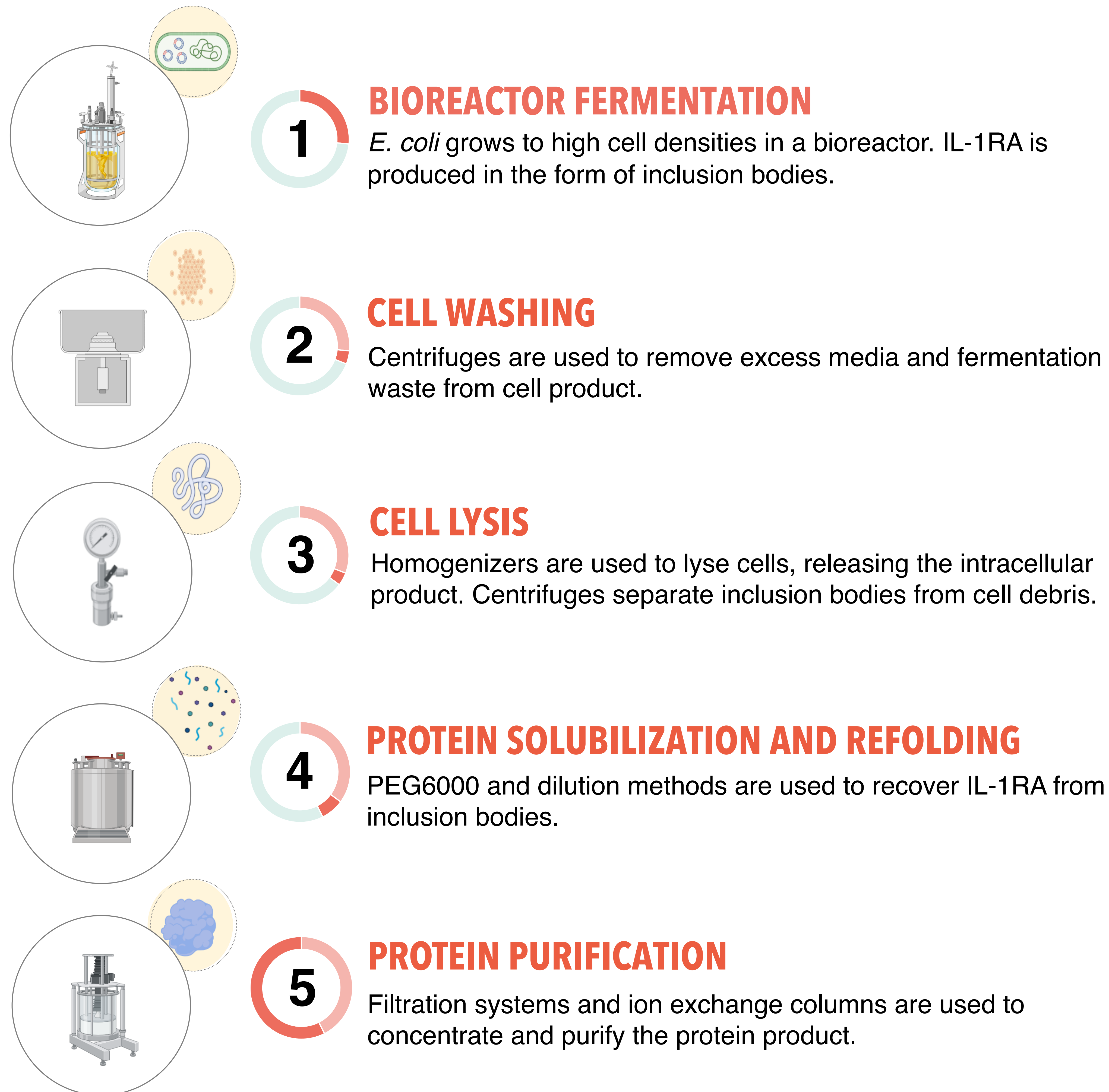


INTERLEUKIN-1 RECEPTOR ANTAGONIST PRODUCTION USING RECOMBINANT *ESCHERICHIA COLI*

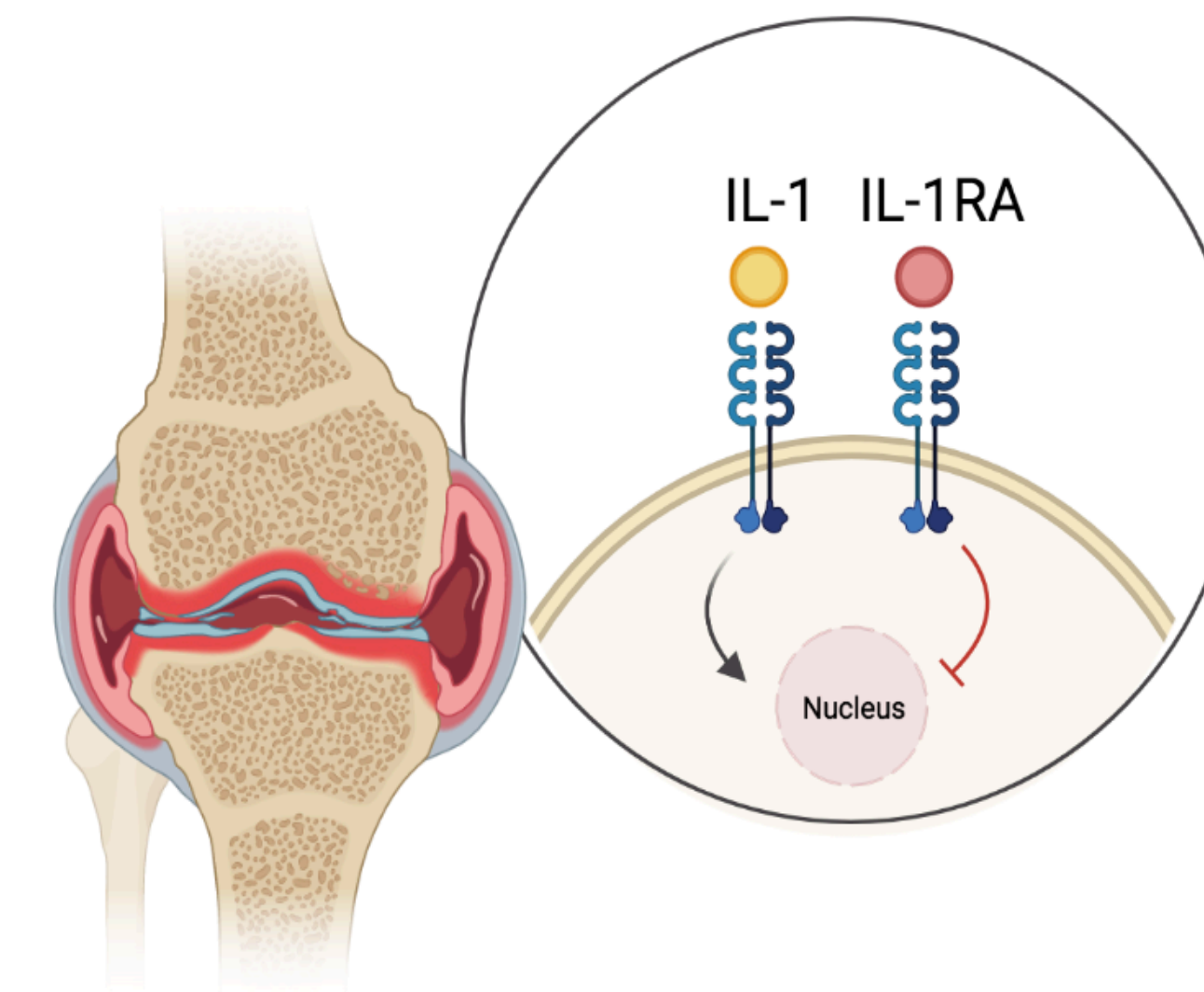
Group B3: Noor Adil, Michael Halim, Miles Huynh, Krista Johnston, Myeongjin Kim, Simeng Li, Tracy Nguyen, Sharon Voon, Mia Yao

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PROCESS DESCRIPTION



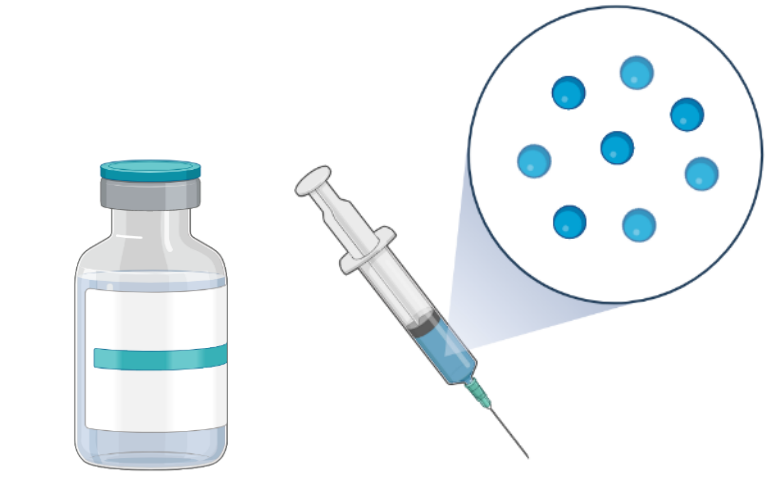
BACKGROUND



Interleukin-1 Receptor Antagonist (IL-1RA) is a biologic used to treat rheumatoid arthritis.



By 2036, **7.5 million Canadians** are expected to develop rheumatoid arthritis.



IL-1RA therapy costs **\$41 CAD/dose**, up to **\$15,000** annually per patient.

PLANT DETAILS



Delta, B.C. 2 Hectares
 Industrial Greenfield

Process Innovation

Synthesis in **inclusion bodies**, followed by recovery using **PEG6000 precipitation**.

Reduces downstream **manufacturing costs** by **95%**

Reduces downstream **processing time** by **50%**

Production Capacity

197 kg IL-1RA/year; targets about **61,000 patients/year** and meets **20%** of projected 2036 demands.

ECONOMIC ANALYSIS

