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Translocation of double strand DNA into a biological nanopore¹ SUNITA CHATKAEW, LAMIA MLAYEH, MARC LEONETTI, FABRICE HOMBLE, SFMB COLLABORATION — Translocation of double strand DNA across a unique mitochondrial biological nanopore (VDAC) is observed by an electrophysiological method. Characteristics of opened and sub-conductance states of VDAC are studied. When the applied electric potential is beyond \pm 20 mV, VDAC transits to a sub-conductance state. Plasmids (circular double strand DNA) with a diameter greater than that of the channel shows the current reduction into the channel during the interaction but the state with zero-current is not observed. On the contrary, the interaction of linear double strand DNA with the channel shows the current reduction along with the zero-current state. These show the passages of linear double strand DNA across the channel and the electrostatic effect due to the surface charges of double strand DNA and channel for circular and linear double strand DNA.

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