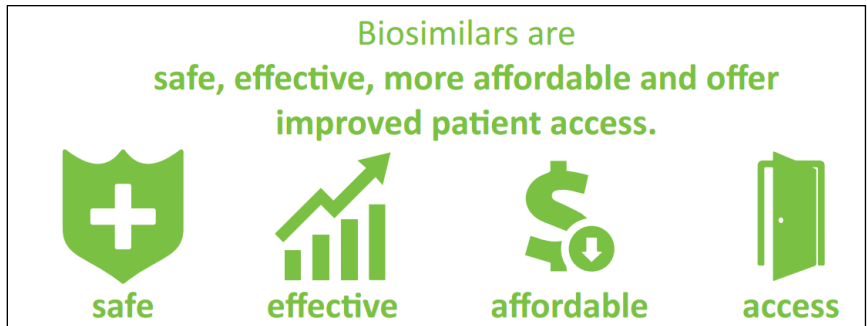


Biosimilars: A Safe & Effective Option for Patients

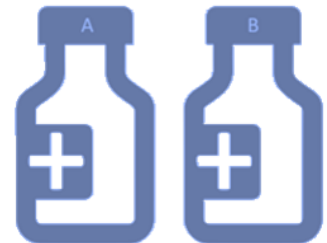
What are Biosimilars?

- A **biosimilar** is a biologic medicine that is highly similar to a previously approved brand biologic medicine (known as “**reference products**” or “**brand counterparts**”) currently on the market in the United States.
- Biosimilars are safe effective alternative versions of reference products with scientifically comparable quality, safety and efficacy.
- Biosimilars are subject to rigorous testing and review by the U.S. Food & Drug Administration (FDA), as well as monitoring after they are made available to patients in the U.S.
- The process for developing biosimilars is complex; and companies that manufacture biosimilars are committed to providing safe, effective products to patients.



Biosimilars at a Glance

- Biologic medicines are costly. While only 2% of the U.S. population uses them, biologics account for 40%¹ of prescription drug spending in the United States, which reached a record \$425 billion in 2015.²
- Like generic drugs, which saved the U.S. health care system \$227 billion dollars in 2015, biosimilars have the potential to increase competition in the market, which will help lower the cost of biologic medicines and increase patient access to biopharmaceutical advances that increase the quality and length of their lives.
- Biosimilar usage and approvals continue to grow in the United States, enabling more patients to have access to these safe, effective treatments and improved health outcomes.



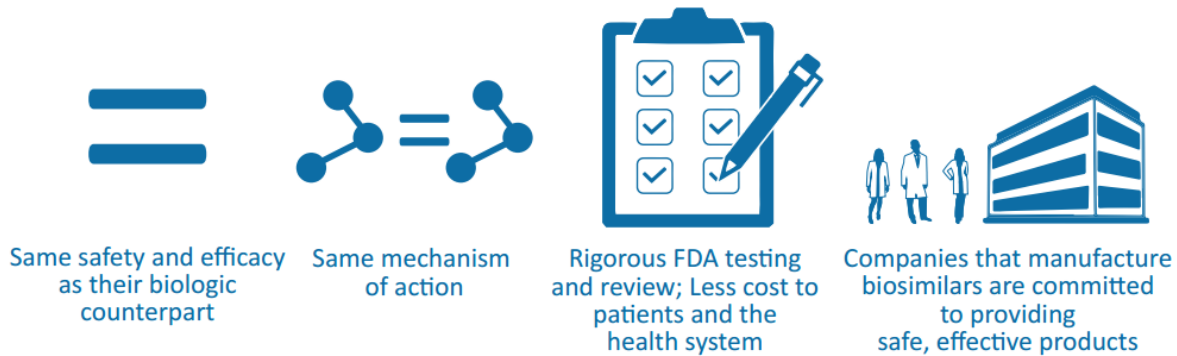
Current estimates suggest that consumers could save as much as \$250 billion during the first 10 years of biosimilar availability.¹

Biosimilar Access and Savings

- Most new biologic medicines entering the market are expensive and highly specialized. Prices continue to climb, with some treatments costing tens of thousands of dollars per year.³
- Biosimilars have the potential to help lower the cost of branded-biologic medicines and increase access to biologic medicines by creating increased competition in the market. That provides patients with more treatment options and significantly lower costs not only for patients, but also for providers and the healthcare system.
- Biosimilars will positively impact the most vulnerable patient groups – including those with low incomes, senior citizens, and patients with multiple chronic diseases – by increasing accessibility and reducing out of pocket costs.

Biosimilar Safety & Efficacy

- FDA-approved biosimilars have the same mechanism of action as the approved brand biologic counterpart – meaning the biosimilar works the same way as the reference product.⁴ The FDA requires biosimilar manufacturers to adhere to the same safety monitoring requirements of brand biologic manufacturers.⁵
- More than 10 years of biosimilars patient-use in the EU has shown no difference in health outcomes between patients who use a biosimilar and those who take the original branded biologic medicine.⁶



Biosimilar Approval in the U.S.

Approval Date	Biosimilar Product	Brand Product	Patient Population
March 6, 2015	Filgrastim-sndz/Zarxio* (Sandoz)	Filgrastim/Neupogen (Amgen)	Oncology
April 5, 2015	Infliximab-ddyb/Inflectra* (Celltrion/Pfizer)	Infliximab/Remicade (Johnson & Johnson)	Autoimmune
August 30, 2016	Etanercept-szszs/Erelzi (Sandoz)	Etanercept/Enbrel (Amgen)	Arthritis/Psoriasis
September 23, 2016	Adalimumab-atto/Amjevita (Amgen)	Adalimumab/Humira (AbbVie)	Arthritis/Psoriasis
April 24, 2017	Infliximab-abda/Renflexis* (Samsung Bioepis)	Infliximab/Remicade (Johnson & Johnson)	Autoimmune
August 25, 2017	Adalimumab-adbm/Cyltezo (Boehringer Ingelheim)	Adalimumab/Humira (AbbVie)	Autoimmune
September 14, 2017	Bevacizumab-awwb/Mvasi (Amgen)	Bevacizumab/Avastin (Genentech)	Oncology
December 1, 2017	Trastuzumab-dkst/Ogivri (Mylan/Biocon)	Trastuzumab/Herceptin (Genentech/Roche)	Oncology
December 13, 2017	Infliximab-qbtx/Ixifi (Pfizer)	Infliximab/Remicade (Johnson & Johnson)	Autoimmune

* Denotes products that have reached market.

- To date, the FDA has approved nine (9) biosimilars in the United States.⁷ These medicines treat patients suffering from rheumatoid arthritis, Crohn’s Disease, cancer, psoriasis and other conditions. More than 60 additional biosimilars are in development.⁸
- In Europe, ~35 biosimilars are available in at least eight therapeutic areas.⁹ Biosimilars are available in more than 60 countries worldwide.¹⁰

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