



DỰ ÁN:

## THIẾT KẾ, TỔNG HỢP VÀ ĐÁNH GIÁ TÁC DỤNG SINH HỌC CỦA CÁC DẪN CHẤT TETRAZOL ĐA CHỨC NĂNG MỚI HƯỚNG DÙNG ĐIỀU TRỊ BỆNH ALZHEIMER

Tổ chức chủ trì: Trường Đại học Dược Hà Nội

Chủ nhiệm dự án: PGS.TS. Trần Phương Thảo

MÃ SỐ

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### TÓM TẮT VỀ DỰ ÁN

Combination between acetylcholine esterase inhibition, anti-amyloid  $\beta$  aggregation, and ion metal scavenger in one molecule will improve the anti Alzheimer disease (AD) effect?

1. Literature collection, analysis, study of the 3D structures of the molecular targets and clarification of the structural features important for ligand binding
2. Designing about 50-60 new multifunctional tetrazole derivatives
3. Investigating and selecting synthetic methods for the designed structures
4. Synthesizing designed compounds using investigated synthetic methods
5. Evaluation of bio-activities of synthesized compounds
6. Docking study of potential compounds
7. Study the Structure-activity relationship of synthesized compounds

### THÔNG TIN NỔI BẬT VỀ DỰ ÁN

#### Necessity

- About 1/9 age 65 and older (10.7%) has AD
- Cared is necessary and caregiving requires high physical, emotional, and financial cost
- Top 10 cause of death that can not cure
- Vietnam is one of the fastest aging contries in Asia (29 million people age 60 and older by 2050)
- Most of anti-AD candidates fail to bring to market

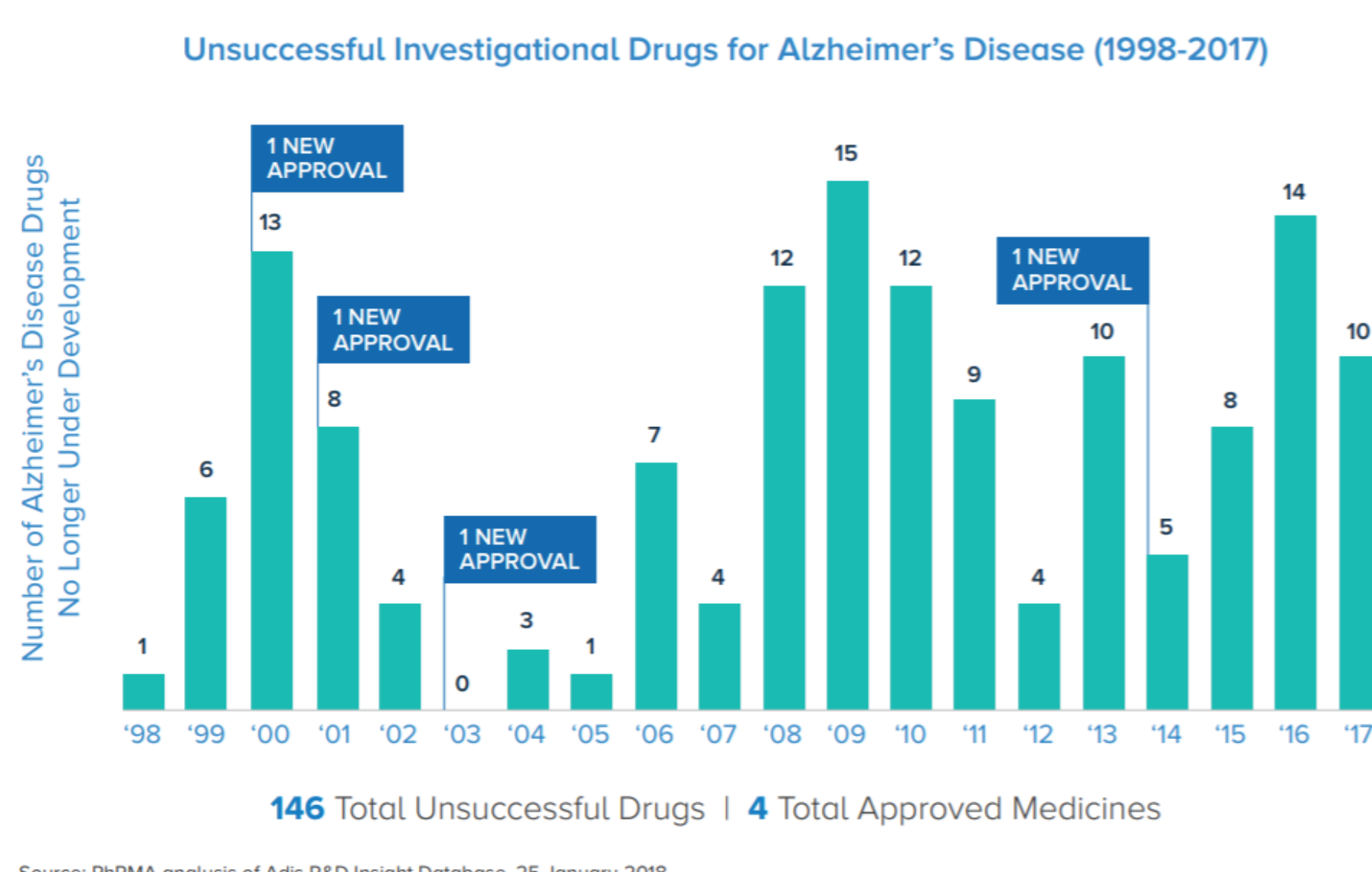
**Discovery and development the novel anti-AD is necessary and urgent!**

