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Association of AKT1 haplotype with the risk of schizophrenia in Iranian population

Bajestan, S.N.[a], Sabouri, A.H.[a], Nakamura, M.[b], Takashima, H.[a], Keikhaee, M.R.[c], Behdani, F.[d], Fayyazi, M.R.[d], Sargolzaee, M.R.[d], Bajestan, M.N.[e], Sabouri, Z.[e], Khayami, E.[f], Haghighi, S.[f], Hashemi, S.B.[c], Eiraku, N.[g], Tufani, H.[d], Najmabadi, H.[c], Arimura, K.[a], Sano, A.[b], Osame, M.[ah]

[a] Department of Neurology, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan

[b] Department of Neuropsychiatry, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan

[c] Genetics Research Center, Social Welfare and Rehabilitation Sciences University, Tehran, Iran

[d] Department of Psychiatry, Mashhad University of Medical Sciences, Mashhad, Iran

[e] Mashhad University of Medical Sciences, Mashhad, Iran

[f] Khorasan Blood Transfusion Center, Mashhad, Iran

[g] Kagoshima University Health Service Center, Kagoshima, Japan

[h] Department of Neurology, Kagoshima University Graduate School of Medical and Dental Sciences, 8-35-1 Sakuragaoka, Kagoshima 890-8520, Japan

Abstract

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AKT-glycogen synthase kinase 3β (GSK3β) signaling is a target of lithium and has been implicated in the pathogenesis of mood disorders and schizophrenia. AKT1 protein level is decreased in the peripheral lymphocytes and brains of schizophrenic patients. The SNP2/3/4 TCG haplotype of AKT1 was associated with schizophrenia in patients with Northern European origin. In the present study, we genotyped five single nucleotide polymorphisms (SNP1-5) of AKT1 gene according to the original study in Iranians comprising of 321 schizophrenic patients and 383 controls, all residing in Mashhad city, Northeastern Iran. Haplotype analysis showed that the frequency of a five-SNP haplotype (AGCAG) was significantly higher in schizophrenic patients (0.068) than that of controls (0.034) (P = 0.03 after Bonferroni correction, OR = 2.04, CI = 1.2-3.4). In stratified analysis by schizophrenia subtypes, the frequency of the same haplotype was significantly higher in disorganized subtype (n = 78, frequency of haplotype=0.081) when compared with normal controls (P = 0.04 after Bonferroni correction, OR = 2.59, CI = 1.3-5.2). Our findings did not confirm the association of AKT1 SNP2/3/4 TCG haplotype with the risk of schizophrenia as reported in the original study but showed the evidence of association with a different haplotype, AKT1 five-SNP AGCAG haplotype, with the risk of schizophrenia in Iranian population. © 2006 Wiley-Liss, Inc.

Reaxys Database Information

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Author keywords

AKT1; Haplotype; Iranians; Risk; Schizophrenia

Indexed Keywords

EMTREE drug terms: brain derived neurotrophic factor; glycogen synthase; glycogen synthase beta; lithium; protein kinase B; unclassified drug

EMTREE medical terms: adult; AKT1 gene; article; gene; gene linkage disequilibrium; genetic association; genetic risk; genotype; haplotype; human; Iran; major clinical study; mood disorder; pathogenesis; peripheral lymphocyte; population research; priority journal; schizophrenia; signal transduction; single nucleotide polymorphism

MeSH: Alleles; Gene Frequency; Genotype; Haplotypes; Humans; Iran; Linkage Disequilibrium; Polymorphism, Single Nucleotide; Proto-Oncogene Proteins c-akt; Risk Factors; Schizophrenia

Medline is the source for the MeSH terms of this document.