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**HA et al.**(10) **Pub. No.: US 2021/0401969 A1**(43) **Pub. Date: Dec. 30, 2021**(54) **RSV VIRUS-LIKE PARTICLES AND  
METHODS OF USE THEREOF****Publication Classification**(71) Applicants: **EMORY UNIVERSITY**, Atlanta, GA  
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FOUNDATION**, Madison, WI (US)(51) **Int. Cl.****A61K 39/155** (2006.01)**C12N 7/00** (2006.01)**A61K 39/39** (2006.01)(52) **U.S. Cl.**CPC ..... **A61K 39/155** (2013.01); **C12N 7/00**  
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**ABSTRACT**(21) Appl. No.: **17/289,827**(22) PCT Filed: **Oct. 29, 2019**(86) PCT No.: **PCT/US19/58559**

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The present disclosure relates to virus-like particles and vaccine compositions for inducing immunity and preventing respiratory syncytial virus (RSV) infection. Specifically, the disclosure provides virus like-particles (VLPs) for use in inducing immunity to respiratory syncytial virus (RSV) infections or symptoms thereof, wherein the VLP comprising a respiratory RSV matrix protein (M) and an RSV M2-1 protein, a glycoprotein (G), a fusion protein (F), and/or a phosphoprotein (P).

**Specification includes a Sequence Listing.**