

## ACTH, an oral therapeutic peptide for MS

### Advantages of oral therapy for human inflammatory diseases

Administration of immunoactive protein therapeutics orally is advantageous to traditional parenteral administration:

- ease of delivery
- patient convenience
- tolerance
- cost effectiveness
- favorable therapeutic index



### Dr. Brod's research and clinical work:

Dr Brod has translated the concept of oral therapy (ingested type I IFN) from animal models into patient-oriented research in human inflammatory diseases, in particular Multiple Sclerosis, type 1 diabetes and Alzheimer's Disease.

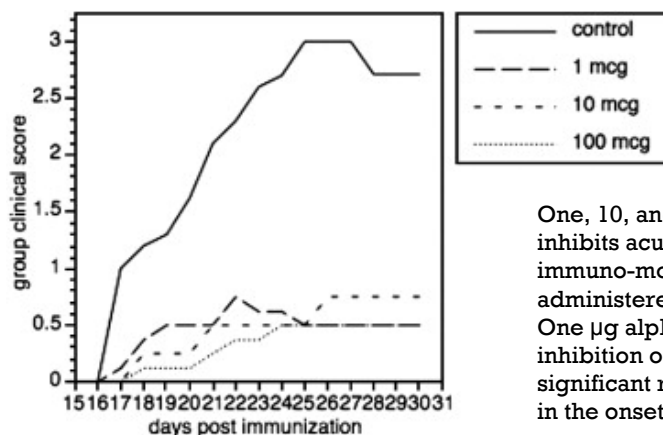
Investigator-initiated phase I-II clinical trials in type 1 diabetes, rheumatoid arthritis (RA) and Alzheimer's disease have resulted from his basic science discoveries.

### ACTH and alpha-MSH Therapies for Treatment of Autoimmune Disease

Our US and PCT patent applications cover methods and formulations for the enteral (e.g., oral) treatment of autoimmune diseases such as multiple sclerosis with polypeptide therapeutics. Enteral therapeutics may comprise monomeric alpha-MSH polypeptides such as adrenocorticotrophic hormone (ACTH) polypeptides. These therapeutic formulations may be used to reduce the incidence or severity of autoimmune disease. For example, studies in an animal model system indicate that oral therapy with alpha-MSH or ACTH may be effective for treating multiple sclerosis.

US 11/874058 & PCT/US2007/081656 - Brod & Hood [J Neuroimmunol](#). 2008 Jan;193(1-2):106-12

The 13-mer N-terminal alpha-MSH peptide sequences: Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-Gly-Lys-Pro-Val-NH<sub>2</sub>



One, 10, and 100 µg ingested alpha-MSH peptide inhibits acute EAE in B6 mice demonstrating the immuno-modulatory capability of orally administered alpha-MSH.

One µg alpha-MSH peptide had significant inhibition of EAE compared to placebo with significant reduction of disease severity and delay in the onset of disease compared to placebo.

**Clayton Biotechnologies, Inc. wishes to license this patent portfolio. For more information, please contact our business development unit:**

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