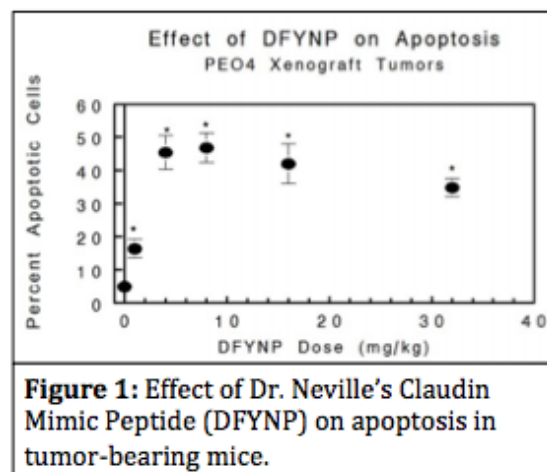


Background on CU1693H

Claudin-4 is a transmembrane protein expressed at high levels in the majority of epithelial ovarian tumors, irrespective of subtype; it is often found in highly mobile tumor cells that are resistant to apoptosis (programmed cell death). Previous work using a toxin called “CPE” as a tumor killing drug targeting claudins showed several limitations in that CPE (1) is unstable, (2) is immunogenic, (3) induces necrosis (tissue death).

Technical Innovation

Dr. Neville and her team have developed a novel Claudin-Mimic Peptide (CMP) that disrupts the claudins expressed at high levels in many epithelial tumors and initiates a cellular signaling cascade that inhibits proliferation and activates apoptosis. In addition, CMP overcomes the issues associated with CPE in that it is not degraded, it does not induce an immune response, and does not cause the tissue to undergo necrosis. Preliminary studies using CMP in an ovarian mouse model also demonstrated significantly slowed tumor growth, a seven-fold increase in cellular removal and apoptosis, integrity of tight junctions, and a lack of liver toxicity at all tolerated doses. Further experimentation examining potency of the claudin peptide in vitro demonstrated 100% apoptosis, achieved at a 2mM claudin concentration. The peptide’s specificity has been determined and additional animal model studies have been performed to characterize efficacy and toxicity. Studies have shown that treatment of ovarian tumor cells with 400 μM CMP can significantly inhibit proliferation, induce apoptosis, and reduce cell migration. Additionally, CMP significantly enhanced tumor cell response to paclitaxel, a chemotherapy drug.



*US Patents: US8,563,515 and US9,067,968—"Tight Junction Protein Modulators and Uses Thereof"—Granted 103 and 2015.

Product

Claudin-Mimic Peptide (CMP)

Indication

Ovarian Cancer

Value Propositions

- ▶ Increases cellular removal and apoptosis
- ▶ Slows ovarian tumor growth
- ▶ No observed toxic effects



Market

- ▶ \$1.8 Billion—Ovarian Therapeutic Market Size in 2018 (CAGR of 14.4% through 2028)

Intellectual Property

- ▶ US Patents Issued*
- ▶ Available for Licensing

Contact

Jeff Walenta
jeffrey.walenta@cuanschutz.edu

Ref# CU1693H

t. 303-724-0220
innovations.ucdenver.edu