

## Peptide Inhibitor for Treating Inflammatory Autoimmune Diseases and Inflammatory Cancers

### Summary (1024-character limit)

The National Cancer Institute's Laboratory of Immune Cell Biology seeks partners interested in licensing or collaborative research to co-develop peptide-based therapeutics for inflammatory autoimmune conditions or inflammatory cancers.

### NIH Reference Number

E-281-2012

### Product Type

- Therapeutics

### Keywords

- Inflammation
- autoimmune
- inflammatory cancers
- p38 map kinase
- Gadd45a

### Collaboration Opportunity

This invention is available for licensing and co-development.

### Contact

- John D. Hewes  
NCI - National Cancer Institute

240-276-5515

[John.Hewes@nih.gov](mailto:John.Hewes@nih.gov)

### Description of Technology

Growth arrest and DNA-damage-inducible protein GADD45 alpha (Gadd45a) is a protein involved in the p38 MAP kinase signaling pathway. Inventors at the NCI have developed a 15 amino acid peptide fragment of Gadd45a that retains the functionality of Gadd45a by inhibiting enzymatic activity of tyrosine-323-phosphorylated p38 *in vitro*. The peptide is modified to make it cell permeable and exhibits minimal toxicity *in vitro*. The fragment readily penetrates T cells to inhibit (a) proliferation in response to T cell receptor-mediated stimulation; (b) skewing of T cells to Th 1 and Th 17 cells; and (c) inflammatory cytokine production. As a result, this fragment has anti-inflammatory properties and has potential as a

therapeutic for inflammatory autoimmune conditions or inflammatory cancers, such as pancreatic cancer.

### **Potential Commercial Applications**

- Treatment for inflammatory autoimmune conditions or inflammatory cancers, such as pancreatic cancer.

### **Competitive Advantages**

- Minimal cellular toxicity

### **Inventor(s)**

[Jonathan Ashwell \(NCI\)](#)

### **Development Stage**

- Discovery (Lead Identification)

### **Patent Status**

- **U.S. Patent Issued:** U.S. Patent Number 9359418

### **Therapeutic Area**

- Cancer/Neoplasm
- Immune System and Inflammation