

## NIH 基于大数据和团队科学探索血管病变与阿尔茨海默症的关系

据 NIH 官网 3 月 14 日消息, NIH 已启动阿尔茨海默症血管成因的分子机制

(Molecular Mechanisms of the Vascular Etiology of Alzheimer's Disease, M ØVE-AD) 研究联盟。该联盟基于大数据和团队科学 (team science), 计划通过构建一个相当精细的疾病模型, 准确反映出致病的多种因素和路径。其总体目标为: 解析血管危险因素影响阿尔茨海默症的复杂分子机制, 确定治疗和预防的新靶标。

该计划为期 5 年, 当前资助金额为 3000 万美元, 由美国国立老年研究所 (National Institute on Aging, NIA) 和国立神经疾病与卒中研究所 (National Institute of Neurological Disorders and Stroke, NINDS) 联合发起。M ØVE-AD 不仅要加深对疾病分子机制的理解, 还要确认可以作为疾病风险标识或者追踪潜在疗法有效性的分子标记 (如基因、蛋白和代谢产物等)。

研究团队首先会获得来自脑组织、血液细胞和血浆的大量分子层面的数据。然后, 针对分子过程研发数学模型, 将分子数据与认知和脑成像等测量血管生理或病理状态的指标关联, 最终将血管危险因素与阿尔茨海默症的发生发展联系起来。同时, 研究团队将使用大量具有不同血管疾病特征动物模型, 从分子机制层面梳理血管危险因素和阿尔茨海默症之间的关系, 并对数学模型获得的预测进行检验。

M ØVE-AD 的建立基于“加速医学合作-阿尔茨海默症”(Accelerating Medicines Partnership-Alzheimer's Disease, AMP-AD) 计划建立的开放科学路径和大数据基础。AMP-AD 为 NIH、企业和非盈利组织之间的一种竞争前合作, 其目的是加速探索潜在治疗靶标与疾病生物学标识。

M ØVE-AD 资助的 5 个项目如下:

- Integrative Translational Discovery of Vascular Risk Factors in Aging and Dementia

详细信息请见:

[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9001610&icde=26663490&ddparam=&ddvalue=&ddsub=&cr=19&csb=default&cs=ASC](https://projectreporter.nih.gov/project_info_description.cfm?aid=9001610&icde=26663490&ddparam=&ddvalue=&ddsub=&cr=19&csb=default&cs=ASC)

- Interdisciplinary Research to Understand the Interplay of Diabetes, Cerebrovascular Disease and Alzheimer's Disease

详细信息请见:

[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9005299&icde=26663961&ddparam=&ddvalue=&ddsub=&cr=2&csb=default&cs=ASC](https://projectreporter.nih.gov/project_info_description.cfm?aid=9005299&icde=26663961&ddparam=&ddvalue=&ddsub=&cr=2&csb=default&cs=ASC)

- The Role of Renin Angiotensin-Endothelial Pathway in Alzheimer's Disease

详细信息请见:

[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9006730&icde=26664079&ddparam=&ddvalue=&ddsub=&cr=4&csb=default&cs=ASC](https://projectreporter.nih.gov/project_info_description.cfm?aid=9006730&icde=26664079&ddparam=&ddvalue=&ddsub=&cr=4&csb=default&cs=ASC)

- Metabolic Signatures Underlying Vascular Risk Factors for Alzheimer's-Type Dementias

详细信息请见:

[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9005053&icde=26663127&ddparam=&ddvalue=&ddsub=&cr=3&csb=default&cs=ASC](https://projectreporter.nih.gov/project_info_description.cfm?aid=9005053&icde=26663127&ddparam=&ddvalue=&ddsub=&cr=3&csb=default&cs=ASC)

- Cerebral Amyloid Angiopathy and Mechanisms of Brain Amyloid Accumulation

详细信息请见:

[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9005150&icde=28363957&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC](https://projectreporter.nih.gov/project_info_description.cfm?aid=9005150&icde=28363957&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC)

另外, MOVE-AD 还创建了一个顾问组来帮助制定 MOVE-AD 研究方向。顾问小组名单见: <https://www.nia.nih.gov/research/dn/m2ove-ad-advisory-panel>

原文标题: Decoding the molecular ties between vascular disease and Alzheimer's

原文链接: <http://www.nih.gov/news-events/news-releases/decoding-molecular-ties-between-vascular-disease-alzheimers>

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