Canadian Arthritis Patient Alliance

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Subsequent Entry Biologics

July 2015

What is CAPA?

- Virtual, patient-driven, national arthritis advocacy organization
- CAPA is about: education, awareness, collaboration & advocacy
- Find us at:

  www.arthritispatient.ca & www.facebook.com/CAPA.Aca

CAPA Believes

- The first expert in arthritis is the person living with arthritis.

- People with arthritis have the right and responsibility to be included in the policy, health care and research decisions related to their health and quality of life.

"Those affected by the decision must be involved in making the decision"

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Subsequent Entry Biologics (SEBs)

Background

- All drugs are protected by patents
- Patents provide exclusivity to manufacture and sell a drug for ~20 years from when the patent is filed
- There are different kinds of drugs – small molecules and biologics:
  - Small molecule drugs: brand name (patented) and generics (off-patent)
  - Biologic drugs: brand name (also called originator or innovator or reference drug - patented) and subsequent entry biologics (biosimilars – off-patent versions of biologics)

A Comparison

	Small Molecules & Generics	Biologics & SEBs
Identical?	Yes	No
Molecular weight	<1000 Dalton*	150-800,000 Dalton*
How are they made?	Chemical reaction recipe always makes the same product	Produced by living cells, very dependent on conditions, difficult to reproduce
What is it?	Small molecule (literally only a few atoms make up these drugs)	Protein (a very large or macro-molecule)
Cost to make?	$	$$$$
Approval path	Generics have a shortened & simplified review	SEBs have jumped the queue, allowed to extrapolate to other indications

**Note: Dalton is a term that is used to describe a molecule's weight.*

A Comparison: Size

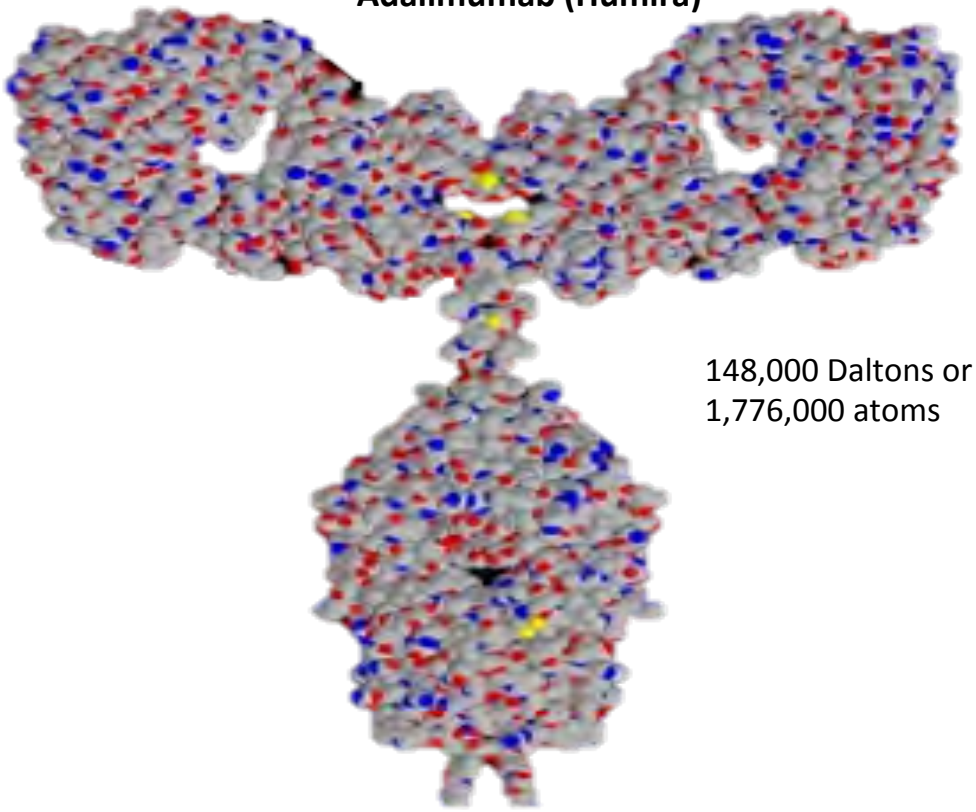
Small molecule

Methotrexate

454 Daltons or
55 atoms

Biologic

Adalimumab (Humira)



148,000 Daltons or
1,776,000 atoms

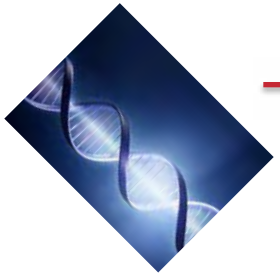
*Note: These pictures are not to scale – they are for display purposes only. Pictures are from public sources.

A Comparison: Manufacture

<u>Making a small molecule:</u>
Follow a recipe to get the same result each time.

<u>Making a biologic:</u> More complex because a living organism is creating the molecule of interest & the end product is very dependent on the conditions (e.g. food, temperature, pH, etc.)

