

## Peptide Inhibitors for Viral Infections and as Anti-inflammatory Agents

### Summary (1024-character limit)

IFN-gamma and IL-10 are cytokine signaling molecules that play fundamental roles in inflammation, cancer growth and autoimmune diseases. Unfortunately, there are no specific inhibitors of IFN-gamma or IL-10 on the market to date. The National Cancer Institute seeks parties interested in licensing or collaborative research to co-develop selective IL-10 and IFN-gamma peptide inhibitors.

### NIH Reference Number

E-167-2010

### Product Type

- Therapeutics

### Keywords

- Peptide
- Peptidomimetic
- Synthetic Peptide Inhibitors
- Psoriasis
- Interferon Gamma
- IFN-gamma
- Interleukin

### Collaboration Opportunity

This invention is available for licensing and co-development.

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### Description of Technology

IFN-gamma and IL-10 are cytokine signaling molecules that play fundamental roles in inflammation, cancer growth and autoimmune diseases. Unfortunately, there are no specific inhibitors of IFN-gamma or IL-10 on the market to date.

NCI investigators at the [Cancer and Inflammation Program](#) have synthesized short peptides that selectively interfere with dimerization of the cytokines and their binding to the corresponding receptor.

NCI Technology Transfer Center

<https://techtransfer.cancer.gov/pdf/e-167-2010.pdf>

The peptides include metabolically stable lipopeptides mimicking conserved regions of IL-10 and IFN-gamma receptors that interfere with STAT3 and STAT1 phosphorylation and subsequent signaling. The lipopeptides strongly inhibit STAT3 and STAT1-dependent growth of cancer cells. These compounds are promising drug candidates for the treatment of cancer and many infectious and inflammatory diseases.

### **Potential Commercial Applications**

- Cancer, viral infections and anti-inflammatory treatments
- Dermatological treatment for psoriasis

### **Competitive Advantages**

- Rationally designed and synthesized to be potent, metabolically stable, and more therapeutic
- Highly selective IL-10 and IFN-gamma inhibitors

### **Inventor(s)**

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### **Development Stage**

- Pre-clinical (in vivo)

### **Publications**

Timofeeva OA, et al. [[PMID: 18154267](#)]

### **Patent Status**

- **U.S. Patent Filed:** U.S. Patent Application Number 13/697,259, Filed 19 Dec 2012
- **Foreign Filed:** EP Application No. - Patent Application 11720697.9, Filed 11 May 2010

### **Therapeutic Area**

- Cancer/Neoplasm
- Immune System and Inflammation
- Infectious Diseases
- Skin and Subcutaneous Tissue