

rs2802292 polymorphism in the FOXO3A gene and exceptional longevity in two ethnically distinct cohorts

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Objectives Previous studies have indicated that the rs2802292 polymorphism in the human forkhead box O3A (FOXO3A) gene might be associated with exceptional longevity (EL, i.e., living 100+ years), although the results are conflicting. **Study design and main outcome measures** Using a case-control design, we investigated the distribution of the rs2802292 polymorphism in two ethnically distinct cohorts of centenarians (cases) and younger adults (controls). The first cohort included Japanese individuals (733 centenarians and 820 controls) and the second was from Northern Italy (79 disease-free centenarians and 316 controls). **Results** No statistically significant association was found between the rs2802292 polymorphism and EL in either cohort (either

examined in their entirety or in a sex-based analysis). Conclusions In light of our negative findings, further research and resequencing efforts are needed to shed more light on the potential association between EL and FOXO3A polymorphisms. © 2016

Aging

Centenarian

FOXO3A

Genetics

Longevity

Polymorphism

transcription factor FKHRL1

FOXO3 protein, human

transcription factor FKHRL1

aged

aging

Article

cohort analysis

controlled study

DNA polymorphism

ethnicity

female

gene frequency

gene sequence

genetic association

genotype

human

Japanese (people)

longevity

male

very elderly

adult

case control study

ethnic group

genetics

Italy

Japan

longevity

middle aged

single nucleotide polymorphism

young adult

Adult

Aged

Aged, 80 and over

Case-Control Studies

Cohort Studies

Ethnic Groups

Female

Forkhead Box Protein O3

Genotype

Humans

Italy

Japan

Longevity

Male

Middle Aged

Polymorphism, Single Nucleotide

Young Adult