Original Article

Genotyping of C and F Regions of *Plasmodium Falciparum* EBA-175 in South-East of Iran

Jamshidi, A. (MSc)
MSc of Medical Parasitology, Zahedan University of Medical Sciences, Zahedan, Iran

Mousavi Ghahfarrokhi, M. (MSc)
MSc of Medical Parasitology, Zahedan University of Medical Sciences, Zahedan, Iran

Gharaei, A. (MSc)
MSc of Medical Parasitology, Zahedan University of Medical Sciences, Zahedan, Iran

Ebrahimzadeh, A. (PhD)
Associate Professor of Parasitology, Department of Parasitology, Mycology and Medical Entomology Research Center, Infectious Diseases and Tropical Medicine, Zahedan University of Medical Sciences, Zahedan, Iran

Jaffari Modrek, M. (PhD)
Assistant Professor of Parasitology,Department of Parasitology, Mycology and Medical Entomology Research Center, Infectious Diseases and Tropical Medicine, Zahedan University of Medical Sciences, Zahedan, Iran

Ansari Moghadam, A. (PhD)
Associate Professor of Biostatistics and Epidemiology, Center for Health Promotion, Faculty of Health, Zahedan University of Medical Sciences, Zahedan, Iran

Mohammadi, S. (MSc)
PhD Student of Cellular and Molecular, Faculty of Advanced Medical Technology, Golestan University of Medical Sciences, Gorgan, Iran

Corresponding Author: Jamshidi, A.

Email: a.jamshidi@zaums.ac.ir

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Abstract

Background and Objective: The *Plasmodium falciparum* EBA-175, via Sialic acid dependent glycophorin A, binds to red blood cells and thus plays a critical role in cell invasion. Some part of second allele in its gene encoding in FCR-3 (Section F) and CAMP (Section C) can be found. This study aimed to determine the prevalence of *Plasmodium falciparum* EBA-175KD alleles in southeastern Iran.

Material and Methods: In this cross-sectional study, using polymerase chain reaction Nest (Nested-PCR) with specific primers was used for the two parts of the EBA-175 gene to be proliferated. Ninety–four microscopic positive blood samples from individuals infected by Plasmodium *falciparum* were obtained from four different locations in southeastern Iran.

Results: Of 94 positive samples, 88 were antigen EBA-175KD. Genotype CAMP (714 bp) and FCR-3 (to 795 bp), respectively, in 31 (32.97 %) and 49 (52.12 %) were found. Eight samples have both FCR-3 and CAMP.

Conclusion: Both of EBA-175KD dimorphic genes were found. The frequency of FCR-3 allele was higher in the South East of Iran. Thus, this pattern can be considered in making Plasmodium *falciparum* vaccines for this area.

Key words*:* *Plasmodium Falciparum*; Erythrocyte Binding Antigen-175; South-East of Iran

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