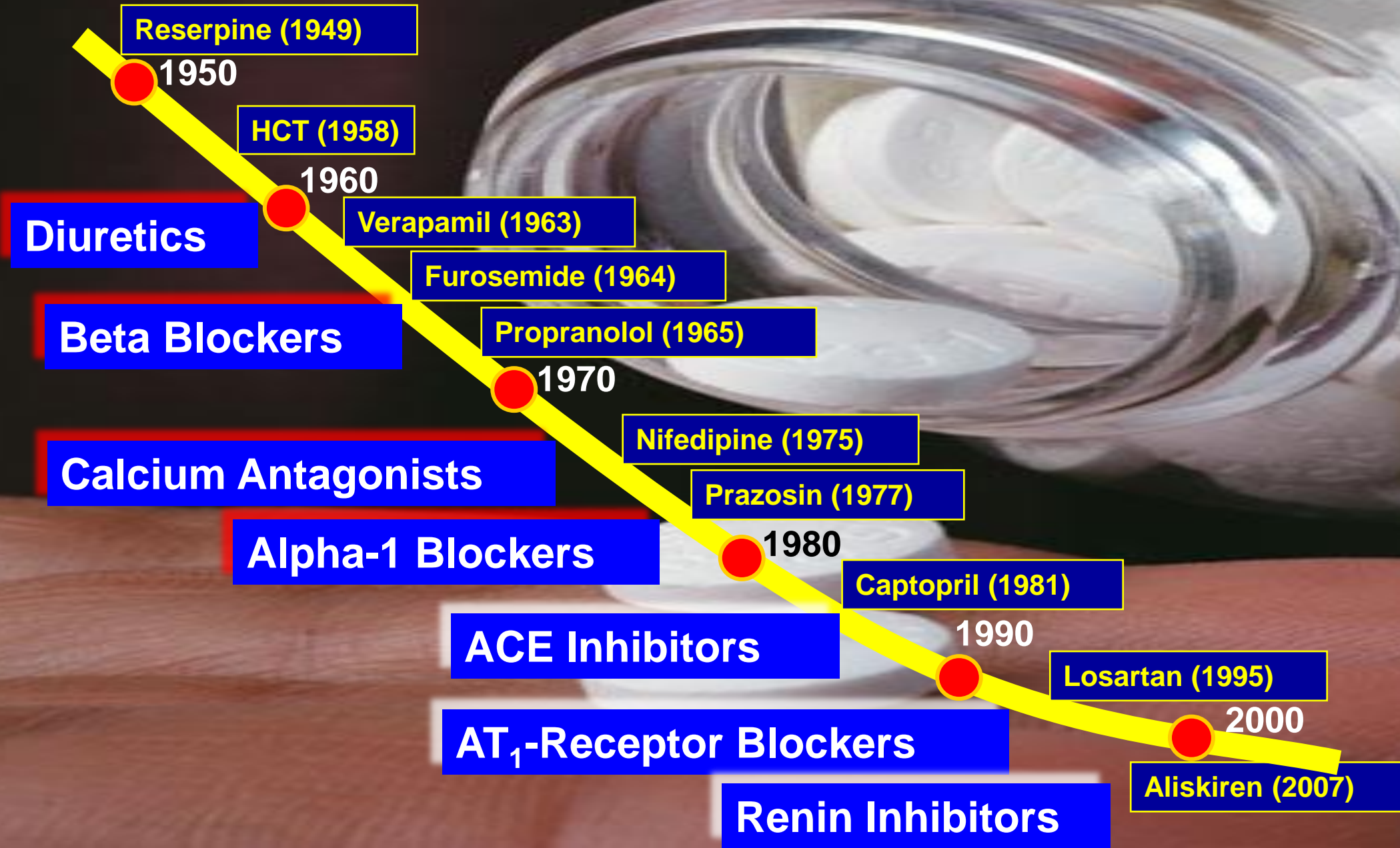


# Drug Treatment of Hypertension: Where is the evidence, what is the future?"

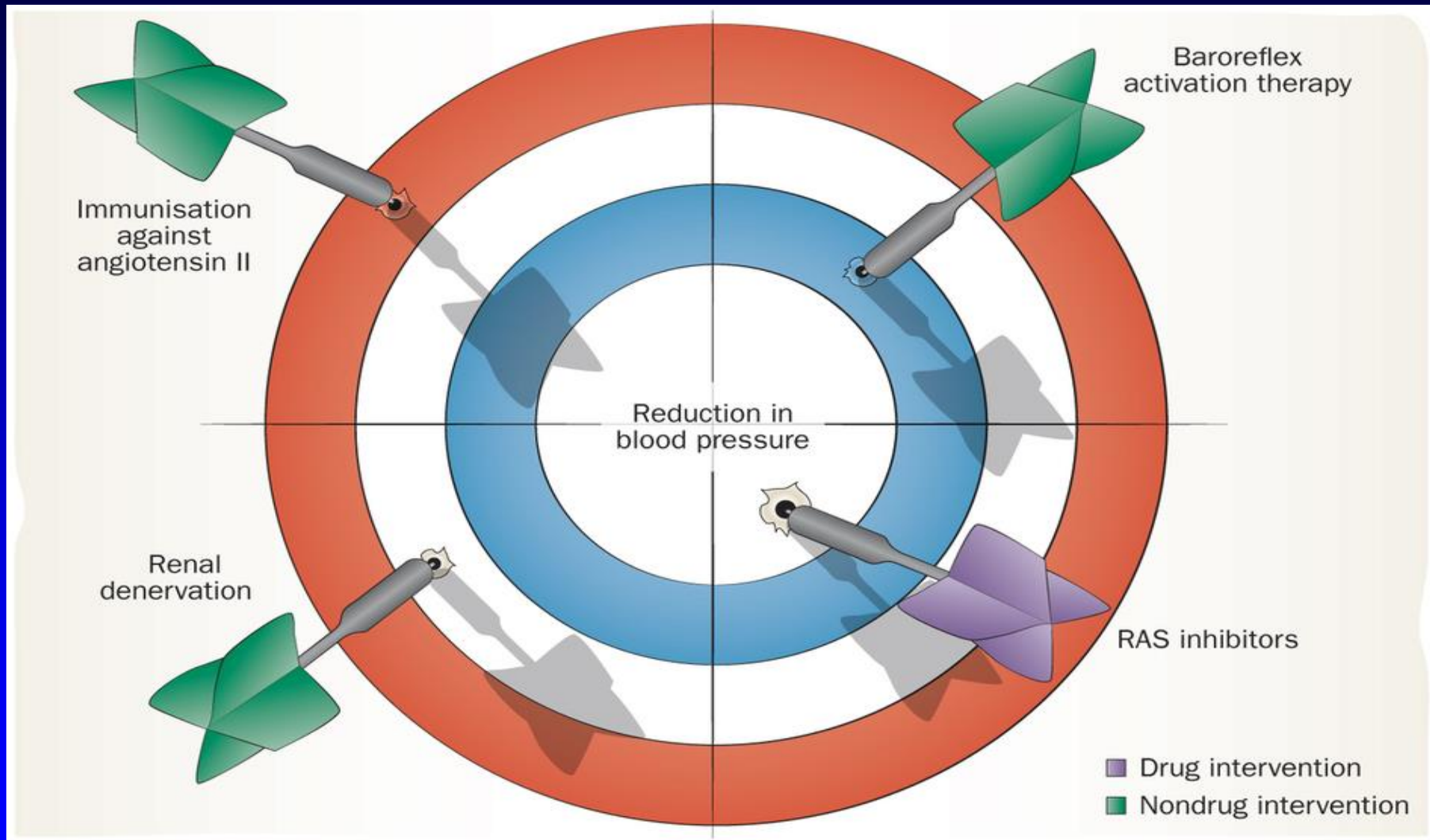
**Thomas Unger MD PhD**  
**Scientific Director**  
**CARIM – School for**  
**Cardiovascular Diseases**  
**Maastricht University**  
**The Netherlands**

