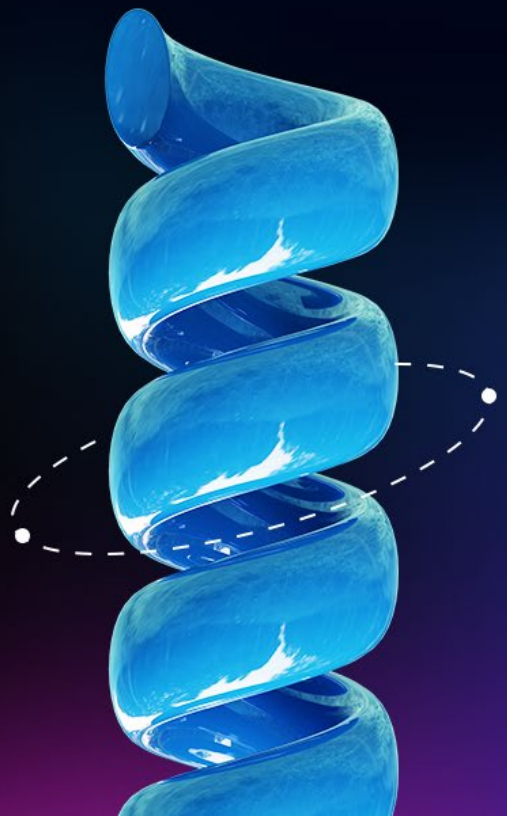
bio-techne®

# Redefining Industry Standards

## WITH NEXT GENERATION IL-12



## 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-12** (Catalog # 10018-IL) and explore the key benefits!

### Key Benefits of Our Next Generation IL-12 Protein

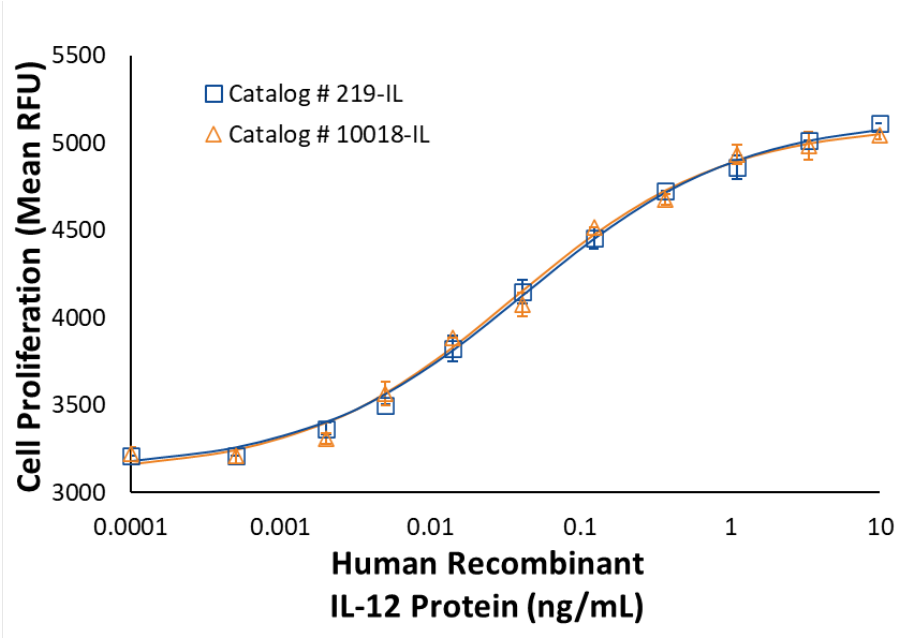
**Increased Supply:** Improved manufacturing processes allow for greater scalability & robust supply chain.

**Equivalent Bioactivity:** Our next generation IL-12 protein displays the same activity as our legacy protein.

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

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

## Figure 1: Analysis of Next Generation IL-12 Protein Bioactivity




**New Recombinant Human IL-12 Protein Activity.** The bioactivities of the original (Catalog # 219-IL) and the new (Catalog # 10018-IL) Recombinant Human IL-12 proteins were compared using a cell proliferation assay using PHA-activated human T lymphoblasts. Based on this assay, both proteins display similar activity.

## Table: Comparison of Legacy and Next Generation Recombinant Human IL-12 Proteins

| Specifications | 219-IL (Legacy) | 10018-IL (Next Generation) |
|---|---|---|
| Activity | Measured in a cell proliferation assay using PHA-stimulated human T lymphoblasts. The $ED_{50}$ for this effect is 0.01-0.05 ng/mL. | Measured in a cell proliferation assay using PHA-stimulated human T lymphoblasts. The $ED_{50}$ for this effect is 0.01-0.05 ng/mL. |
| Source | *Spodoptera frugiperda, Sf*21 (baculovirus)-derived human IL-12 protein. | Human embryonic kidney cell, HEK293-derived human IL-12 protein |
| Purity | >97%, by SDS-PAGE | >95%, by SDS-PAGE |
| N-terminal Sequence | Ile23 (p40) & Arg23 (p35) | Ile23 |
| Predicted Molecular Mass | 34.7 kDa (p40) & 22.5 kDa (p35) | 59 kDa |
| Pack Sizes | 5, 25 µg | 10, 20, 50, 100 25 µg |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS. | Lyophilized from a 0.2 µm filtered solution in PBS. |
| Endotoxin | <1.0 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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