Docket #: S17-383

Improved Analogs of CMKLR1 Antagonist alpha - NETA Suppress Psoriasis

Psoriasis is a chronic skin inflammatory disease that affects 7.5 million people in the US and accounts for $1.2 billion in annual direct medical costs. There are no known cures for psoriasis; current treatment options are not efficacious in all patients or beneficial for all aspects of the disease and can have severe side effects. Chemokine like receptor 1 (CMKLR1) is expressed by pro-psoriatic white blood cells and binds attractant chemerin, which is upregulated in psoriatic skin. 2-(alpha-naphthoyl) ethyltrimethylammonium iodide (alpha-NETA) is a small molecule CMKLR1 antagonist we discovered that suppresses autoimmune demyelinating disease in vivo. Here we show that oral administration of alpha-NETA and novel alpha-NETA analogs we discovered significantly suppress psoriasis in a preclinical mouse model that mimics many of the key features of human psoriasis. Thus alpha-NETA and its improved analogs hold great translational potential to reduce the impact of psoriasis on public health.

Applications

- Psoriasis suppression

Advantages

- Selectively targets the trafficking of key inflammatory cell subsets

Patents

- Published Application: 20200345661
- Issued: 11,730,705 (USA)

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