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Abundance and Immunogenicity of two giant viruses, namely *Pithovirus lacustris* and *Urceolovirus corneum*

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Giant virus (GVs) parasitizing environmental acanthamoebae have been isolated from various humidic habitats (1, 2). We analyzed *Pithovirus lacustris* (alias KC5/2) and *Urceolovirus corneum* (alias KlaHel) which was first isolated from a sweet water reservoir Koblenz, Germany, and the cornea of a keratitis patient respectively, for their prevalence and immunogenicity. The lack of visibility of distinct cytoplasmic structures such as ribosomes against the background of their boarded corked keg-like bacteria size appearance rendered them as being of archaea-like. Despite containing a bacterial genome sized dsDNA genome, their reproduction depends on infection and propagation within an amoeba host. Although DNA isolated from various global samples were PCR positive, culturing of these giant viruses succeeded merely for one sample collected by us. However, we observed substantial seropositiveness for both viruses from healthy blood donor samples, indicating potential ubiquity of the GV's after human contact with them in their environmental habitats. Despite lack of a capacity to elicit any pathology in mice, GV's challenge, elicits seropositivity and activates macrophages indicating carriage of an innate immune stimulatory potential. Specific aspects of it have been observed by us.

Recent Publications

1. Hoffmann R, Michel R, Müller K D, Amann R and Schmid E N (1998) Archaea like endocytobiotic organisms isolated from *Acanthamoeba* Sp (Gr II). *Endocytobiosis & Cell Res.* 12: 185-188.
2. Scheid P Zöllner, L Pressmar S, Richard G and Michel R (2008) An extraordinary endocytobiont in *Acanthamoeba* sp. isolated from a patient with keratitis. *Parasitol Res* 102(5):945-950.
3. Abrahão J, Silva L, Silva L S, Yaacoub Bou Khalil J Y, Rodrigues R, Arantes T, Assis F, Boratto P, Andrade M, Kroon E G, Ribeiro B, Bergier I, Seligmann H, Ghigo E, Colson P, Levasseur A, Kroemer G and Raoult D B (2018) Tailed giant Tupanvirus possesses the most complete translational apparatus of the known virosphere. *Nature Communications* 9:749

Biography

She has her expertise in isolation and analysis of biological entities from complex environmental samples. She developed a protocol in which a target virus could be isolated from complex environmental mixtures and analyzed.

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