Progress in Microbes and Molecular Biology
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Supplementary Materials

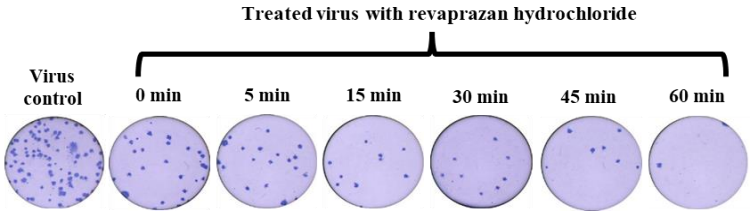

Figure S1. Extracellular virucidal activity of revaprazan hydrochloride against DENV-3 at different co-incubation times. Revaprazan hydrochloride was co-incubated with DENV-3 at 37°C for 0, 5, 15, 30, 45, and 60 min. Vero cells were then infected with the mixtures from each time point. The inhibitory effects of revaprazan hydrochloride against DENV-3 were measured with the FFURA. The number of foci was manually counted and images were captured using the CTL Immunospot® S6 Versa Analyser.

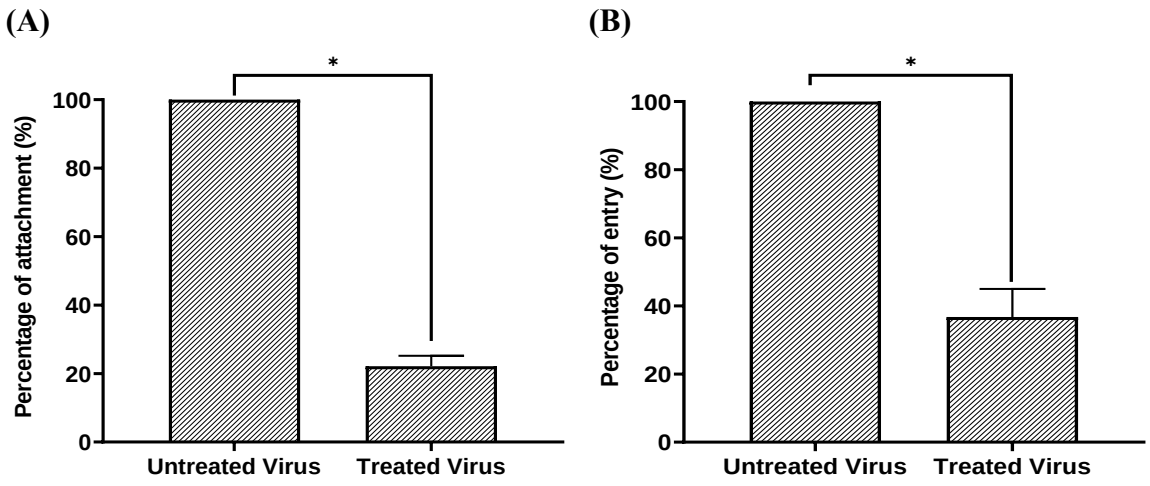

Figure S2. Effects of revaprazan hydrochloride on the attachment and entry of DENV-3 to Vero cells. (A) The viral attachment inhibition was determined as the number of foci formed by the RH-treated virus over the number of foci formed by the untreated virus. (B) Viral entry inhibition was determined as the number of foci formed by the virus treated with the drug after attachment to the cells over the number of foci formed by the untreated virus. The data are presented as mean (SD). The error bars denote the range of values obtained in triplicate experiments. The student's *t*-test was used to compare differences between groups (*$p < 0.05$).

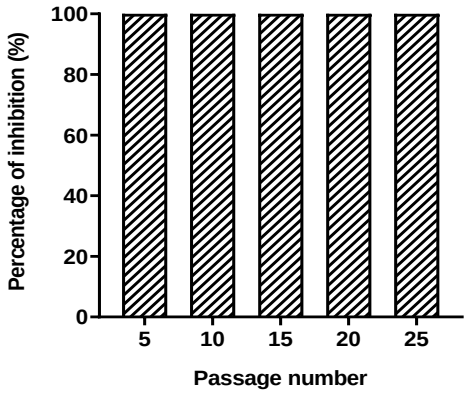

Figure S3. Resistance of DENV-3 in the presence of revaprazan hydrochloride. Inhibition of DENV-3 in the presence of 10 μM revaprazan hydrochloride. The passaged virus did not show resistance up to 25 passages in the presence of revaprazan hydrochloride.

