ADRC Participant Access Request

Principal Investigator

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No Co-PI listed in survey

Study and Theme Details

Hypothesis

Immunoglobulin GM (<U+03B3> marker) genes are risk factors for Alzheimer's disease, and the underlying mechanisms include their influence on the magnitude of humoral immunity to herpes simplex virus type 1 (HSV1) proteins and the antibody-dependent cellular phagocytosis (ADCP) of neuronal cells.

Specific Aims

Aim1: Determine if GM genotypes are risk factors for Alzheimer's disease.
Aim 2: Determine if the magnitude of antibody responsiveness to particular HSV1 proteins is associated with GM and KM (kappa marker) alleles
Aim 3: Determine if particular allelic combinations of Fc (GM) and cellular Fc<U+03B3>R alleles influence the level of ADCP

Study related to Deep South Disparities

Alzheimer's disease is more prevalent in African Americans than in European Americans. GM allotypes are one of the most powerful tools of genetic characterization of human populations. Each major racial group has a distinct array of several GM haplotypes. GM 3 23 5,10,11,13,14,26 and GM 1,17 5,10,11,13,14, 26 are examples of common European and African haplotypes, respectively. Unless there is genetic admixture, these two groups do not share any haplotypes. Expression of certain allotypes is racially restricted. For instance, GM 3 is not common in African Americans; GM 6 is present only in people of African ancestry; GM 1 is polymorphic only in people of European ancestry. Utilizing these racially associated/restricted genes of the immune system, results from this investigation could identify novel immunogenetic markers that mediate immunity to HSV1, act as effect modifiers of the observed HSV1-AD association, and contribute to the racial disparity in AD.

Funding and IRB Details

Funding source - Generate pilot/feasibility data for future application

Entity - NIH funded grant/application

Details - 1R56AG073670-01

IRB Contact - Yes, we have IRB approval

IRB Protocol # - Pro00113643

Subject Sample Size and Profile

Sample size by cognitive ability

Normal Controls	1000
Preclinical AD	1000
Total N	**2000**

Additional inclusion/exclusion details

I would prefer to have specimens from Alzheimer’s disease cases whose clinical diagnoses are compatible with the NINCDS-ADRDA criteria.

Racial minorities and other stratifcation

This study tests hypothesis on B/AA disparities or other race issues

Requested Resources

Existing data

Demographics Required

Additional data comments

APOE e4 data

Banked biospecimen

Blood

DNA

Statistical support

Statistician has already been consulted - Paul Nietert, Ph.D.