

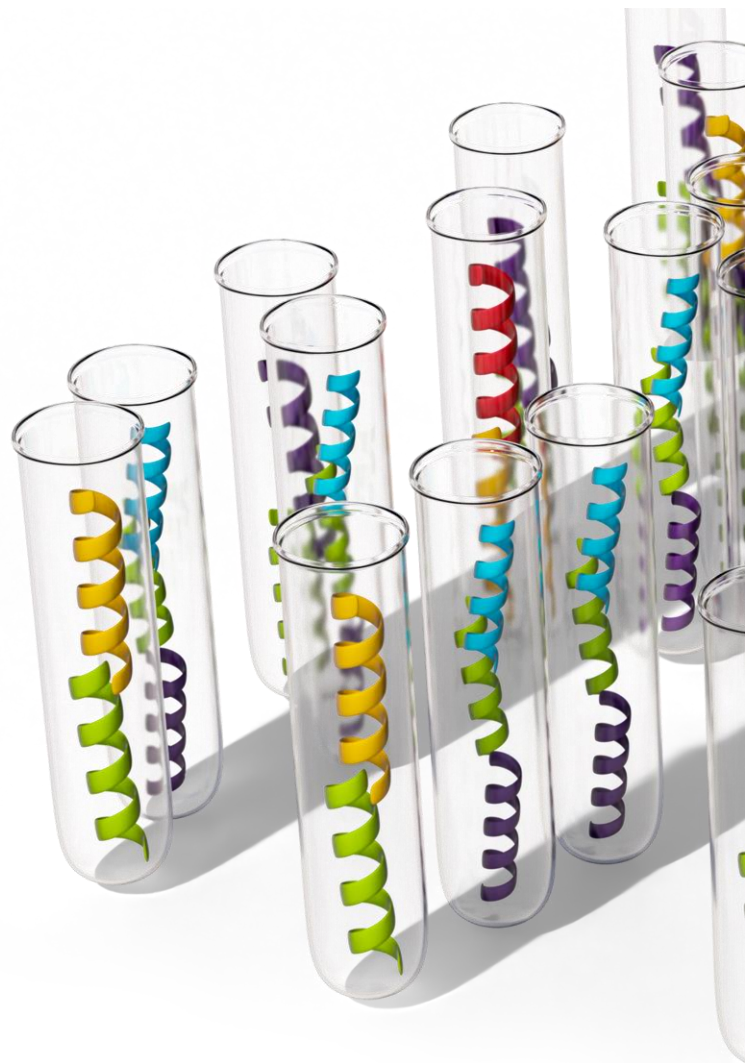
Bigger Scale Optimized Proteins

Achieve Supply Security with Scalable Recombinant Human IL-4 Protein

For more than 25 years, R&D Systems™ has endeavored 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.

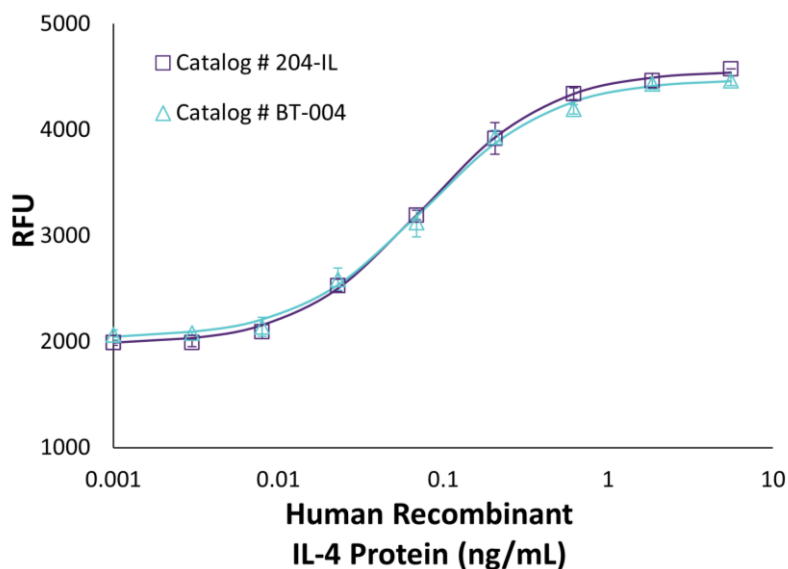
Key Benefits of Our New Recombinant Human IL-4 Protein

- **Scalable:** Improved manufacturing processes allow for greater scalability and a robust supply chain.
- **Economical:** Lower manufacturing costs allow us to pass savings on to you.
- **Equivalent Bioactivity:** The new IL-4 protein displays similar activity as the original IL-4 protein.
- **Identical Expression System:** Both the original and the new IL-4 proteins are expressed and purified from E. coli.
- **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.



Our new version of R&D Systems™ Recombinant Human IL-4 ([Catalog # BT-004](#)) 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-4.

Figure 1: Analysis of New Human Recombinant IL-4 Protein Bioactivity



New Recombinant Human IL-4 Protein Activity. The bioactivities of the original ([Catalog # 204-IL](#)) and the new ([Catalog # BT-004](#)) Recombinant Human IL-4 proteins were compared using a cell proliferation assay using T11 mouse plasmacytoma cells. Based on this assay, both proteins display similar activity.

Table: Comparison of Original and New Recombinant Human IL-4 Proteins

Specifications	204-IL (Original)	BT-004 (New Version)
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. et al. (1989) J. Cell Physiol. 140:323. The ED50 for this effect is 0.05-0.2 ng/mL.	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. et al. (1989) J. Cell Physiol. 140:323. The ED50 for this effect is 0.04-0.32 ng/mL.
Source	E. coli-derived human IL-4 protein His25-Ser153, with an N-terminal Met	E. coli-derived human IL-4 protein His25 - Ser153, with an N-terminal Met
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
N-terminal Sequence	Met	Met
Predicted Molecular Mass	15 kDa	15 kDa
Pack Sizes	10, 20, 50, 100 µg, 1 mg	10, 50, 100, 500 µg, 1 mg
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS.	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.	<0.10 EU per 1 µg of the protein by the LAL method.