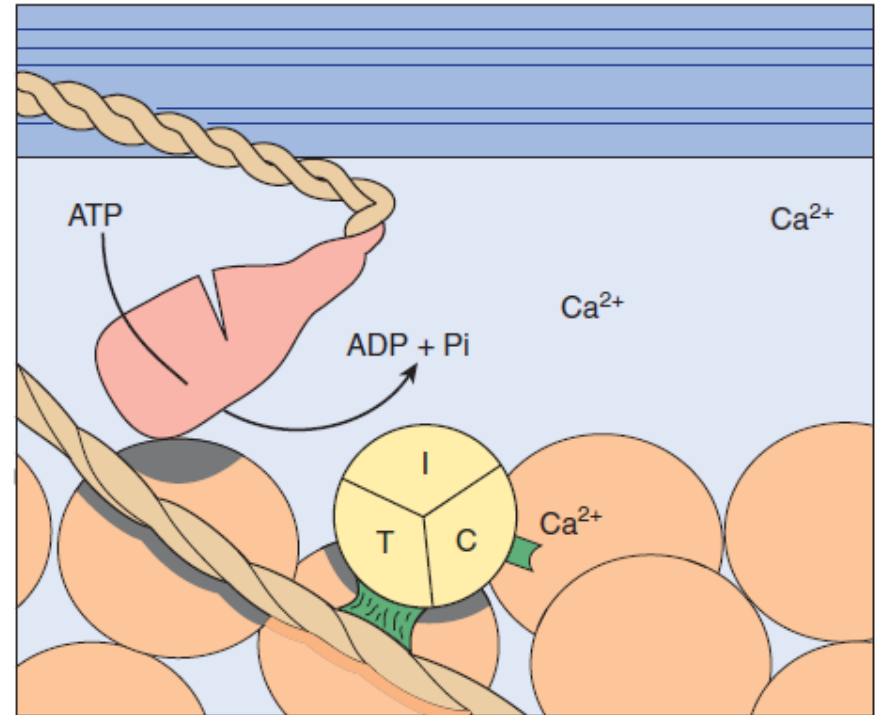
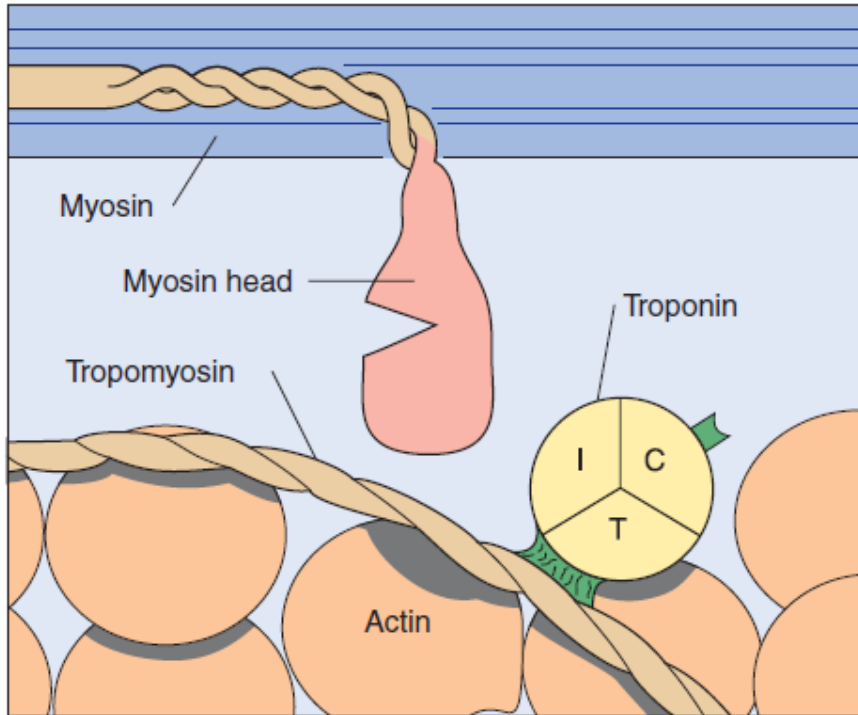
**Fokozott
„afterload”**



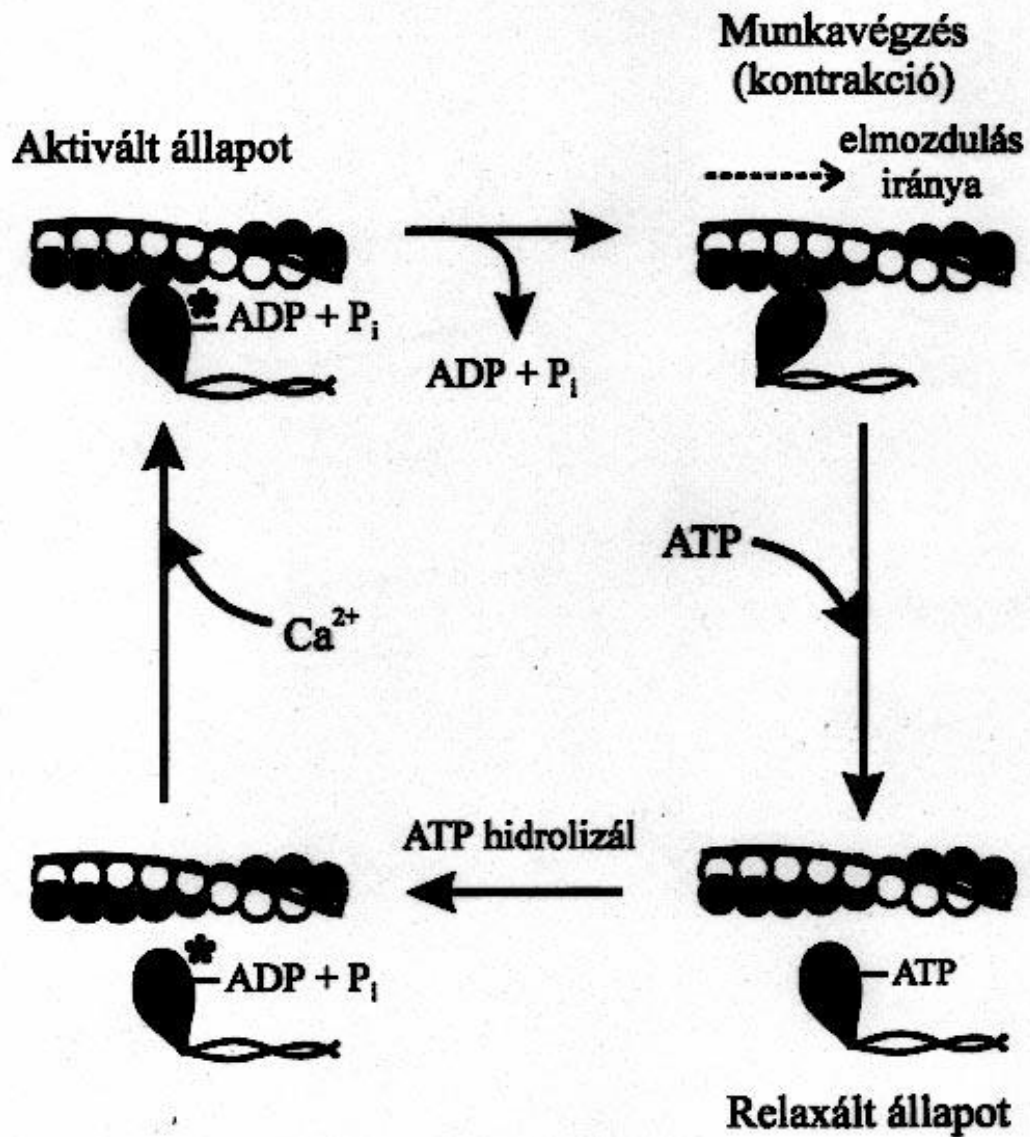
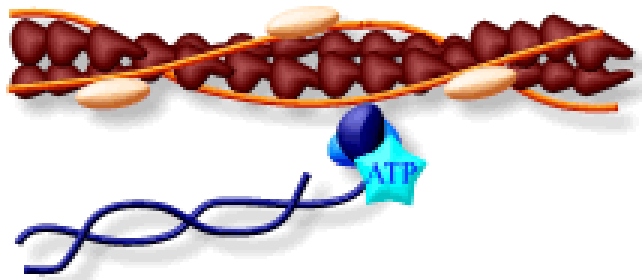
Kontraktilis funkció és myofilamenumok



