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**INVESTIGATION INTO CELL SURFACE RECEPTOR INHIBITORS FROM *Lignosus rhinocerus* TM02® AS POTENTIAL PHARMACOLOGICAL AGENTS FOR RESPIRATORY HEALTH**

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Renin–angiotensin–aldosterone system (RAAS) consists of cell surface receptors of human angiotensin-converting enzyme 2 (ACE2) and angiotensin-converting enzyme (ACE) and is important for the homeostasis of both the cardiovascular and respiratory systems. ACE2 is involved in the mechanism of infections for SARS-associated coronavirus while ACE partakes in angiotensin II generation and bradykinin degradation that leads to conditions such as inflammation and acute lung injury. Thus, inhibition of ACE/ACE2 receptors are a promising way to prevent infection and mitigate its associated inflammatory conditions. *Lignosus rhinocerus* TM02**®** (Tiger Milk mushroom) is traditionally used to alleviate respiratory condition such as cough and asthma, supported by numerous scientific studies on its anti-inflammatory properties. Past genomic-transcriptomic analysis of *L.* *rhinocerus* TM02**®** revealed the presence of potential ACE inhibitory proteins in mushrooms, similar to *Ganoderma lucidum*. This study serves to identify potential ACE/ACE2 inhibitors derived from *L. rhinocerus* TM02**®** via *in silico* molecular docking studies and *in vitro* kinetic investigations. The identification and validation of bioactive proteins from nature and their activities will provide a new avenue for the development of natural compounds for pharmaceutical prevention of diseases and health maintenance.

Keywords: Tiger milk mushroom, ACE inhibitor, ACE2 inhibitor, molecular docking, protein modelling