



### **Positive Quellung Reaction**

#### **Positive Quail-lungs**

A Quellung reaction is a biochemical reaction in which antibodies bind to a bacterial capsule, allowing species with a positive Quellung reaction to be visualized under a microscope. *Streptococcus pneumoniae* has a positive Quellung reaction.

### **IgA Protease**

#### **(IgA) Apple-goblin with Propeller-ace**

An IgA protease is an enzyme that cleaves certain amino acid sequences of proteins, including immunoglobulin A. *Streptococcus pneumoniae* releases IgA proteases which destroy IgA, leading to increased pathogenicity. Other IgA protease producers include *Neisseria gonorrhoeae*, *Neisseria meningitidis*, and *Haemophilus influenzae* type B.