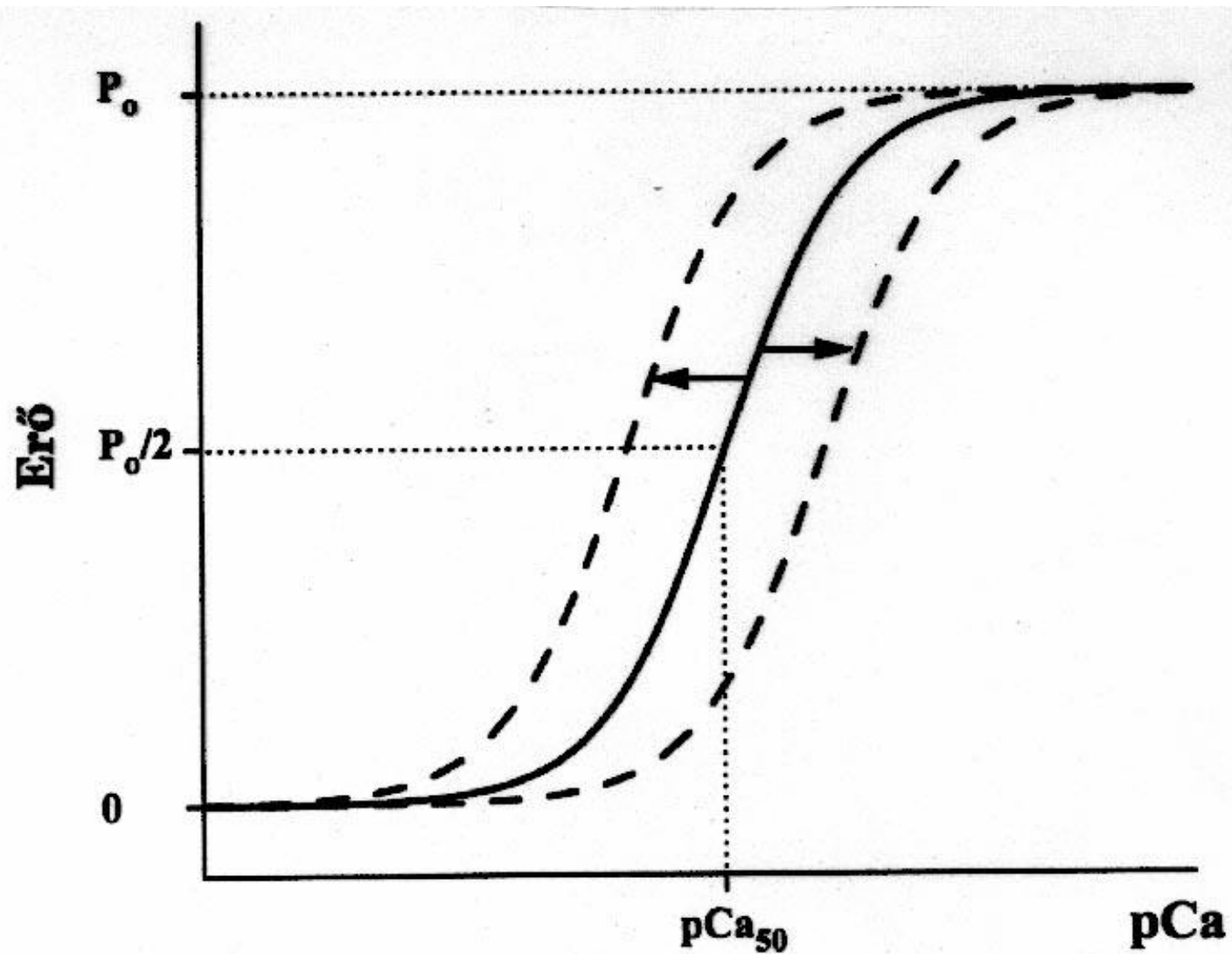
Kontraktilis fehérjék



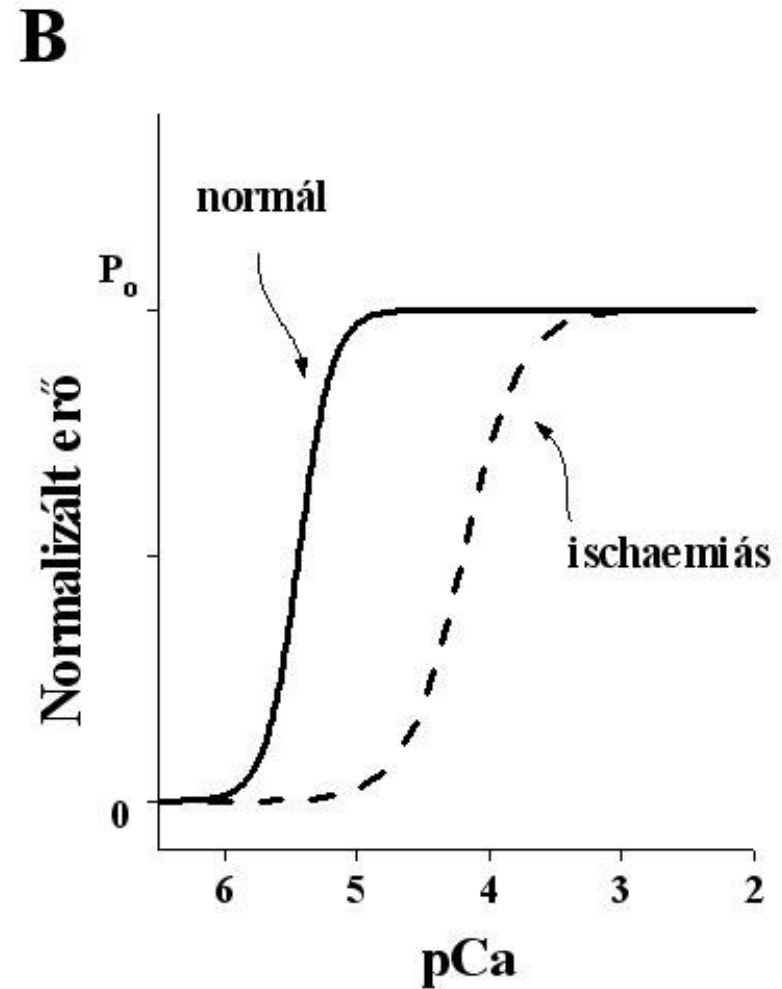
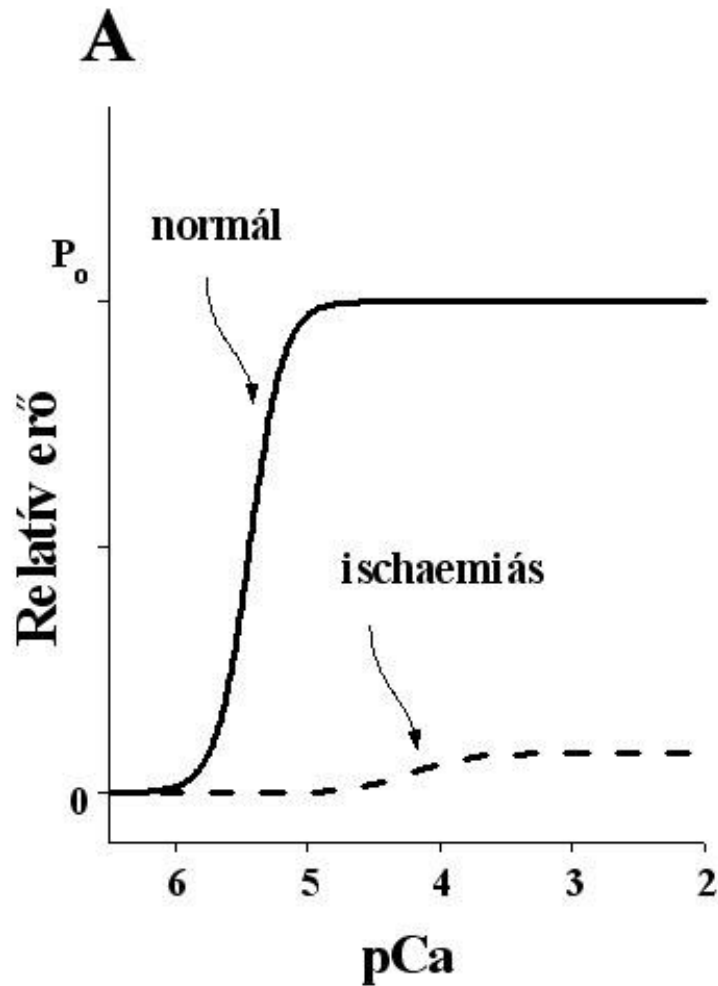
Aktin - miozin ciklus



