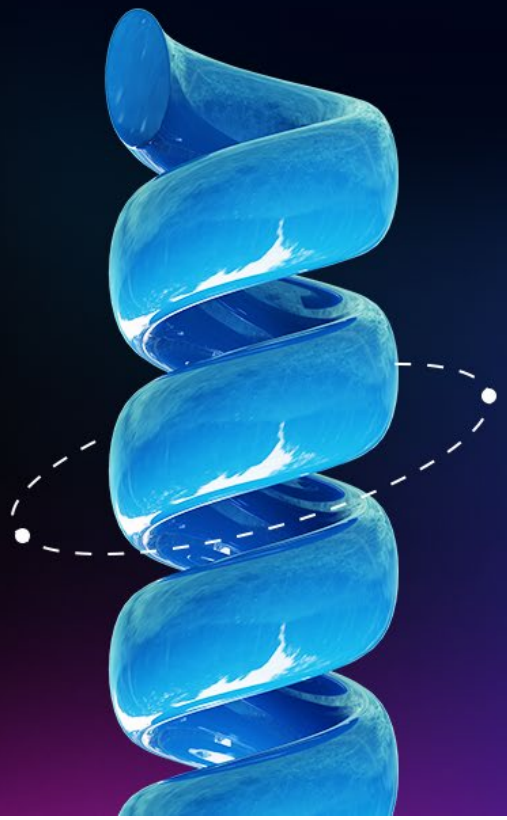
bio-techne®

Redefining Industry Standards

WITH NEXT GENERATION IL-4



Renowned R&D Systems™ quality with Bio-Techne Innovation

For almost 40 years, R&D Systems™, a Bio-Techne brand, has strived to offer high quality proteins to enable your scientific research. Over the years, we continuously improve by incorporating scientific advancements in protein purification and cell culture.

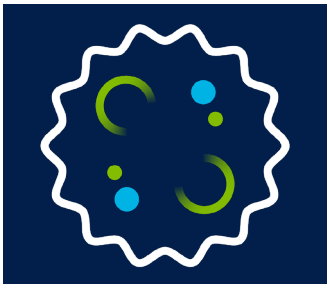
Rather than just meeting industry standards, we're on a mission to define them. Our modernized methods safeguard your access to high-quality recombinant proteins throughout your research journey.

Our **next generation** of cytokines and growth factors merges our renowned quality and innovation, offering you an unparalleled combination of dependability and stability of supply. These best-in-class proteins ensure your research remains at the forefront of progress. Consider our **Next Generation IL-4** (Catalog # BT-004) and explore the key benefits!

Key Benefits of Our Next Generation IL-4 Protein

Increased Supply: Improved manufacturing processes allow for greater scalability & robust supply chain.

Time & Cost-Savings: Cost-effective proteins with larger lot sizes, allowing for less time spent on bridging studies.

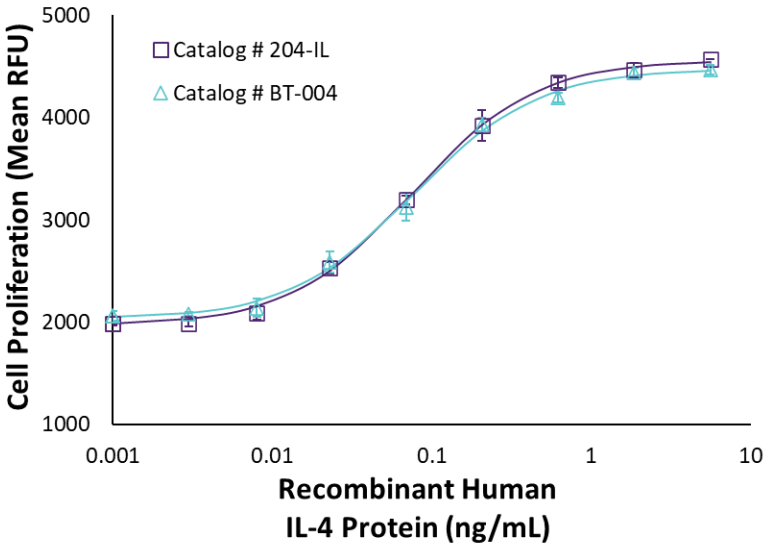


Same Source: Our legacy and next generation proteins are derived from the same *E. coli* expression system.

Equivalent Bioactivity: Our next generation IL-4 protein displays the same activity as our legacy protein.

Learn more | bio-techne.com/proteins/reagents/nextgenerationproteins

Figure 1: Analysis of Next Generation 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 comparing using a cell proliferation assay using T11 mouse plasmacytoma cells. Based on this assay, both proteins display similar activity.

Table: Comparison of Legacy and Next Generation Recombinant Human IL-4 Proteins

Specifications	204-IL (Legacy)	BT-004 (Next Generation)
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. et al. (1989) J. Cell Physiol. 140:323. The ED_{50} 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 ED_{50} 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	>97%, by SDS-PAGE
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.

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