

P114 / #1616

POSTERS

HUMAN PLURIPOTENT STEM CELL-DERIVED ASTROCYTES FROM ALZHEIMER'S DISEASE PATIENTS FOR DISEASE MODELING

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Aims: The lack of reliable models of Alzheimer's disease (AD) has impeded the development of effective therapies. Glial cells have a key role in AD pathology, but this cannot be properly modeled using available animal models, so we hypothesized that cells derived from Alzheimer's patients can serve as a better platform for studying the disease. In this sense, human pluripotent stem cells (hPSC) allow the generation of different types of neural cells, which can be used for disease modeling, identification of new targets and drugs development.

Methods: We have a collection of hiPSCs derived from patients with sporadic forms of AD stratified based on APOE genotype. We have differentiated these cells towards neural lineage to obtain astrocytes to assess intrinsic differences between those derived from AD patients or healthy controls.

Results: We have implemented a serum-free approach and generated neural precursors and astrocytes from all the lines tested. Cells are different at the phenotypic level, suggesting intrinsic differences in neural cells derived from AD patients.

Conclusions: Human pluripotent stem cell-derived methodology can be used to elucidate the pathogenic pathways associated with neurodegeneration and to identify new therapeutic targets susceptible to modulation, contributing to the development of new effective drugs against AD. Acknowledgments: Supported by Instituto de Salud Carlos III of Spain PI18/01557, PI21/00915 (to AG), PI18/01556 (to JV), and CIBERNED (CB06/05/1116 to AG and CB06/05/0094 to JV); by Junta de Andalucía UMA18-FEDERJA-211 (to AG), PY18-RT-2233 (to AG) and US-1262734 (to JV), Consejería de Salud PI-0276-2018 (to JAGL) and Programa Operativo de Empleo Juvenil SNGJ4-11 to LCP.