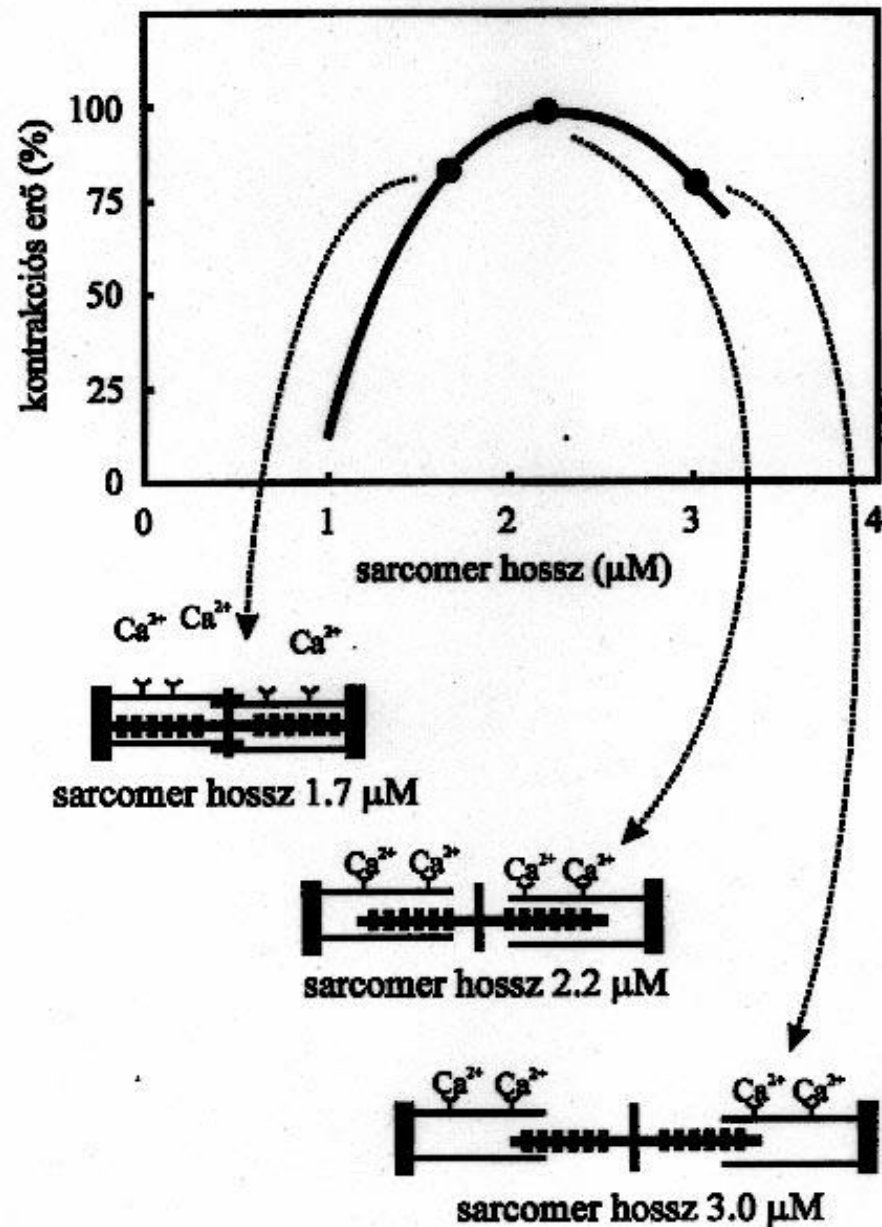
Ca²⁺ - erő összefüggés



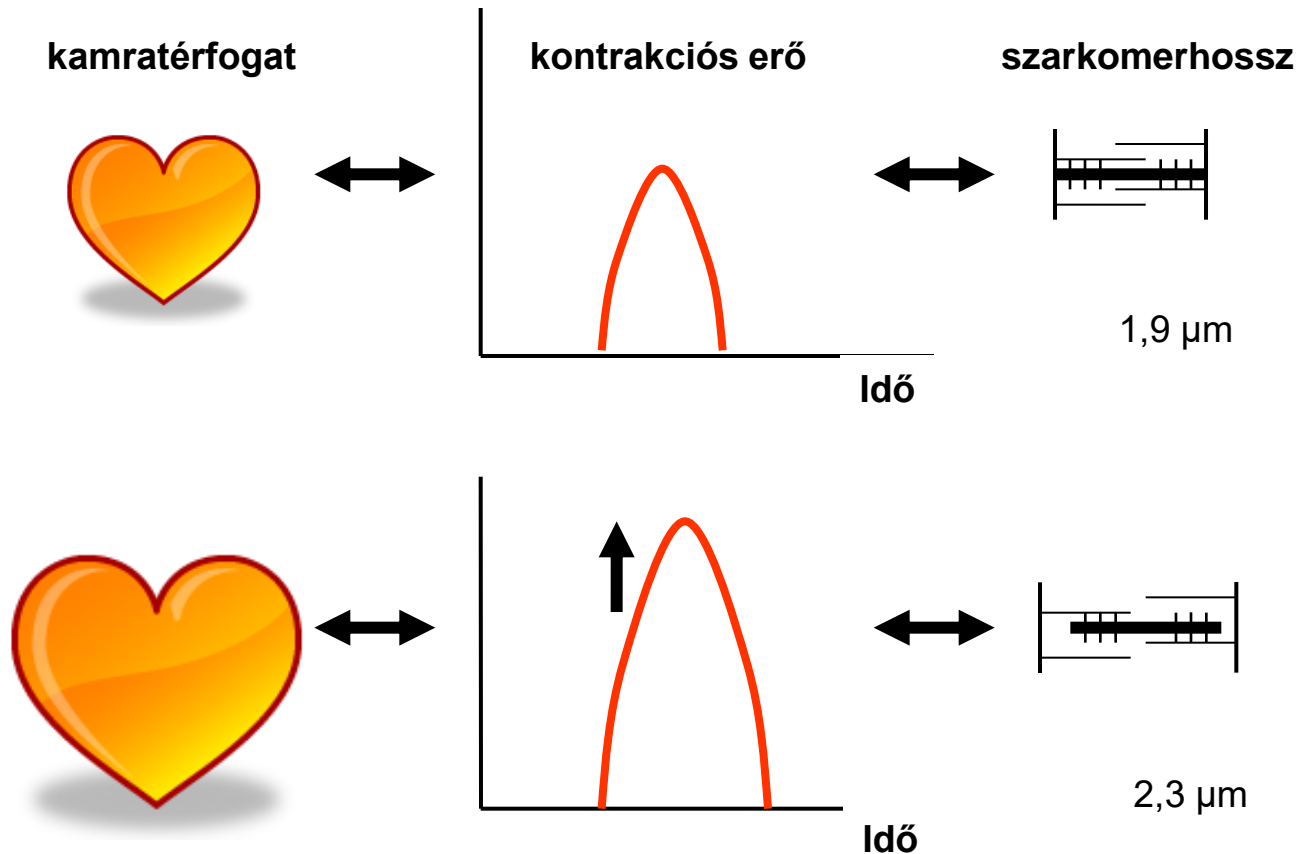
Ischaemiás metabolitok (P_i és