

**TITLE:** DETECTION OF *Picobirnavirus* IN SWINE FECES IN MINAS GERAIS, BRAZIL

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**ABSTRACT:**

*Picobirnavirus* (PBV) was first described in 1988, in fecal samples from humans and rats. This virus is a member of the family *Picobirnaviridae*, genus *Picobirnavirus*, and has two species: *Human picobirnavirus* and *Rabbit picobirnavirus*. PBV is a small non-envelope virus, and has two genomic segments of double-stranded RNA. PBV is founded in fecal samples of diarrheic from different hosts including mammalian, birds and reptiles. PBV is consider an emerging and opportunistic pathogen with zoonotic potential. Because it is a new virus, your mechanisms of infection and association with gastroenteritis are not fully understood yet. Comparative molecular studies of genomic sequences, having as target the RdRp gene of the segment 2 of PBV, classified PVB in two genogroups (GI and GII). This study reports the occurrence of PBV in swine from Zona da Mata de Minas Gerais, Brazil. For this study, 54 swine fecal samples was collected from a farm in the State of Minas Gerais and RNA extraction was performed using phenol:chloroform:isoamyl alcohol (25:24:1) and silica/guanidine thiocyanate. The RNA extracted was submitted to reverse transcription-PCR (RT-PCR), using specific primers targeting the RdRp gene from GI of PBV: PICO 25 [5'-TGGTGTGGATGTTTC-3'] and PICO 43 [5'-A(GA)TG(CT)TGGTCGAACTT-3']. The confirmation of RT-PCR occurred by visualized a band of 201 base pairs on an agarose gel by exposure of the gel to ultraviolet light. Using the RT-PCR we detected 13 (24 %) samples that were positive to PBV. Genetic sequencing is being performed. The RT-PCR results demonstrated that PBV is present in swine feces in the region of Zona da Mata of Minas Gerais. Due to the lack of information about PBV in swine, this study becomes important to help clarify the hypotheses raised regarding the zoonotic potential and the association with PBV and diarrhea in their host.

**Keywords:** *Picobirnavirus*; swine; RNA virus.