



# N-Acyl Amino Acid Conjugates as Anti-Inflammatory and Analgesic Agents

Keywords: Endocannabinoids, Pain, Inflammation,

## Applications

Novel compounds for anti-inflammatory and analgesic uses.

## Background

N-arachidonylglycine (NAGly), an endocannabinoid, is a natural constituent of many mammalian tissues and has been reported to have analgesic properties. NAGly causes an elevation of the plasma levels of the neuroregulatory agent anandamide in rats suggesting that

NAGly may be an endogenous regulator of anandamide. Anandamide has been reported to mediate analgesia as well as several other diverse physiological processes in a variety of experimental models. Furthermore, NAGly has a strong inhibitory effect on the transcription factor NFκ-B which regulates the expression of many inflammatory cytokines.

## Technology

UMass Medical School investigators Drs. Burstein and Zurier are studying a novel family of proprietary N-fatty acid-amino acid conjugates derived from NAGly, referred to as elmiric acids, which can be used for treating inflammation and pain. Elmiric acids function by regulating the levels of anandamide *in vivo*, possibly due to its ability to inhibit FAAH.

## Patents Pending US and National Phase

## Salient Features and Competitive Advantages

- ✚ **Novel, synthetic amino acids conjugated to various long chain fatty acids for use as anti-inflammatory and analgesic agents.**
- ✚ **Novel Analgesics:** Reduce pain following tissue injury, reduce postoperative pain, and alleviate chronic pain states.
- ✚ **Novel Anti-inflammatory agents:** These compounds show potential use for treating diseases such as rheumatoid arthritis, meningitis, systemic lupus erythematosus, multiple sclerosis, allergic reactions, and psoriasis.
- ✚ **Derived from Natural Products:** These compounds are related to endocannabinoids and demonstrate low levels of toxicity and no psychoactivity.

## Business Opportunity

UMass OTM is seeking statements of interest from parties interested in collaborating and/or sponsoring collaborative research as well as licensing opportunities to further develop, evaluate, or commercialize this technology.

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