


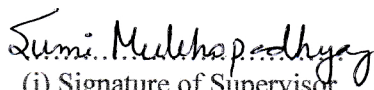
‘Status of Siglecs in Chikungunya infection’

Abstract

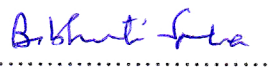
Chikungunya is an arboviral infection which causes persisting debilitating polyarthralgia in humans. This chronic joint pain causes Man-hour loss which has immense effect on the economy. There are cases of fevers with joint pain documented in various ancient literature proves the presence of the virus in human-mosquito reservoir for a long time. Siglecs are Sialic acid binding Immunoglobulin like lectins which have established immunomodulatory effects. Several studies suggested their immunological role in viral infections. This study investigates the status of Siglecs in Chikungunya infection and their biological significance. In this study, it has been found that Siglec 7 and Siglec 9 are alter-expressed in patients suffering from varied degrees of post-chikungunya polyarthralgia which has statistical significance. These have been established by cellular, biochemical and molecular investigations. Clinical follow up studies along with Multicolor Flow Cytometry, ELISA, Real Time PCR and Biochemical studies followed by statistical analysis have been used as scientific methods in this work. Statistically significant alter expression of Siglecs have been correlated with several established biomarkers and that have paved the way to establish Siglecs as promising prognostic biomarkers of Chikungunya induced polyarthralgia. Further it has been found that *Tinospora cordifolia* leaf extract can ameliorate the oxidative stress developed due to Chikungunya infection. Taken together, this study has indicated prognostic biomarkers for Chikungunya and also indicated promising therapeutics for the treatment of the debilitating viral infection.

Keywords: *Chikungunya, Siglecs, Biomarker, Tinospora, Therapeutics, Viral Infection*


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(Nilotpal Banerjee) 17/06/2022
Full Signature of the Candidate


(i) Signature of Supervisor 17/6/2022.
Dr. Sumi Mukhopadhyay
Dept. of Laboratory Medicine
School of Tropical Medicine
108, C.R. Avenue, Kolkata-73

Dr. Sumi Mukhopadhyay, Ph.D
Research Associate (W.B.G.S.)
Dept. of Laboratory Medicine
Calcutta School of Tropical Medicine
108, C. R. Avenue, Kolkata - 700 073


..... 17/6/22
(ii) Signature of Supervisor
Prof. (Dr.) Bibhuti Saha
Dept. of Tropical Medicine
School of Tropical Medicine
108, C.R. Avenue, Kolkata-73

Prof.(Dr.) Bibhuti Saha
MBBS, DTM&H, MD(Trop Med)
Head, Department of Tropical
Medicine