A new method for treating chronic itch

Value proposition
Cutaneous T-cell lymphomas (CTCL) are the most common primary skin lymphomas, and clinically, about 90% of CTCL patients suffer from severe chronic itch. This significantly impacts patients' emotional, functional, and psychological well-being. In patients with lymphomas, pruritus is frequent, severe, and unrelieved by emollients, topical steroids, or oral antihistamines. Thus, there is an urgent demand for the development of new anti-itch therapeutics.

Technology
Researchers at Duke and UNC have identified a new method for treating chronic itch after lymphoma intended to treat CTCL patients. This is accomplished by targeting microRNA-711 and its interaction with TRPA1 ion channel. Disruption of the microRNA-711 and TRPA1 ion channel interaction with a blocking peptide alleviates chronic itch. This technology was demonstrated in mouse models.

Other applications
Patients with chronic itch from other conditions such as eczema, psoriasis, viral infections, and opioid treatments may also benefit from this discovery.

Advantages
- Identifies microRNA-711 inhibitors as a new anti-itch treatment strategy for cutaneous T-cell lymphoma patients
- May offer effective and safer therapies for lymphoma-associated chronic itch
- Could be a treatment strategy for other sources of chronic itch

Publications
- miRNA-711 binds and activates TRPA1 extracellularly to evoke acute and chronic pruritus (Neuron, 2018)