alacsony pH) hatása a Ca^{2+} - erő összefüggésre



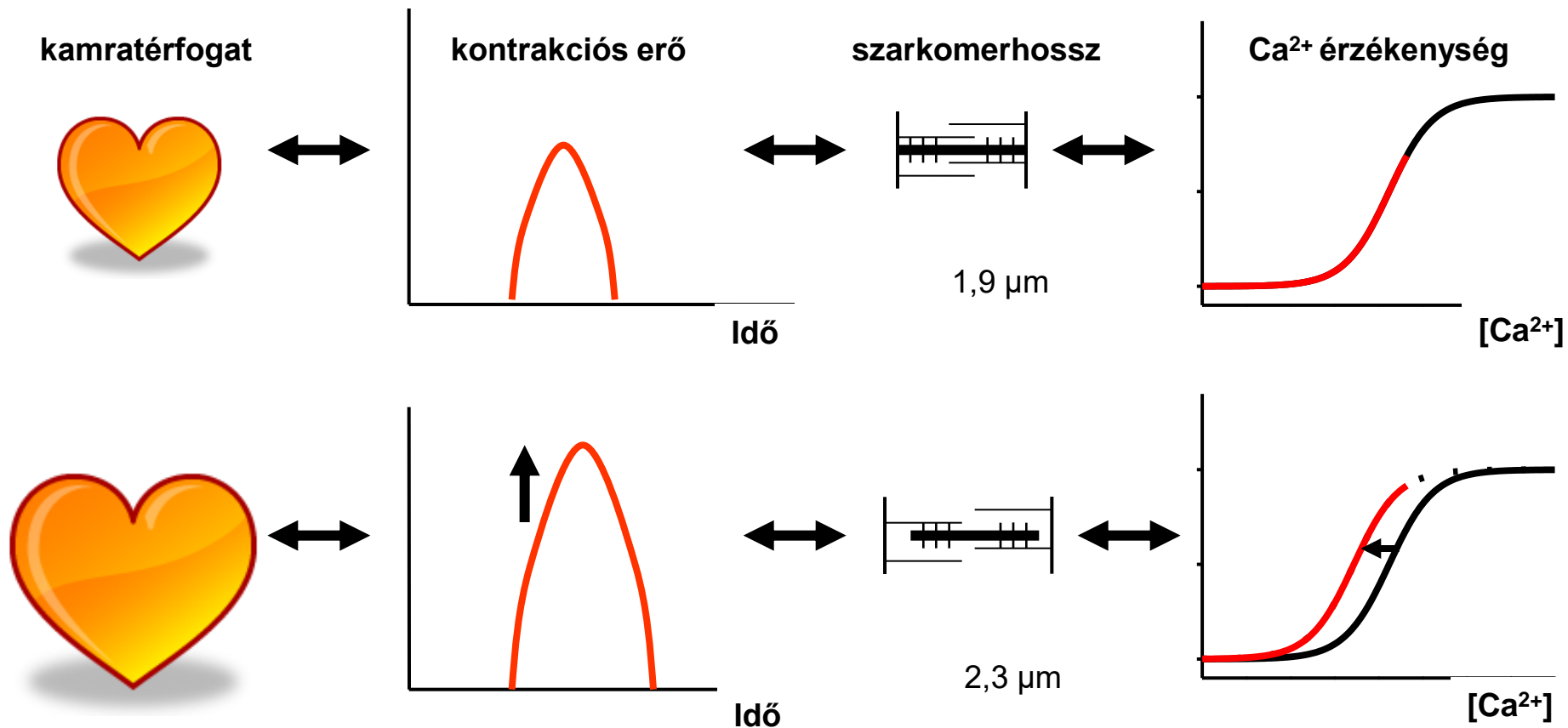
Hossz – feszülés összefüggés és magyarázata



