

# Case Study:

## Epitope mapping of conformation specific RSV F antibodies



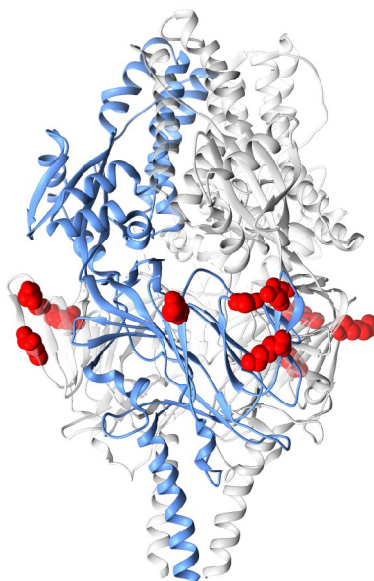
### THE NEED

Merck required comprehensive epitope mapping of potent neutralizing antibodies 3B1 and 2E1 to distinguish these antibodies from existing therapeutics against RSV F glycoproteins.

### THE SOLUTION

#### Epitope Mapping using Shotgun Mutagenesis

Integral Molecular successfully epitope mapped antibodies on an RSV F protein alanine scan mutation library that allowed analysis of both prefusion and postfusion specific antibodies.



### THE IMPACT

#### Mechanism of Action

Epitope mapping confirmed that the potent, neutralizing antibody 2E1 binds near partially overlapping antigenic sites IV/V/VI, and recognizes the prefusion conformation of RSV F.

Epitope mapping also confirmed that antibody 3B1 is specific for the postfusion conformation of RSV F, with the epitope on antigenic site III.

#### Intellectual Property

Epitope Mapping distinguished the 2E1 epitope from that of a previously described potent neutralizing antibody that binds a similar region on the RSV F trimer.

#### Clinical implication

3B1 and 2E1 neutralizing antibodies will be used as critical reagents for RSV vaccine development.

#### Publication

Data featured in PLOS One, Chen et al, 2016.

**Looking for more information? Contact us below:**

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