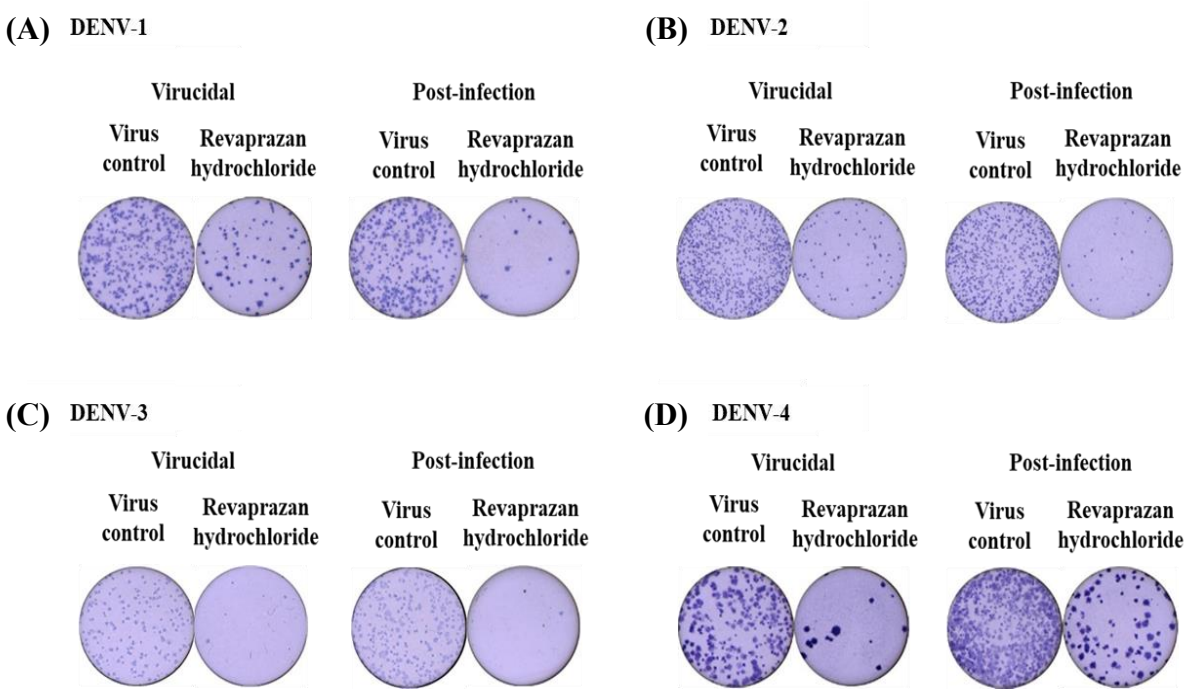

Figure S4. Antiviral activity of revaprazan hydrochloride against all four DENV serotypes. DENV-1–4 was pre-treated with revaprazan hydrochloride (VC, virucidal); Vero cells were infected with the virus and then treated with revaprazan hydrochloride (PI, post-infection). The inhibitory effects of revaprazan hydrochloride against DENV-1–4 was determined by the FFURA. The number of foci was manually counted and images were captured using the CTL Immunospot® S6 Versa Analyser.