#### Novelty:

- Most of AD candidates fail in clinical trials
- The reason are lack of proof-of-concept, and clinical efficacy
- AD is caused by many reason, through many pathway



**Mutitarget for AD treatment**



#### Project's impacts

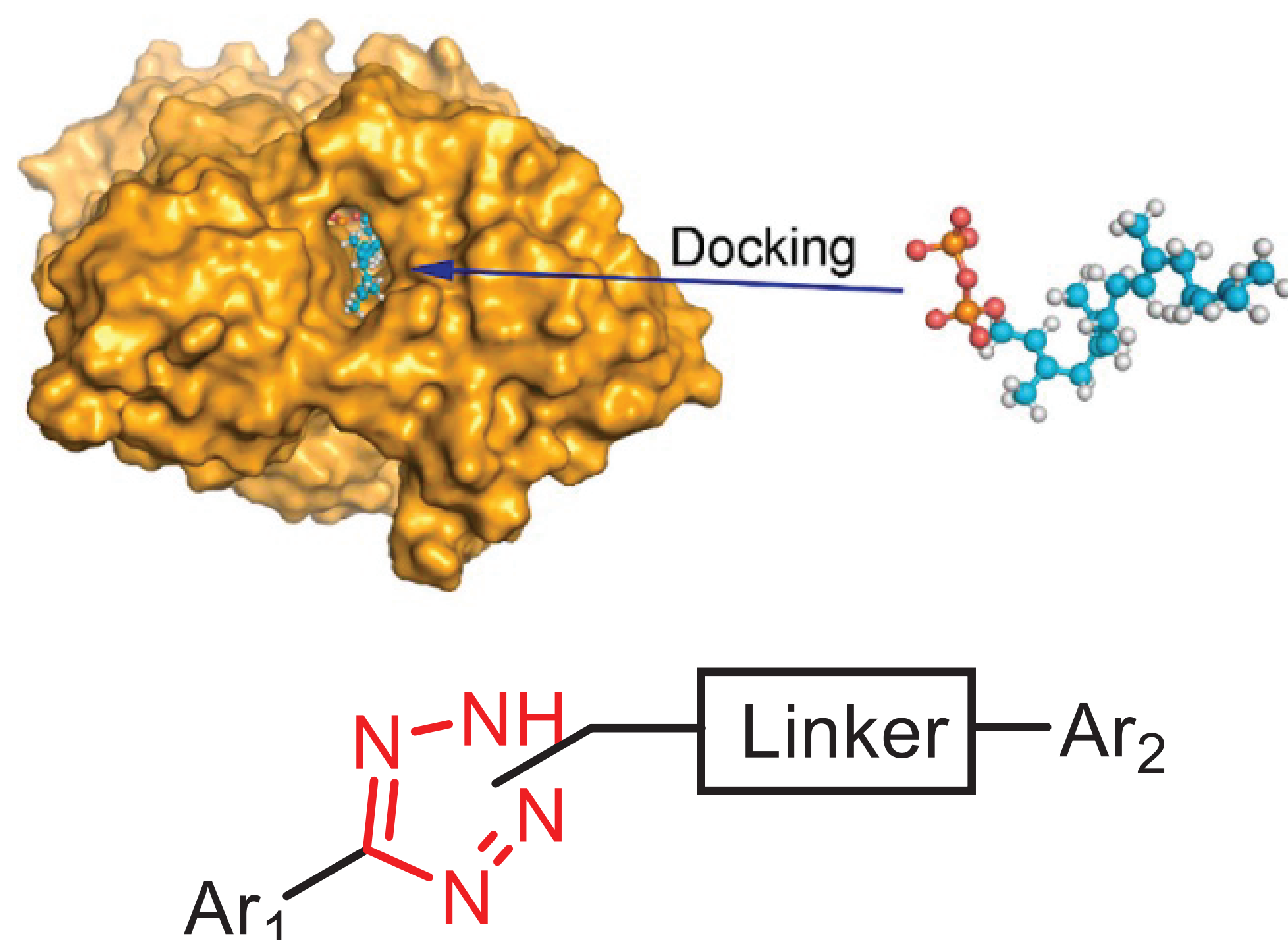
##### For project's team

- The results of project will direct team the right way to continue studying in anti-AD agents
- Publish more prestigious international/national journals or conferences or patents
- Improve the professional qualifications and skills; develop domestic and international academic relationships of team members

##### For Host Organization and Society

- Support Bachelor, Master, Ph.D. students to finish the suitable thesis
- Enrich the "Bank" of new compounds as potential anti-AD
- IF VINIF or other organization are interested in and support our project, we can rational-design, synthesize more new compounds as well as study further for bioactivities in vivo, cytotoxic tests, ... of the most potential compounds to identify the promising agents which expect to go to preclinical trials, clinical trials → **DRUG MADE IN VIETNAM**

### HÌNH ẢNH ĐẠI DIỆN DỰ ÁN



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