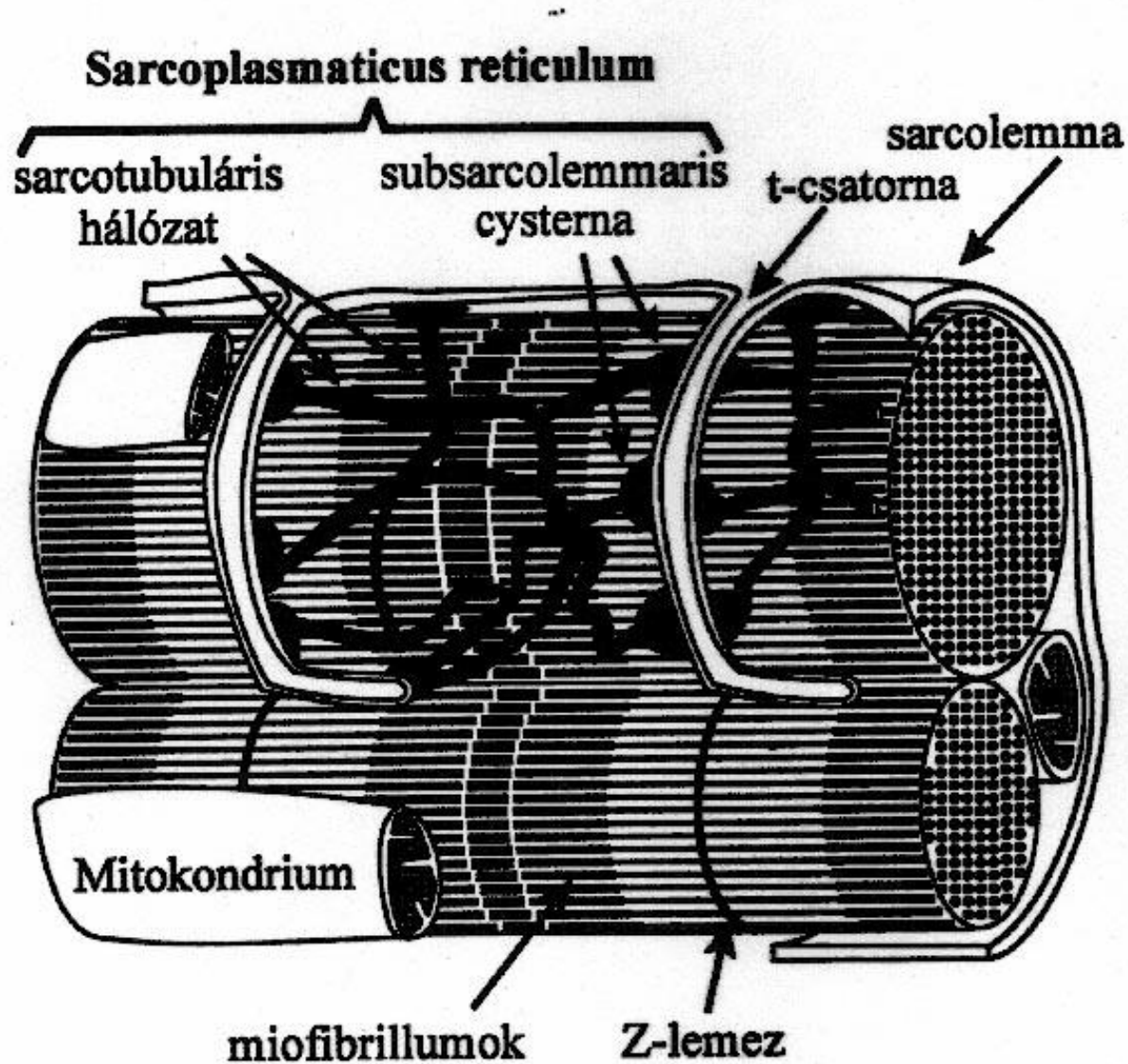
A Frank-Starling-mechanizmus és a szarkomerhossz összefüggése



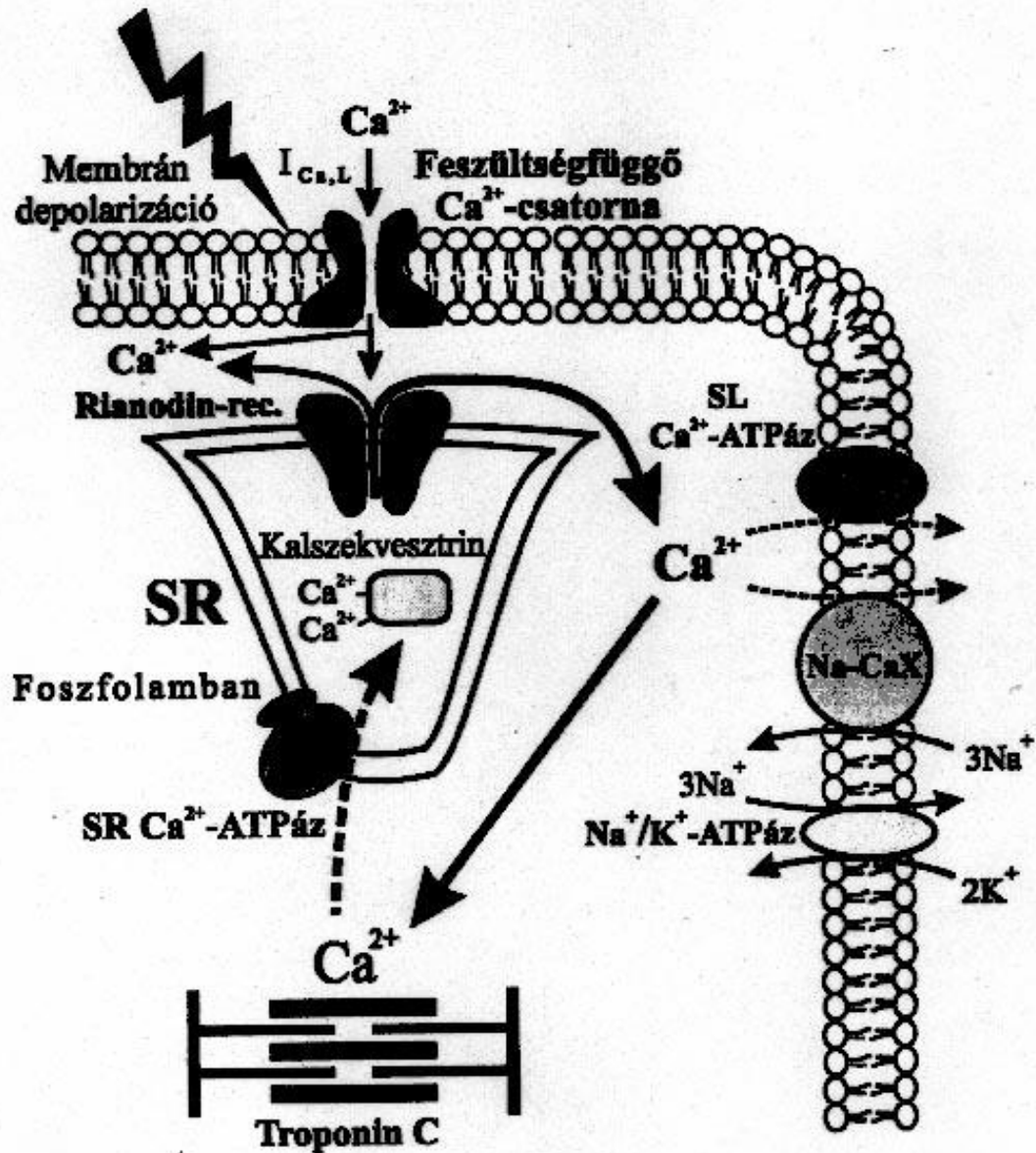
A Frank-Starling-mechanizmus és a kontraktilis erő Ca^{2+} -érzékenysége



