

New Processing Improved Protein

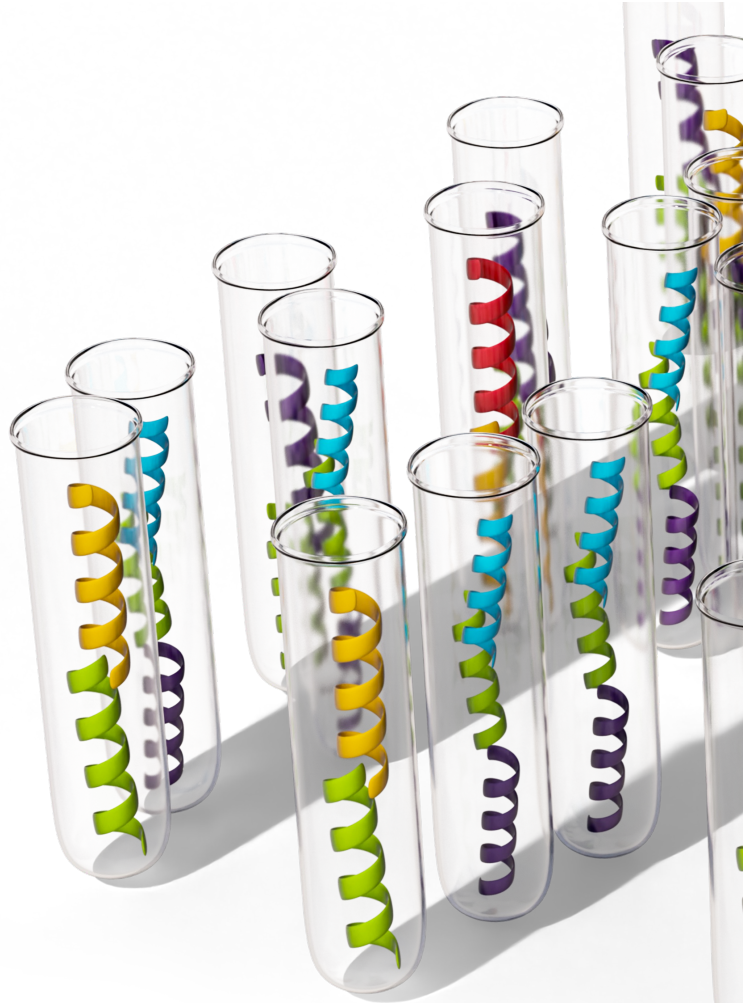
Make Discoveries With Our New Version of **Recombinant Human IL-2 Protein**

For more than 20 years, R&D Systems™ has strived to offer the best protein products on the market to enable your scientific research. As our company has grown, so has our customers' needs. Advances in protein purification and cell culture techniques has given us the opportunity to improve our products for better protein yield per batch.

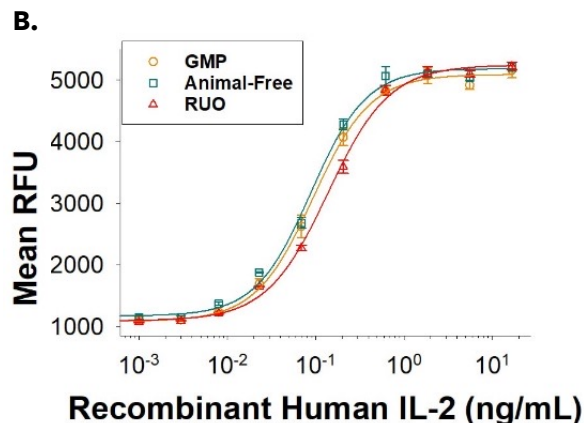
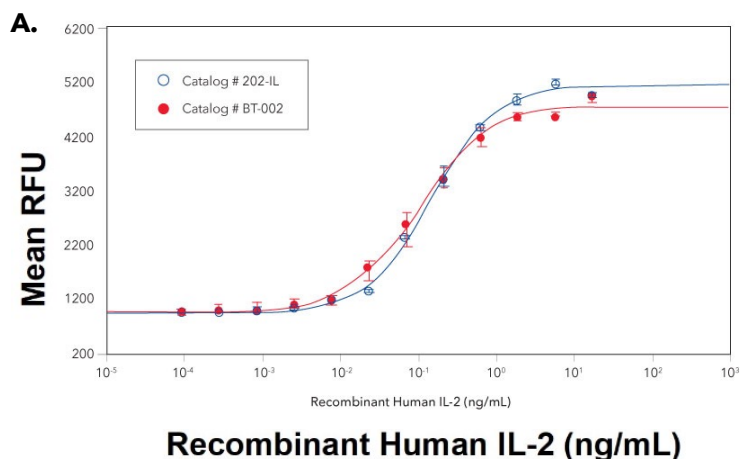
Our new version of **R&D Systems™ Recombinant Human IL-2** (Catalog # BT-002) helps us ensure supply chain continuity well into the future without sacrificing quality. Consider the key benefits below and make the switch from our Original to New IL-2.

Key Benefits of Our New Recombinant Human IL-2 Protein

- **Better Solubility:** The New IL-2 Protein Contains the Same Cysteine to Serine Mutation found in Proleukin®: This mutation has been reported to prevent cysteine mispairing in E. coli that can lead to protein aggregation and makes the new IL-2 protein soluble in sterile deionized water.
- **High Lot-to-Lot Consistency:** Each new lot is tested side-by-side with previous lots and with a control lot to ensure highest lot-to-lot consistency for a product you can trust.
- **Scalable:** Improved manufacturing processes allow for greater scalability and a robust supply chain.
- **Economical:** Lower manufacturing costs allow us to pass savings on to customers.
- **Equivalent Bioactivity:** The new IL-2 protein displays similar activity as the original IL-2 protein.
- **Identical Expression System:** Both the original and the new IL-2 proteins are expressed and purified from E. coli.



Analysis of New Human Recombinant IL-2 Protein Bioactivity



New Recombinant Human IL-2 Protein Activity. (A) The bioactivities of the original (Catalog # 202-IL) and the new (Catalog # BT-002) Recombinant Human IL-2 proteins were compared using a cell proliferation assay with CTLL-2 mouse cytotoxic T cells. Based on this assay, both proteins display similar activity.

(B) Equivalent bioactivity of GMP (BT-002-GMP), Animal-Free (BT-002-AFL) and Research Use Only (RUO) (Catalog # BT-002) grades of Recombinant Human IL-2 as measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells (orange, green, red, respectively).

Comparison of Original and New Recombinant Human IL-2 Proteins

Specifications	202-IL (Original)	BT-002 (New Version)
Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. The ED50 for this effect is 0.05-0.25 ng/mL.	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. The ED50 for this effect is 0.0300-0.250 ng/mL.
Source	E. coli-derived human IL-2 protein Ala21-Thr153, with an N-terminal Met	E. coli-derived human IL-2 protein Ala21-Thr153 (Cys145Ser), with and without an N-terminal Met
Purity	>97%, by SDS-PAGE visualized with Silver Staining and Coomassie® Blue Staining	>97%, by SDS-PAGE visualized with Silver Staining and Coomassie® Blue Staining
N-terminal Sequence	Met	Ala21 & Met
Predicted Molecular Mass	15 kDa	15.5 kDa
Pack Sizes	10, 50, 500 µg	10, 50, 100, 500 µg, 1 mg
Formulation	Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA.	Lyophilized from a 0.2 µm filtered solution in Sodium Acetate with Trehalose.