Vaccine Design

AI-Driven Vaccine Development

Pathogen

SARS-CoV-2

Epitope Mapping

B-cell epitopes

T-cell epitopes

mRNA Design

5' Cap

Spike gene

3' PolyA

Codon optimized

Immune Response Prediction

B-cell → ↑ ↑
Antibodies

T-cell → CTL response

Population Coverage:

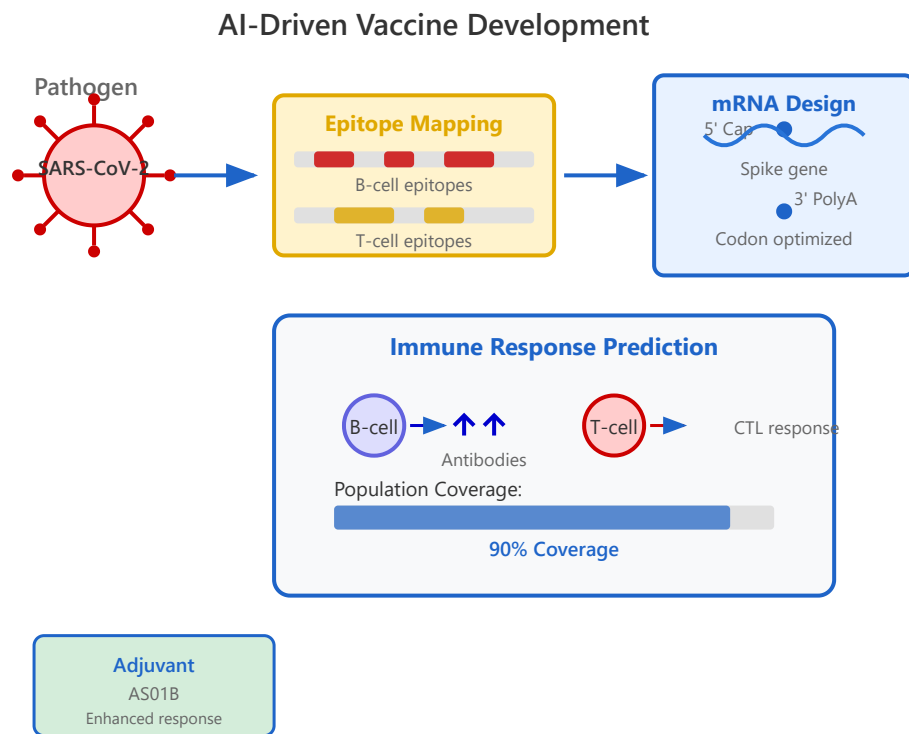**90% Coverage**

Adjuvant
AS01B
Enhanced response

Epitope prediction
B-cell & T-cell epitopes

Immunogenicity
Immune response modeling

Coverage optimization
Population HLA diversity

Adjuvant selection
Enhance immune response

mRNA design
Codon optimization & stability