

**P-045: QUANTITATIVE DETERMINATION OF β -GLUCAN CONSTITUENTS
IN *TRAMETES VERSICOLOR***

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Trametes versicolor (L.:Fries)Pilát (Turkey Tail Mushroom, Tv) is a polyporaceous basidiomycete that is widely used as an immune-stimulating dietary supplement. The immunoactive constituents are thought to be 1,3- β -D-glucans (BG). We investigated the use of a glucan-specific assay based on a modified coagulation pathway in *Limulus amoebocyte* lysate, for the quantitative determination of BG levels in extracts of Tv mycelia and fruiting bodies, and commercial dietary supplements. Various extraction methodologies were investigated to liberate the BG from the fungal biomass and obtain maximum solubility. Additionally, we used zymolyase, a glucanase selective for 1,3- β -D-glucans to enzymatically degrade BG in mushroom extracts to produce BG-subtracted Tv preparations. However, both the primary Tv preparations and the zymolyase enzyme were found to be contaminated with endotoxin, which can lead to false-positive results when assessing the BG-mediated immunomodulatory activity of Tv preparations in vitro using NK cell assays. We utilized a polymyxin B affinity resin to reduce endotoxin in the enzyme and Tv preparations prior to NK cell assay. These methodologies provide useful analytical tools for mechanistic studies of the immunomodulatory activity of Tv, and for the quantitative determination of BG in commercial dietary supplements.