

In silico* docking of kappa carrageenan compound against the D7 salivary protein of adult female *Anopheles stephensi

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ABSTRACT

D7 subfamily of salivary proteins is widespread in blood sucking *dipteran* insects belonging to the super family of pheromone/odorant binding proteins. Although D7 proteins are among the most abundant salivary proteins in adult female mosquitoes and sand flies, their role in blood feeding remain elusive. Carrageenans or carrageenins are a family of linear sulphated polysaccharides that are extracted from red edible seaweeds. The isolated compound carrageenan was docked with D7 salivary protein of *A. stephensi*. The binding affinities of the ligand with the target protein was carried using molecular docking tools to identify and design a potential mosquito repellent compound to prevent mosquito-borne disease and to suppress human seeking behavior of mosquitoes.