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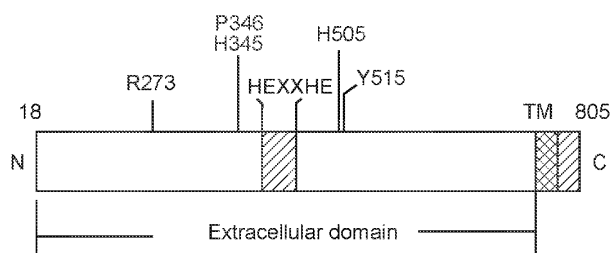
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(54) Title: CATALYSIS DEACTIVATED ANGIOTENSIN-CONVERTING ENZYME 2 (ACE2) VARIANTS AND THEIR USES



TM: transmembrane domain
Zinc-binding motif: H374E375XXH378...E402

FIG. 1

(57) Abstract: Angiotensin-converting enzyme 2(ACE2) has been confirmed as a specific receptor for several β group coronaviruses include severe respiratory syndrome (SARS) coronavirus (SARS-CoV-1) and recently the causative agent for the World pandemic CoVID-19, SARS-CoV-2, and low pathogenic coronavirus of HCoV-NL63, a member in α -coronavirus group. Viral spike protein (S) of viral envelope is confirmed to bind to ACE2 as viral receptor to start a virus replication cycle. The present invention provides ACE2 and its mutants or variants, the viral or non-viral vectors thereof. Methods of treatment of viral infection of a human subject by using such mutants or variants are also provided.



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