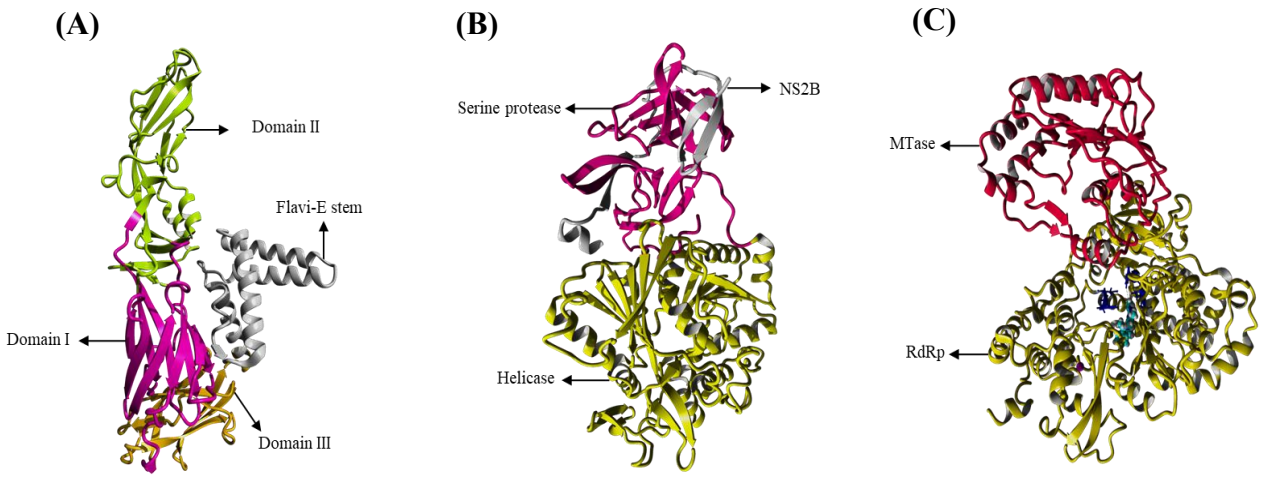

Figure S5. Predicted structure of DENV-3 proteins using YASARA software. (A) The E protein contains three domains and Flavi-E-stem at the C-terminal region, (B) The NS2B/NS3 protein contains the NS2B region and two domains in NS3 and (C) The NS5 protein contains two domains.

Table S1. The type of interaction between E protein and revaprazan hydrochloride at different positions and the distance.

Residue-H donor	**Position**	**Residue-H-Acceptor**	**Position**	**Distance**	**Type of Interaction**
GLN489	HE21	Revaprazan hydrochloride	N	2.41273	Conventional Hydrogen Bond
Revaprazan hydrochloride	H-donor	ILE409	O	2.62838	Conventional Hydrogen Bond
Revaprazan hydrochloride	Alkyl	MET191	Alkyl	4.98497	Hydrophobic- Alkyl
HIS277	Pi-Orbitals	Revaprazan hydrochloride	Alkyl	4.95529	Hydrophobic- Pi-Alkyl
HIS277	Pi-Orbitals	Revaprazan hydrochloride	Alkyl	4.54356	Hydrophobic- Pi-Alkyl

Table S2. The type of interaction between NS2B/NS3 protein and revaprazan hydrochloride at different positions and the distance.

Residue-H donor	Position	Residue-H-Acceptor	Position	Distance	Type of Interaction
ALA183	HA	Revaprazan hydrochloride	N	2.83604	Carbon Hydrogen Bond
ASP548	OD2	Revaprazan hydrochloride	Pi-Orbitals	4.26742	Electrostatic- Pi-Anion
ALA37	Alkyl	Revaprazan hydrochloride	C- Alkyl	3.68933	Hydrophobic- Alkyl
ALA183	Alkyl	Revaprazan hydrochloride	Alkyl	4.19087	Hydrophobic- Alkyl
LYS595	Alkyl	Revaprazan hydrochloride	Alkyl	4.75482	Hydrophobic- Alkyl
Revaprazan hydrochloride	Alkyl	VAL184	Alkyl	4.54107	Hydrophobic- Alkyl
Revaprazan hydrochloride	Pi-Orbitals	ALA183	Alkyl	4.68677	Hydrophobic- Pi-Alkyl
Revaprazan hydrochloride	Pi-Orbitals	LYS595	Alkyl	4.98215	Hydrophobic- Pi-Alkyl
Revaprazan hydrochloride	Pi-Orbitals	LYS595	Alkyl	4.94882	Hydrophobic- Pi-Alkyl
Revaprazan hydrochloride	Pi-Orbitals	ARG181	Alkyl	5.13598	Hydrophobic- Pi-Alkyl

Table S3: The type of interaction between NS5 protein and revaprazan hydrochloride at different positions and the distance.

Residue-H donor	**Position**	**Residue-H-Acceptor**	**Position**	**Distance**	**Type of Interaction**
GLN414	HE21	Revaprazan hydrochloride	N	2.34	Conventional Hydrogen Bond
Revaprazan hydrochloride	H1	GLN599	O	2.92	Carbon Hydrogen Bond
TRP415	Pi-Orbitals	Revaprazan hydrochloride	Pi-Orbitals	5.78	Hydrophobic- Pi-Pi T-shaped
TRP474	Pi-Orbitals	Revaprazan hydrochloride	C/Alkyl	5.49	Hydrophobic- Pi-Alkyl
Revaprazan hydrochloride	Pi-Orbitals	ARG478	Alkyl	4.78	Hydrophobic- Pi-Alkyl
Revaprazan hydrochloride	Pi-Orbitals	VAL600	Alkyl	5.46	Hydrophobic- Pi-Alkyl