Exploring the medicinal properties of tūpākihi rongoā

Scholarship recipient: Matija-Taaitoa Sucich[1, 2, 3]
Mātauranga/Tohunga: Eileena Sucich[2], Jewel Sucich[2]

Supervisors: Natalie Netzler[1, 3], Kimiora Henare[1, 3], Peter Shepherd[1, 3]
Department of Molecular Medicine & Pathology, Waipapa Taumata Rau,
Tamaki Makaurau, Aotearoa New Zealand
[2]Ngāti Kuri, Tai Tokerau, Aotearoa New Zealand
[3]Maurice Wilkins Centre of Research Excellence, Aotearoa New Zealand

Tūpākihi (*Coriaria arborea*) also known as tutu, is a taonga species in Aotearoa with powerful medicinal effects. Tūpākihi has been used for centuries by our tūpuna and whānau as a rongoā Māori to treat inflammation, eczema, relieve pain, address strains, and promote healing in bone fractures. While some biomedical studies have investigated *Coriaria* plant species in other nations, there remains very limited scientific exploration into novel medicinal uses of tūpākihi rongoā, particularly from a rongoā Māori perspective, or to understand the mechanisms behind its medicinal properties. This existing knowledge gap is what our study aims to address, thus broadening the scientific and cultural understanding of tūpākihi as a rongoā.

Our project aims to preserve and expand our mātauranga of tūpākihi rongoā by identifying potential novel uses. The research has been co-designed with tohunga rongoā from Te Hapua, my grandmother, Mama Jewel Sucich, and my Aunty, Eileena Sucich, and is carried out in partnership with my whānau and Ngāti Kuri Iwi. Together, we are investigating the potential antiviral and anticancer effects of tūpākihi, as well as gaining a deeper understanding the mechanisms of anti-inflammatory activities of this rongoā.

This research incorporates kaupapa Māori frameworks to study a taonga species and demonstrates how indigenous knowledge systems can guide biomedical research. By working alongside whānau, iwi, and sharing with our Te Hapua community, the mahi we are doing helps to preserve and expand intergenerational mātauranga while ensuring our research practices uphold tikanga, transparency, and kaitiakitanga.

Although the project is still ongoing, we are using a range of lab-based methods to assess the bioactivity of tūpākihi extracts in three key areas: viral infection, cancer and inflammation. We have developed tikanga-based protocols for handling our rongoā in the lab, ensuring our whānau and Iwi partners remain informed about all aspects of the mahi. To date, we have examined the antiviral effects of tūpākihi using viral culture. We are currently examining the effects of tūpākihi extracts on the growth of cancer cell lines and upcoming work will look at the effects of treatment on immune cell signalling to better understand its anti-inflammatory activities.

This project strengthens Aotearoa's research capability in infectious diseases by supporting my development as an emerging Māori and Pacific researcher in the virology and cancer fields, while generating new knowledge about a native taonga species in partnership with my community. The project strongly aligns with New Zealand's Health Research Strategy as we strive for research excellence and are built on transparency, partnership with Māori, and collaboration for impact. It directly contributes to *Action 2: Invest in research for healthy futures for Māori*, by grounding our research in mātauranga Māori, kaupapa Māori methodologies, and active engagement with whānau, hapū and Iwi, ensuring Māori research priorities. Additionally, the project contributes to future pandemic preparedness by strengthening relationships between our rural community and researchers, building culturally safe research practices, and enhancing Māori capability to engage in health and infectious-disease-related research.