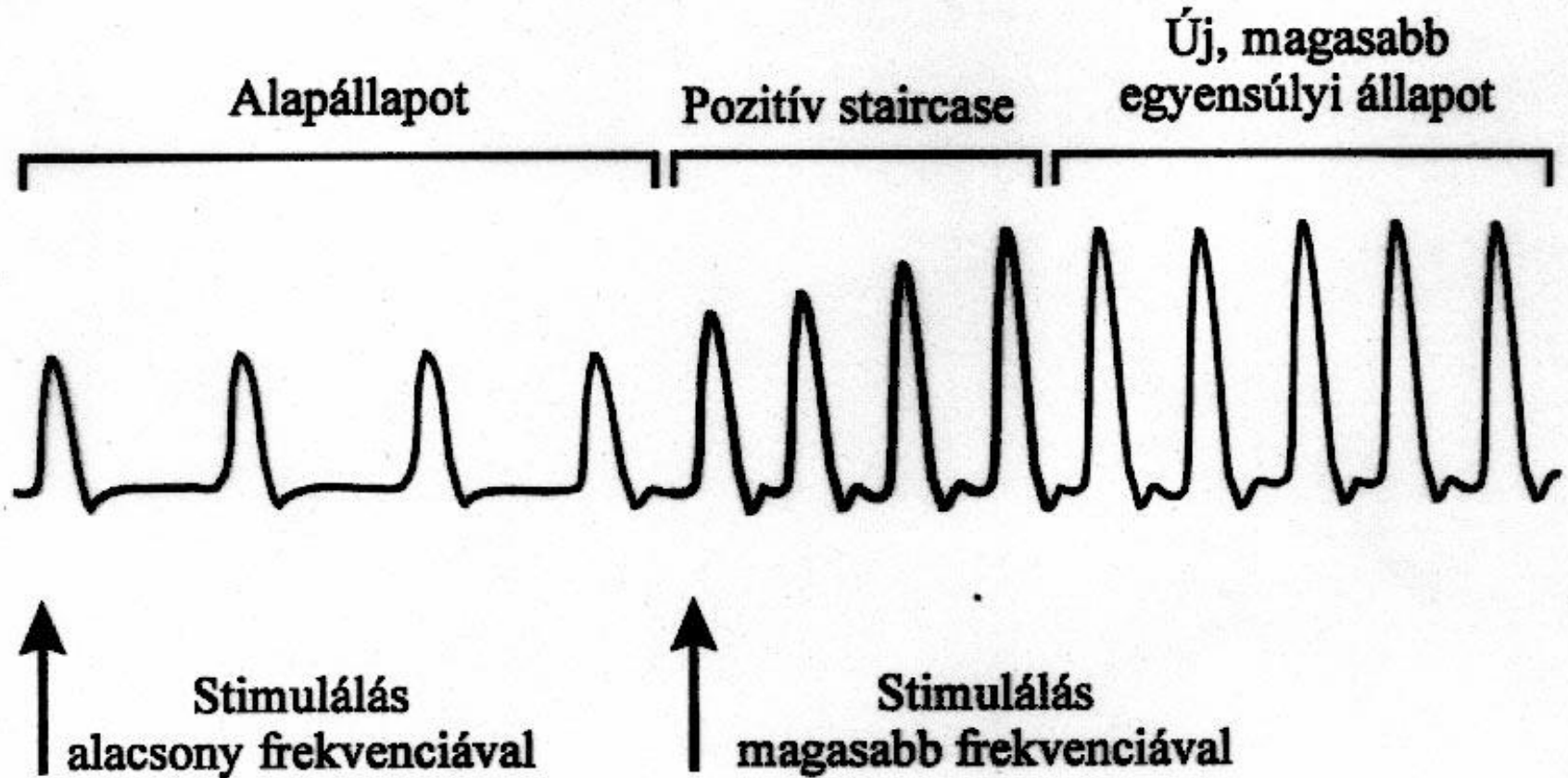
A szívizomsejtek Ca^{2+} - raktárai



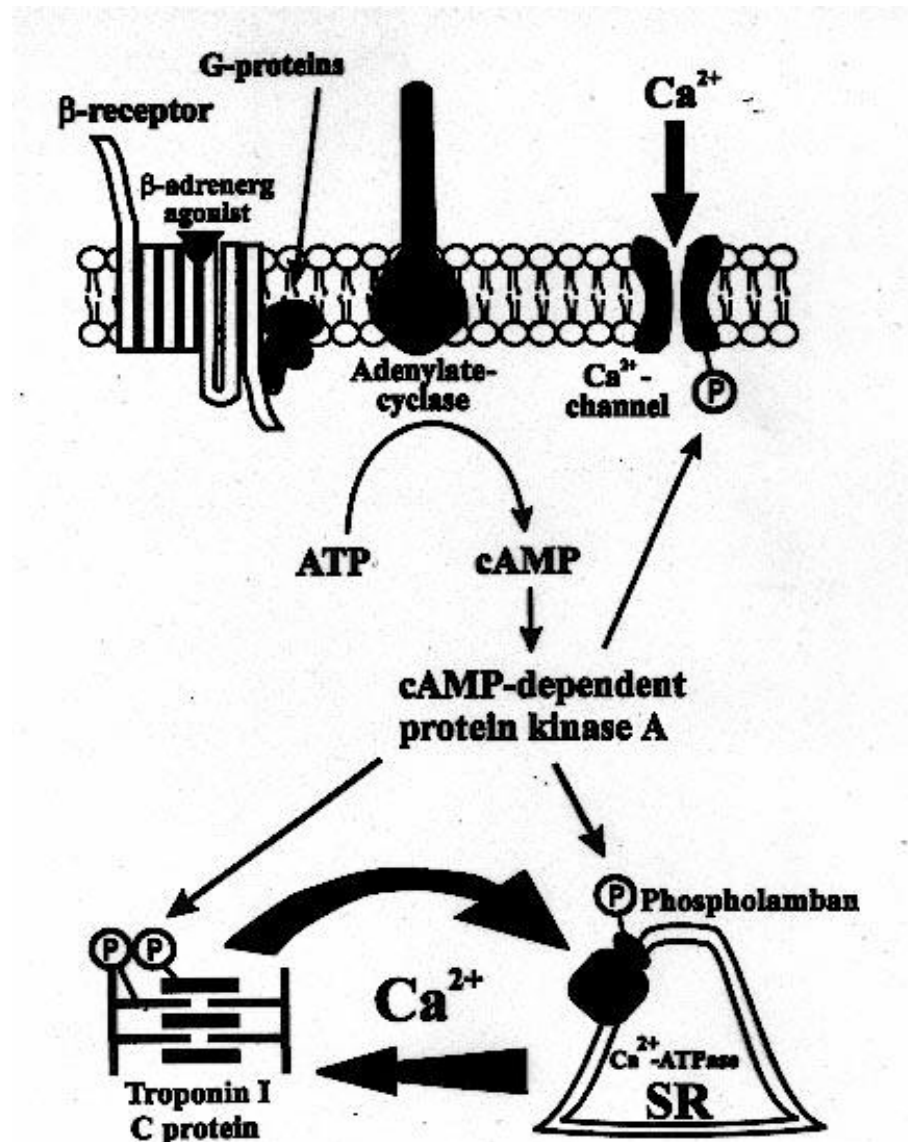
Intracelluláris Ca^{2+} -anyagcsere a myocardiumban



