



Kathleen C. M. Campbell

D-methionine (D-met) as a Protective Agent: From Bench to Bedside

The Technology

D-met protects against radiation-induced oral mucositis, cisplatin-induced ototoxicity and other cisplatin side effects, aminoglycoside-induced hearing loss, and noise-induced hearing loss. We have completed successful small scale Phase 2 clinical trials for radiation-induced oral mucositis and cisplatin-induced hearing loss which have shown significant protection with oral D-met administration.

D-met also provides partial protection from aminoglycoside-induced hearing loss with no antimicrobial interference in animal studies. D-met protects against noise-induced hearing loss if given before, during or even when first started up to 7 hours after noise-cessation. It also protects if only given prior to the noise, even if stopped one day prior to the noise exposure.

The US Department of Defense (DoD) has funded our clinical trials to test oral D-met to prevent permanent noise-induced hearing loss in soldiers during weapons training. In addition, the DoD has funded work in our lab to determine if we can extend the effective rescue period for noise induced hearing loss and to determine optimal dosing for steady state and impulse noise exposures.

We have received Food and Drug Administration (FDA) approval to proceed with our clinical trials. In addition, the Gynecologic Research Group (GoG) has approved our cisplatin otoprotection protocol for multicenter clinical trials and we are currently designing those studies. Our research program is currently funded by the National Institutes of Health and the DoD.

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Dr. Campbell worked as a clinician for over 2 decades but now conducts full time research. She has published 2 textbooks and over 200 abstracts, manuscripts, and book chapters. She consults with Pharmaceutical Companies and the Food & Drug Administration on ototoxicity issues. Her current funding from the US Department of Defense and National Institutes of Health exceeds 6 million US dollars.