DNA of the molecule you wish to produce



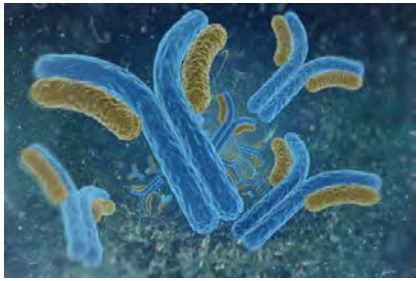
Insert the DNA into cells

Cells make a protein that is coded by the DNA, cells grow in large numbers

Protein is isolated and purified

Many other steps

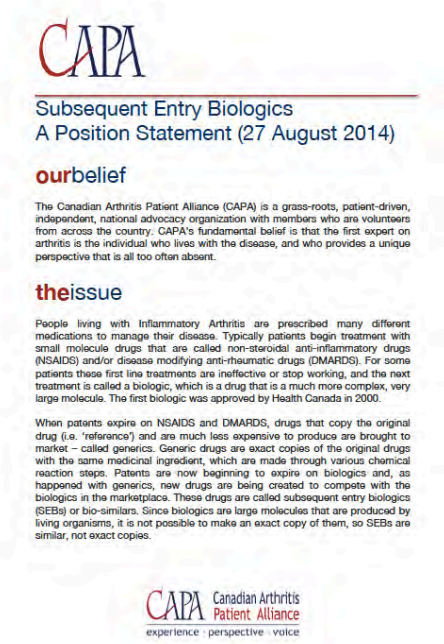
Biologic medicine



CAPA's SEB Position Paper

arthritispatient.ca/projects/subsequent-entry-biologics/

- Attended an industry roundtable (June 2014)
- Our opinions are aligned with the medical community & other stakeholders in arthritis
- Published position paper in August 2014 (English & French)



CAPA

Subsequent Entry Biologics
A Position Statement (27 August 2014)

ourbelief

The Canadian Arthritis Patient Alliance (CAPA) is a grass-roots, patient-driven, independent, national advocacy organization with members who are volunteers from across the country. CAPA's fundamental belief is that the first expert on arthritis is the individual who lives with the disease, and who provides a unique perspective that is all too often absent.

theissue

People living with Inflammatory Arthritis are prescribed many different medications to manage their disease. Typically patients begin treatment with small molecule drugs that are called non-steroidal anti-inflammatory drugs (NSAIDS) and/or disease modifying anti-rheumatic drugs (DMARDS). For some patients these first line treatments are ineffective or stop working, and the next treatment is called a biologic, which is a drug that is a much more complex, very large molecule. The first biologic was approved by Health Canada in 2000.

When patents expire on NSAIDS and DMARDS, drugs that copy the original drug (i.e. 'reference') and are much less expensive to produce are brought to market – called generics. Generic drugs are exact copies of the original drugs with the same medicinal ingredient, which are made through various chemical reaction steps. Patents are now beginning to expire on biologics and, as happened with generics, new drugs are being created to compete with the biologics in the marketplace. These drugs are called subsequent entry biologics (SEBs) or bio-similars. Since biologics are large molecules that are produced by living organisms, it is not possible to make an exact copy of them, so SEBs are similar, not exact copies.

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Health Canada states:

'Subsequent Entry Biologics are not "generic" biologics. Authorization of an SEB is not a declaration of pharmaceutical or therapeutic equivalence to the reference biologic drug.'

www.hc-sc.gc.ca/dhp-mps/brgtherap/applic-demande/guides/seb-pbu/seb-pbu_2010-eng.php#int

Ourposition: 1

SEBs have a role to play in providing additional treatment options for patients and potential cost savings to drug reimbursement programs ***only*** if *prescribed appropriately following clinically-approved guidelines.*

- No way to predict which patients respond/how to treatments
- Patients will often take more than one biologic in their lifetime
- Do not support cost being the only rationale for SEB use

Ourposition: 2

An SEB must not be considered for automatic substitution or interchangeable with the reference biologic. Patients should not be forced to switch from one therapy to another when they are well managed on their current medication. Treatment decisions need to be discussed and agreed upon between the physician and patient based on the best available evidence with the best health outcome for patients as the primary goal.

- Patients and their physicians should make a joint decision about treatment
- If someone is doing well on a biologic, why change therapy?
- Cost should not be a driver for therapy – in the end it may cost the healthcare system more

Ourposition: 3

SEBs should have unique and distinct names to ensure no accidental substitution or the incorrect perception that they are identical to reference biologics by the pharmacy. This will ensure continued post-market surveillance of adverse drug reactions for the correct drug.

- Currently have the same INN (International Nonproprietary Name) as innovator drugs
- While SEBs are the **same macromolecule (protein)**, they are **not the exact same chemical composition (they have sugars attached in different places)**
- Confusing on multiple levels: patients, pharmacists, no way to monitor post-market issues
- Concerns about mistakes being made on many levels

Ourposition: 4

SEBs must be subject to the identical rigorous Health Technology Assessment safety and efficacy processes required of all new therapies in Canada.

- Do not agree with lack of trials required for all indications
- Do not agree with extrapolation to other indications

Ourposition: 5

An SEB should not be fast-tracked through any drug review process, being reviewed before other, possibly more critical drugs for patients that have been placed in a queue simply because they are less expensive.

- SEBs have 'held up' innovator drugs (e.g. JAK inhibitor with a new mechanism of action for patients) from being approved for the formularies
- Not understood why these products are allowed to 'jump the queue,' other than their potential cost savings

Ourposition: 6

A SEB product manufacturer should be encouraged to put in place patient support programs similar to those that exist for reference biologic medications. These programs employ trained professionals to answer any questions patients may have about these complex drugs. This type of support is critical for patients to feel comfortable about and confident in taking their medication.

- Treatment start
  - Handle reimbursement logistics
  - Ensure cost is not a barrier
  - Assists with scheduling & administering (if infusion)
- Ongoing treatment
  - Update medical orders
  - Monitor adverse events
  - Track contraindications to biologics
- Communication
  - Consistent point of contact for patients

Questions?

Contact Dawn Richards

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