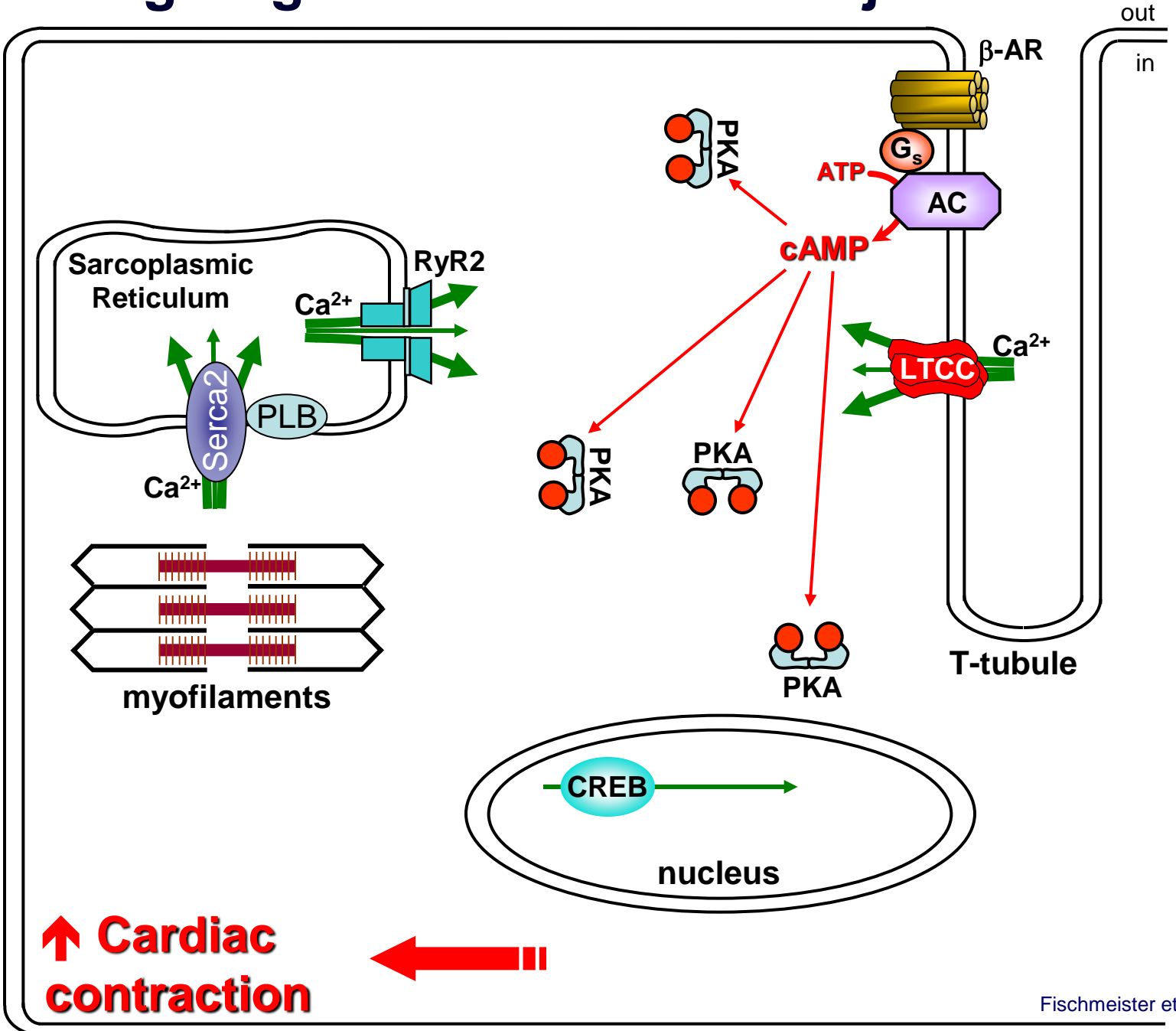
Pozitív lépcsőjelenség



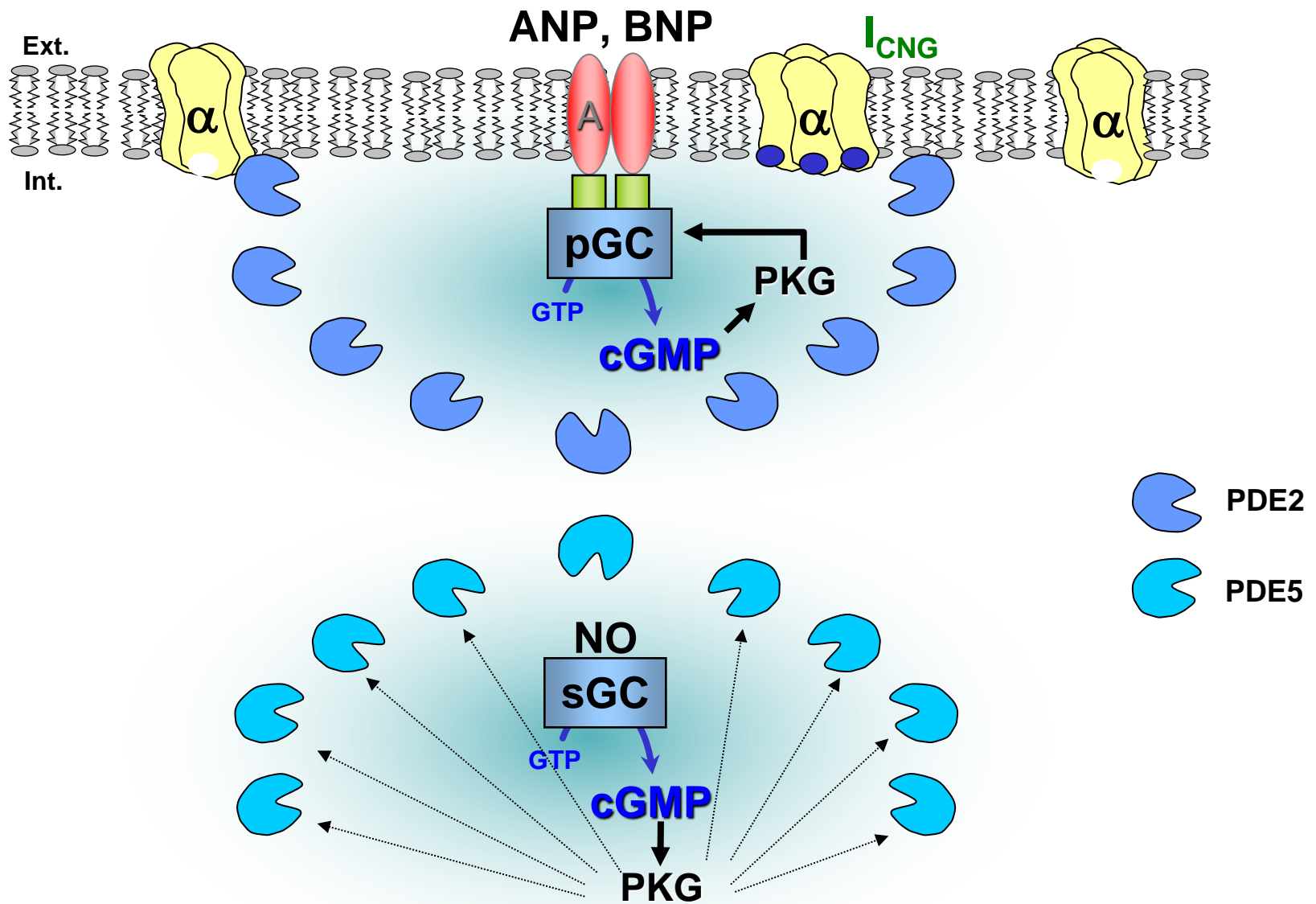
A kontraktilitás β - adrenerg szabályozása



