

## Peptide Antagonists of Tumor Necrosis Factor Alpha

**R**esearchers at the University of South Florida have developed novel methods for the treatment of inflammatory diseases and other severe pathologic conditions that have been associated with Tumor Necrosis Factor (TNF- $\alpha$ ) including malignant cell proliferation and survival.

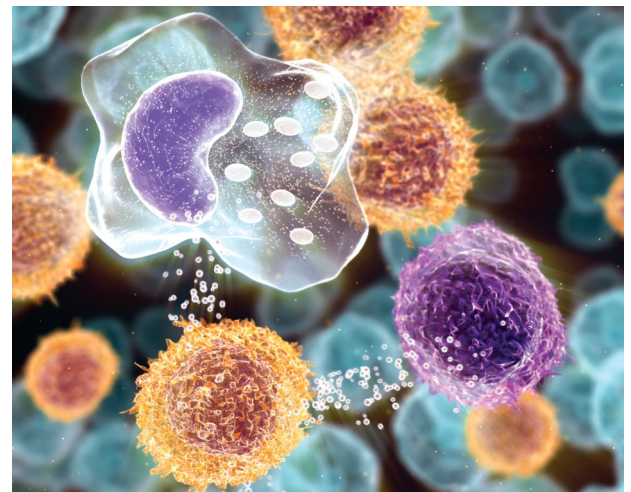
TNF- $\alpha$  has a broad range of effects on different cell types throughout the body. It induces proliferation in some cell types, activation in other cell types and could elicit the release of other cytokines in some cell types. It is described as a major cytokine responsible for the pathophysiology of severe infections and induction of inflammatory changes. Therefore it is of considerable interest and clinical significance to identify compounds that could interfere with the function of TNF- $\alpha$ .

TNF elicits its functions when it binds to TNF type I and/or II receptors. Using a phage display library system to screen for small peptides, USF researchers identified four peptides that alone or in combination competitively bind TNF receptors, thereby blocking and preventing TNF- $\alpha$  functional effects on cells. These peptides have significant clinical application in treating a broad range of inflammatory conditions, arthritis and cancers.

### ADVANTAGES:

- **Portfolio consists of 4 peptides**
- **Reduced toxicity and side effect**

*Peptide Treatment for Inflammatory diseases*



*Cellular responses during inflammation*

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**Patent #: [6,344,443](#)**