

HLA-DQA2

HLA class II histocompatibility antigen, DQ(6) alpha chain is a protein that in humans is encoded by the HLA-DQA2 gene. Also known as HLA-DXA or DAAP-381D23.2, it is part of the human leukocyte antigen system.

The protein encoded by this gene is expressed, but unlike HLA-DQA1, it appears unable to heterodimerize with HLA class II beta chain paralogues.

The low level of HLA-DQA2 expression is apparently due to impaired [transcription factor](#) binding to the HLA-DQA2 [gene promoter](#).

An [HLA](#) imputation was conducted to explore the relationship between HLA and patients with [moyamoya disease](#) (MMD) in the Chinese Han [population](#).

In this study of Wan et al. performed an association analysis of the major histocompatibility complex region in 2,786 individuals of Chinese Han ancestry (2,031 controls and 755 patients with MMD), through a widely used HLA imputation method.

They identified that the variant [rs3129731](#) (odds ratio [OR] = 1.79, $p = 3.69 \times 10^{-16}$) located between the [MTCO3P1](#) and HLA-DQA2 is a major genetic risk factor for MMD. In addition to this variant, found in the conditional association analysis, we also detected another independent signal, rs1071817 (OR = 0.62, $p = 1.20 \times 10^{-11}$), in [HLA-B](#).

This [research](#) suggests that the [genetic polymorphism](#) of HLA-DQA2 and [HLA-B](#) could be a genetic predisposing factor for MMD in Chinese Han. This may provide some evidence for further HLA-related studies of patients with MMD of Chinese Han ethnicity and indicates that MMD is an immune-related disease ¹⁾.

¹⁾

Wan J, Ling W, Zhengshan Z, Xianbo Z, Lian D, Kai W. Association of HLA-DQA2 and HLA-B With Moyamoya Disease in the Chinese Han Population. *Neurol Genet*. 2021 Jun 2;7(3):e592. doi: 10.1212/NXG.0000000000000592. PMID: 34095496; PMCID: PMC8176556.

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Last update: **2024/06/07 02:50**

