

ELECTRIC TRANSPORT PROPERTIES OF THE p53 GENE AND THE EFFECTS OF POINT MUTATIONS

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The transport properties of the p53 gene are studied by the transfer matrix method on a tight-binding model. The position-dependent transmission coefficient and the effects of point mutations on the transmission are evaluated for p53 sequence. The different behaviours of the cancerous and non-cancerous mutations provide a possible explanation why the cancerous mutations can get rid of the DNA-repairing mechanism and cause cancers.