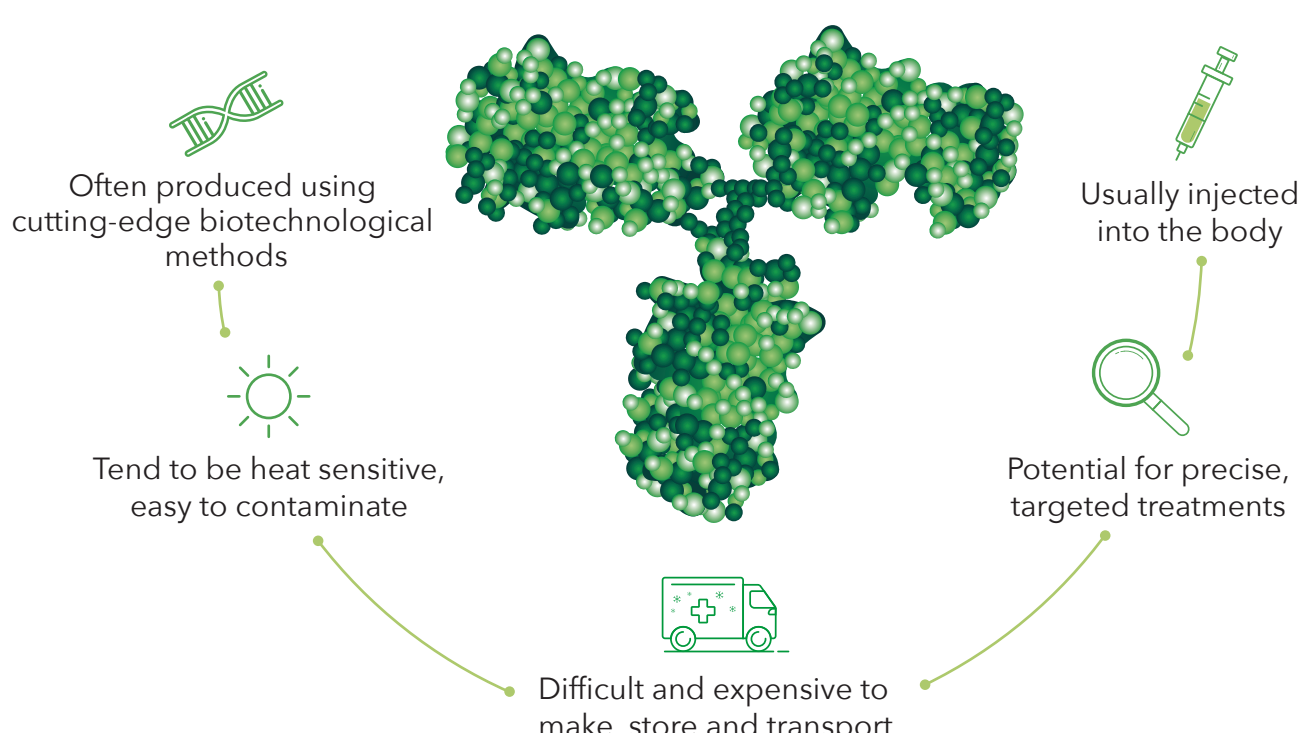


# Biopharmaceuticals

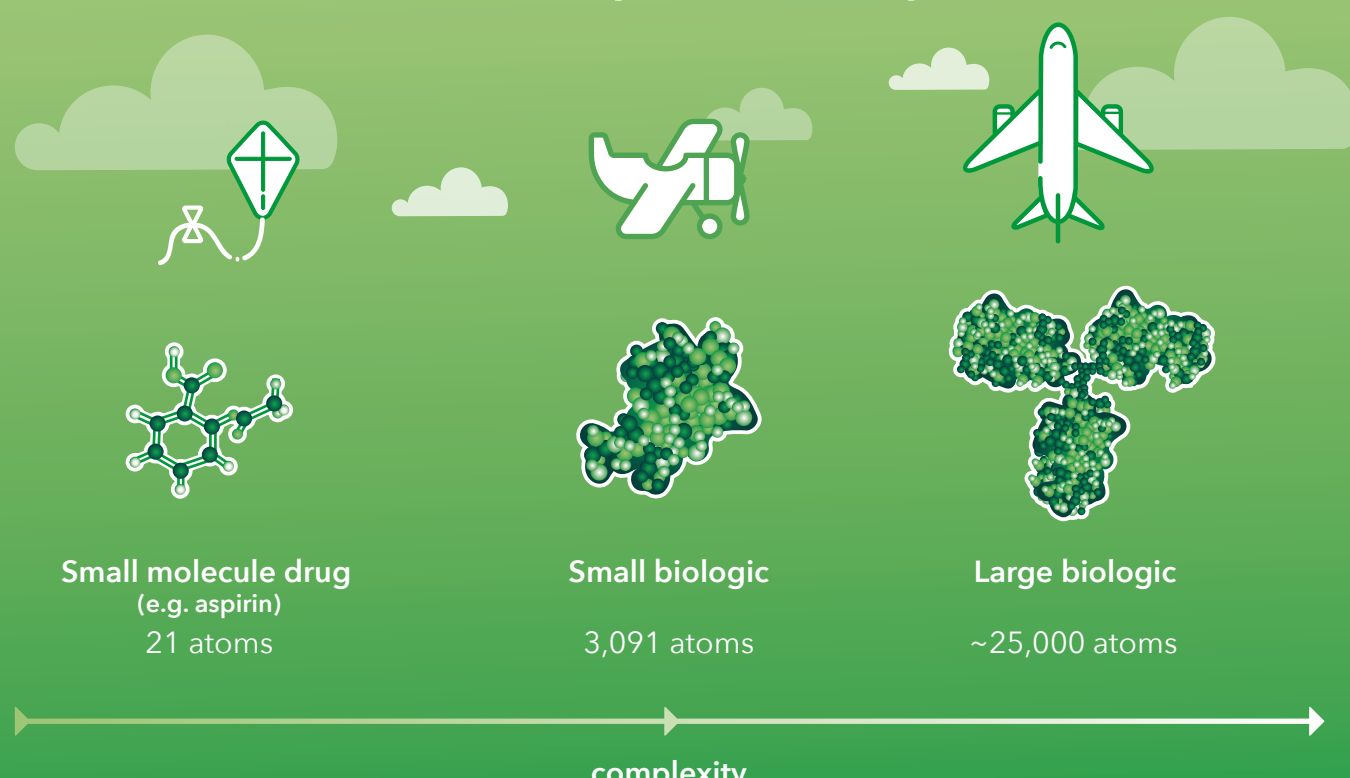
## Advancing more treatment options for patients

### What are biopharmaceuticals?

Complex medicines made from living cells or organisms

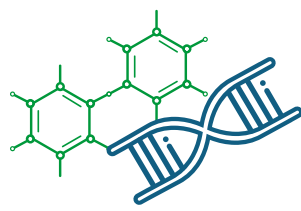


### How complex are they?



### Two classes of biopharmaceuticals

#### Innovator biologics



An innovator biologic is the original version of a biopharmaceutical treatment. It is approved based on, among other things, a full complement of safety and effectiveness data.

#### Biosimilars



A biosimilar is a biopharmaceutical that is highly similar to a specific innovator biologic. It has no clinically-meaningful differences in terms of safety, purity and potency.

#### Biologics in numbers

**1982**

insulin becomes the first biologic cleared for human use

**59%**

of all biologic sales are in the US - the world's biggest market

**26%**

a quarter of US national prescription spending goes to biologics, but only 2% of patients use them

#### Biosimilars in numbers

**2006**

the first biosimilar is approved in Europe (a human growth hormone)

**30%**

average price difference between a biosimilar and a biologic

**87%**

of all biosimilars are sold in Europe

### What are some of the different types of biopharmaceuticals?

**Cytokines**  
(impacts the interactions and communications between cells)

**Monoclonal antibodies**  
(fights disease like natural antibodies)

**Enzymes**  
(speeds up biochemical reactions)

**Immunomodulators**  
(affects immune response)

**'I feel maternal towards them...'**

Sandra Deponte, Senior Production Manager, Teva Biotech

Take a tour of our biopharmaceutical plant in Ulm, Germany, and meet some of the scientists growing the treatments.

[Watch the video here](#)