# Development of Antihypertensives



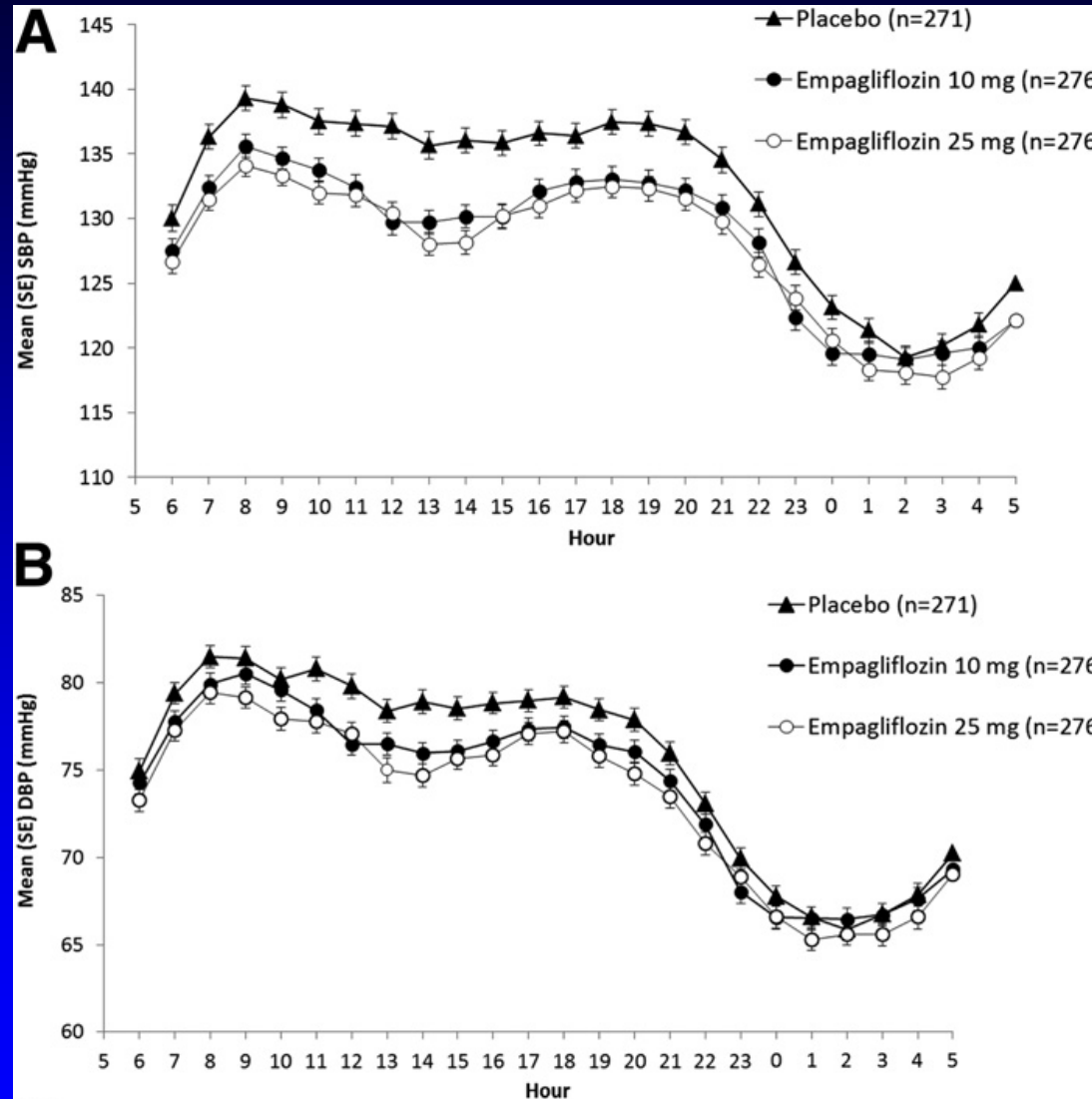


# The hits and misses in the development of blood pressure lowering therapies during the past decade



# Empagliflozin: Hourly mean SBP and DBP at week 12

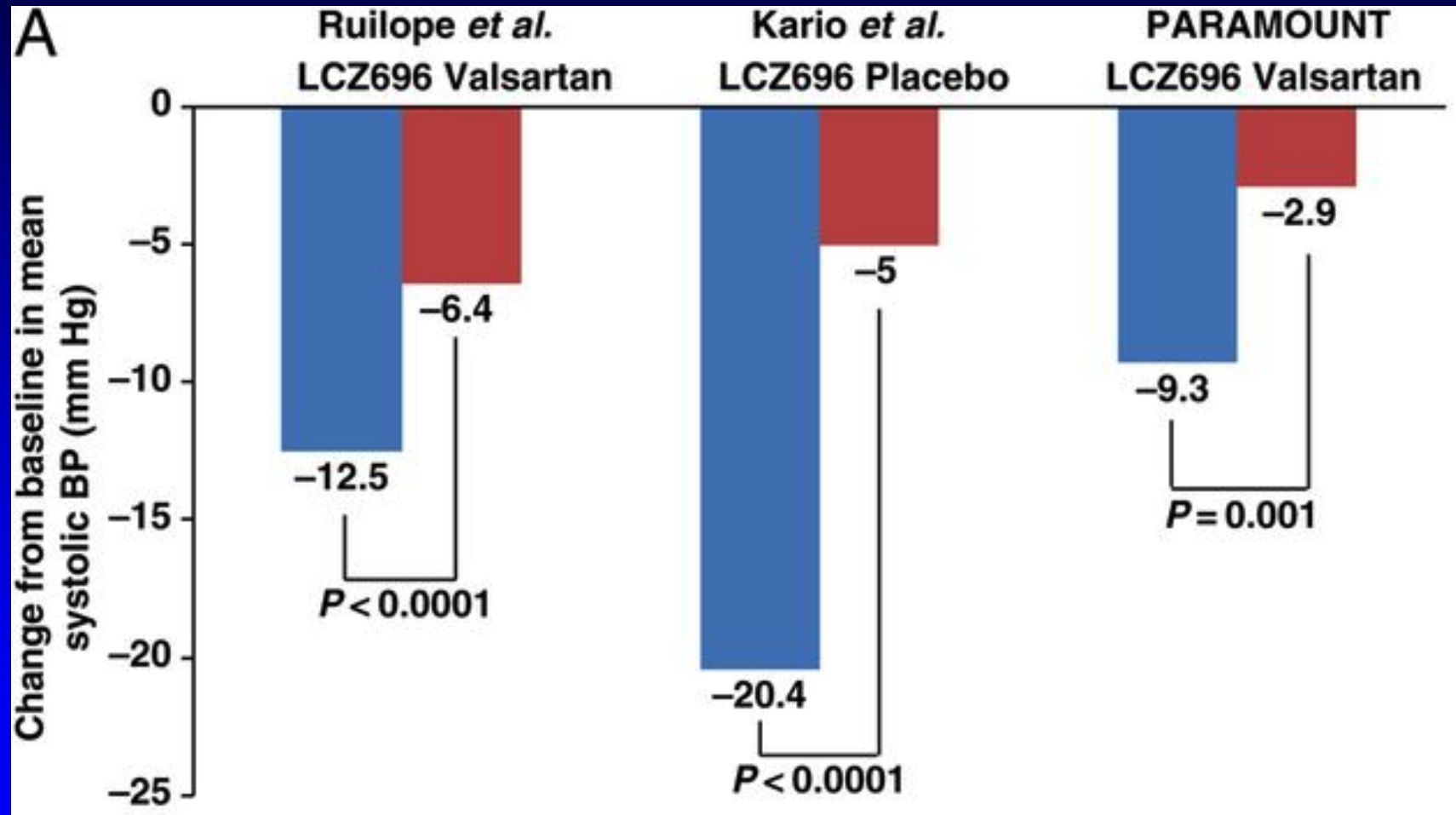
12



Tikkanen I, Narko K, Zeller C, Green A, Salsali A, Broedl UC, Woerle HJ; EMPA-REG BP Investigators. *Diabetes Care*. 2015 Mar;38(3):420-8.

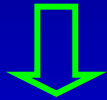


# LCZ696 (ENTRESTO®): Change in mean systolic blood pressure from baseline in three randomized controlled trials.



# Angiotensin AT<sub>2</sub> Receptor Stimulation

**The Key:  
Pharmacological  
Stimulation of a natural  
protective system**



**Physiology/Pathophysiology:  
Endogenous tissue-protective system**



**Compound 21**



- **NO Production**
- **Vasodilation**
- **Anti-Proliferation**
- **Anti-Fibrosis**
- **Anti-Inflammation**
- **(Neuro-)regeneration**
- **Differentiation**