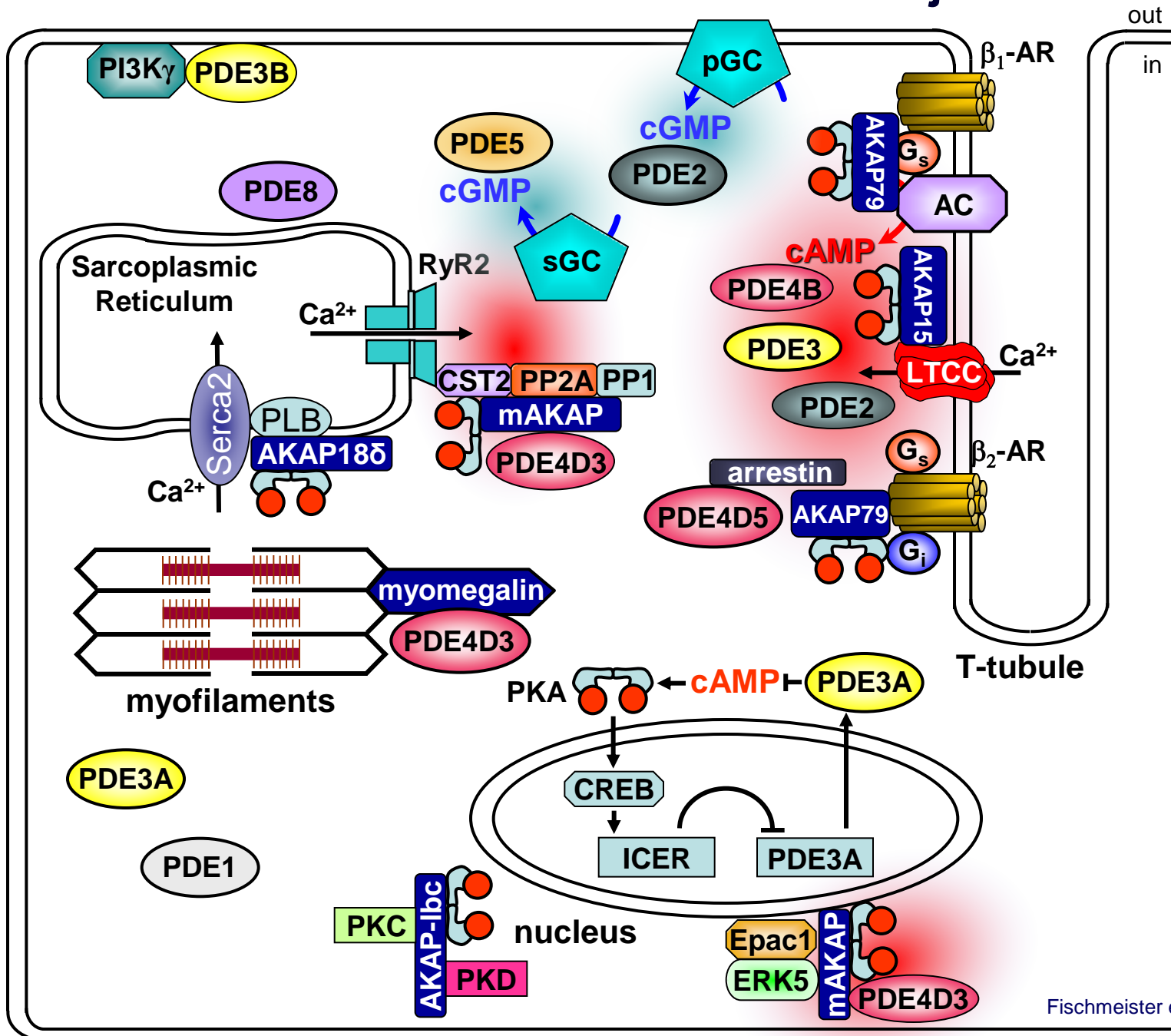
A β - adrenergic signaling in cardiac myocytes



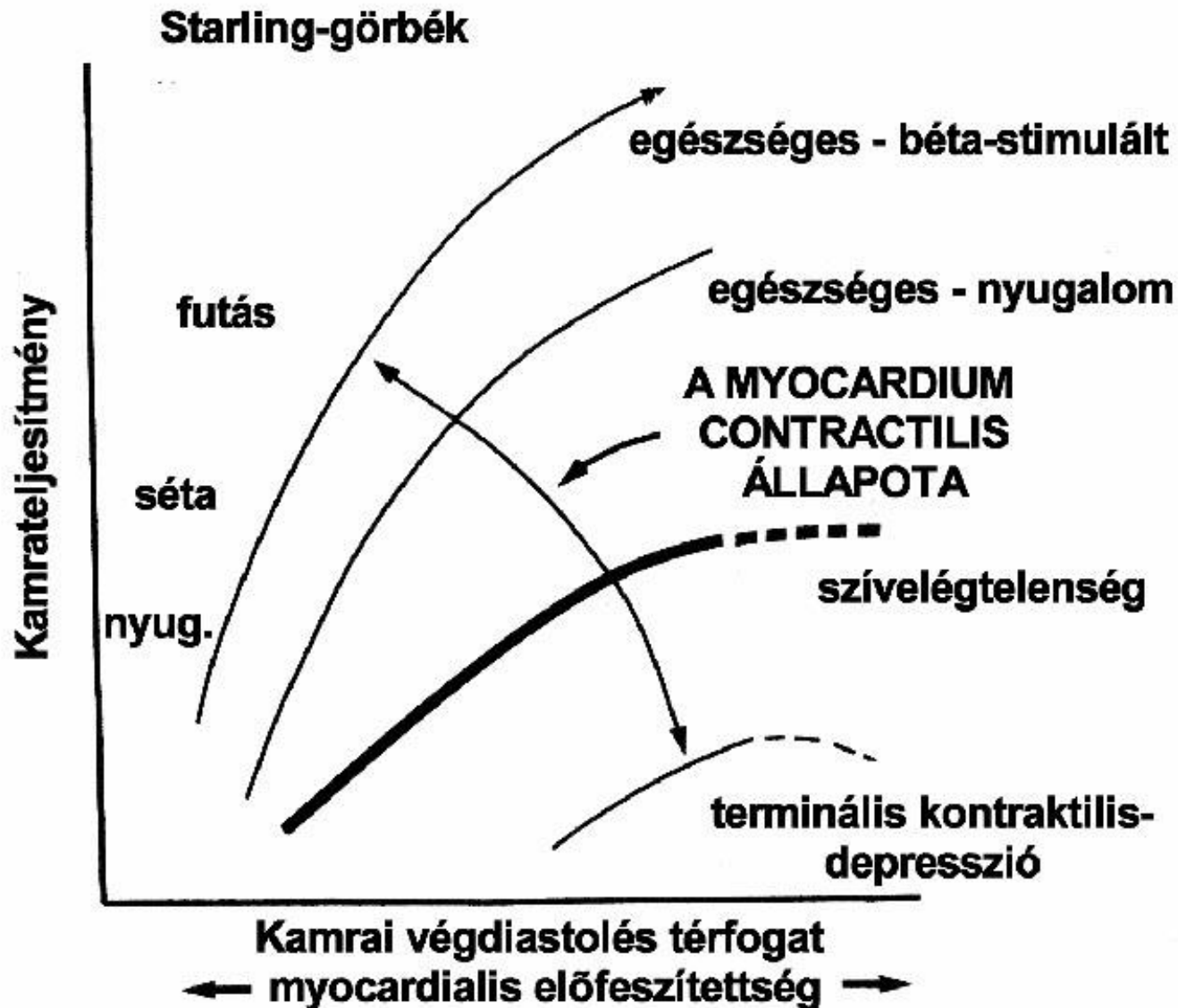
Ciklikus nukleotidok (cGMP) kompartmentalizációja



Ciklikus nukleotid microdoméneek szívizomsejtekben



Szívkamrai funkciók görbék



A myocardium kontraktilitásának kifejezése

