ABSTRACT

Rotavirus is an important cause of acute gastroenteritis in children throughout the world and account for 600,000 annual deaths. Rotavirus has double-stranded RNA, which encode six structural proteins (VP1–4, VP6, and VP7) and six nonstructural proteins (NSP1–6). VP6 is highly antigenic and immunogenic responsible for group and sub-groups specifities. RT-PCR is a convenient method for genotyping of human rotavirus. The aim of current study was to isolate human rotavirus from stool samples of diarrheic children by antigen capture ELISA and molecular investigations. So, it was helpful to check the prevalence of human rotavirus in Lahore district. This study will be a milestone for better treatment strategies of childhood diarrheal problem. It will also pave the way for better vaccine development strategies to cure the disease. A total of 100 diarrheic stool samples of children less than five years of age were collected from government and private hospitals of Lahore district. Rotavirus screening was done by sandwich ELISA by using commercial Rotavirus detection kit (*ProSpecT*™). ELISA confirmed 20 samples to be positive for human rotavirus. After RNA extraction, the 1-step RT-PCR was done for both conversion of RNA to cDNA as well as amplification of VP6 gene of all ELISA positive human rotavirus samples. But only 5 samples give desired product of 150 bp of VP6 gene. After sequencing and bioinformatics analysis, phylogenetic tree was constructed. It is evident that Pakistani human rotavirus VP6 gene (1st_BASE_1331641_1_Rota_A) has maximum identity of 92% with another already reported Pakistani human rotavirusVP6 gene.