

Assessing Farm Animals Susceptibility to SARS-CoV-2 by Proteomics – A proposal



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INTRODUCTION

SARS-CoV-2 causes the highly contagious COVID-19. The virus is believed originated from animals and spread rapidly by human-to-human transmission. SARS-CoV-2 infects human cell by binding its Spike (S) protein to the human angiotensin-converting enzyme 2 (ACE2) receptors. ACE2 is present in several human organs including the lung.

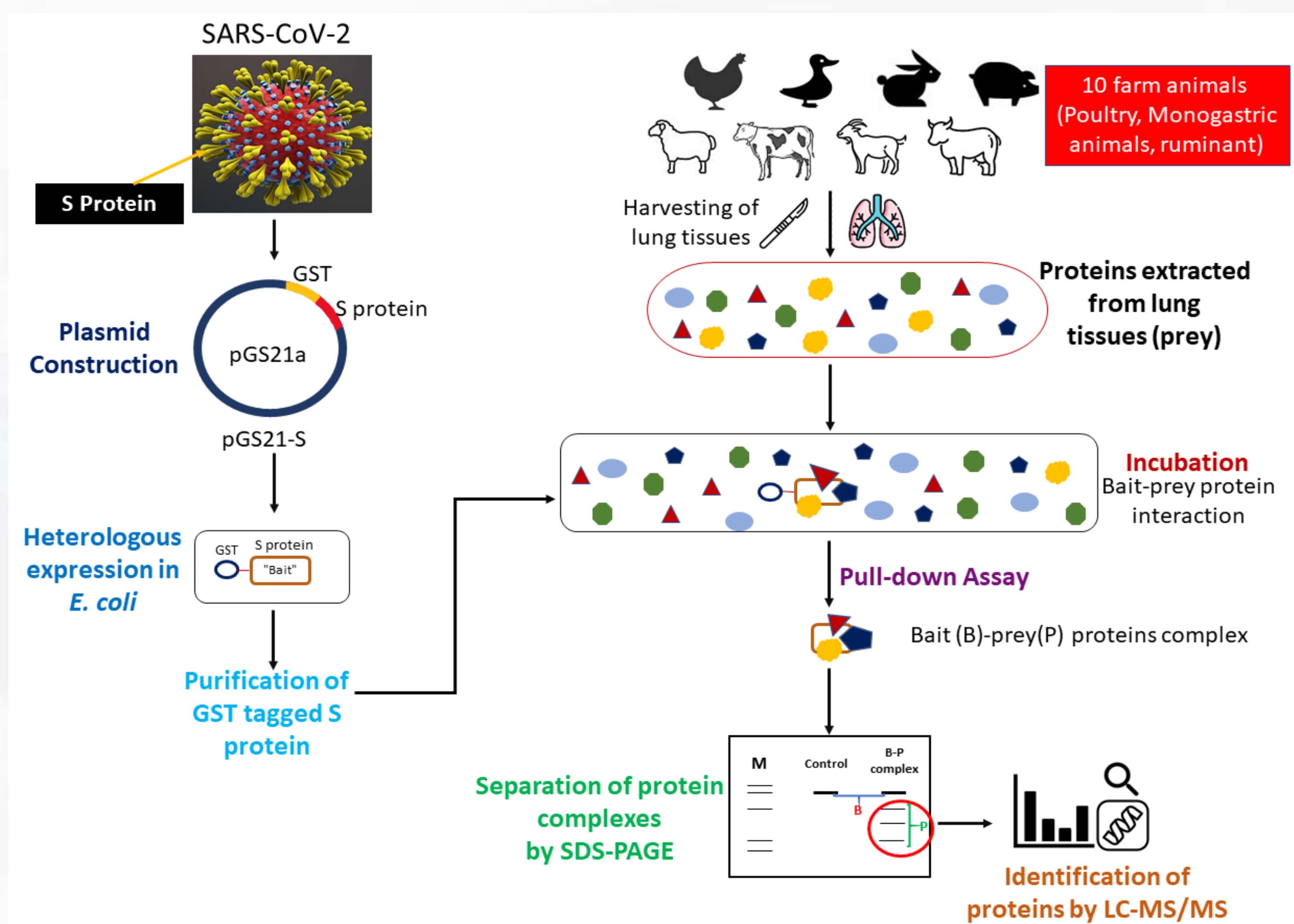
PROBLEM STATEMENT

Some coronaviruses are known to infect farm animals. But little is known about the susceptibility of farm animals toward SARS-CoV-2. Reports have shown that animals, such as dogs, cats, tigers, minks, ferrets, and lions could be infected by SARS-CoV-2. The association of SARS-CoV-2 with farm animals will pose greater threat to human lives, economy, and food security.

OBJECTIVE

To investigate the susceptibility of farm animals towards SARS-CoV-2 by analyzing the physical interaction between SARS-CoV-2 S Protein and lung tissue proteins from farm animals using pull-down assay

METHODOLOGY



EXPECTED OUTCOMES

Our study would provide information on the livestock's risk of being infected by SARS-CoV-2. Furthermore, the discovery of farm animals' proteins targeted by the S protein could be used to develop drugs against this virus.

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