

Serum of patients with auto-immune diseases demonstrates higher affinity toward genomic DNA, RNA and mitochondrial DNA from immortalized HEK293 cells

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Our data demonstrate that the sera from Systemic lupus erythematosus (SLE) cases display higher immunoreactivity toward total RNA and DNA from immortalized HEK293 cells when compared to healthy controls. Additionally, significantly higher levels of immunoreactivity to mtDNA were observed for the sera of SLE cases when compared to healthy controls. Finally, the sera from more than half of all SLE cases (58.3%) demonstrated immunoreactivity to all types of nucleic acid preparations as compared to only one serum sample (12.5%) from healthy donor. Since a greater number of SLE cases displayed immunoreactivity toward mtDNA when compared to healthy controls, we conclude that mtDNA may play role in pathogenesis of SLE. This assumption is corroborated by the recent report of pDC activation by mtDNA leading to the production of IFN α .