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Comparing novel cannabinoid analogues vs known cannabinoid analogues

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Comparing novel cannabinoid analogues vs known cannabinoid analogues: Diffuse large B-cell lymphoma (DLBCL) and mantle cell lymphoma (MCL) represent the most common and most aggressive forms of Non-Hodgkin lymphoma (NHL) respectively. Previous work has demonstrated CB1 antagonists as potential therapeutics for both DLBCL and MCL. Our drug formulation VYR-206 was developed from existing obesity treatment rimonabant, a CB1 antagonist, by the addition of our tetraazacyclic (N4) conjugate derivative, allowing the potential for image guided theranostic application for diagnosis, precision and assessment of therapeutic response through radiotracer chelation. Our study aims at comparing our novel conjugate formulation VYR-206 activity in DLBCL and MCL cell lines to its precursor rimonabant. Cells from representative DLBCL and MCL cell lines were plated at 5,000 cells per well. The cells were incubated for 72 hours in 20 µL medium with 10% FBS and varied concentrations of experimental cannabinoid antagonist VYR-206, rimonabant, or dimethylsulfoxide (DMSO) vehicle. Viability assays were conducted using Celltiter-Glo Luminescent Cell Viability Assay. Experiments were performed two-three times independently, with concentration tested in triplicate. Data shows nearly overlapping curves in most cell lines for both DLBCL and MCL, with viability reduction at approximately 30 µM and 0% of control at 100 µM for both drugs. Cell lines identified as CJ and TMD-8 from DLBCL showed a reduced response to VYR-206, with viability unable to fall below 100% of control in the previous data. MCL cell lines identified as JMP-1 and Rec-1 failed to decrease viability pass 75% at concentrations of 100 µM in previous data.

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