



PRODUCT EFFICACY

The efficacy of beta glucans can vary significantly depending on the molecule structure and solubility. The immune enhancing effect of one dietary supplement containing beta glucans compared to another is therefore not necessarily the same. The bioactive beta glucans in Fluxome® Beta Glucan (FBG) has been developed in order to provide completely intact molecules with a very high immune enhancing effect.

In order to confirm Fluxome® Beta Glucan potency compared to other commercial beta glucan products a comparative in vitro study was conducted.

Fluxome® Beta Glucan was compared to a number of other beta glucan products available in the US supplement retail market.

The Study

All reference products were powder dosage forms represented by either tablet or capsule formulations. The reference products were first boiled in water for 60 minutes in order to break open the cell wall and thus release the active beta glucans. The debris was subsequently removed by filtration, leaving a liquid containing the beta glucan present in the powder.

The beta glucan concentration was measured and compared to Fluxome® Beta Glucan. Stimulation of Interleukin 1a (a standard indicator of immune response) with a mouse cell line (one of the most common cell line used for in vitro experiments of this type) was subsequently measured.

Finally, the immune responses were correlated with the concentrations of beta glucan in the test liquids.

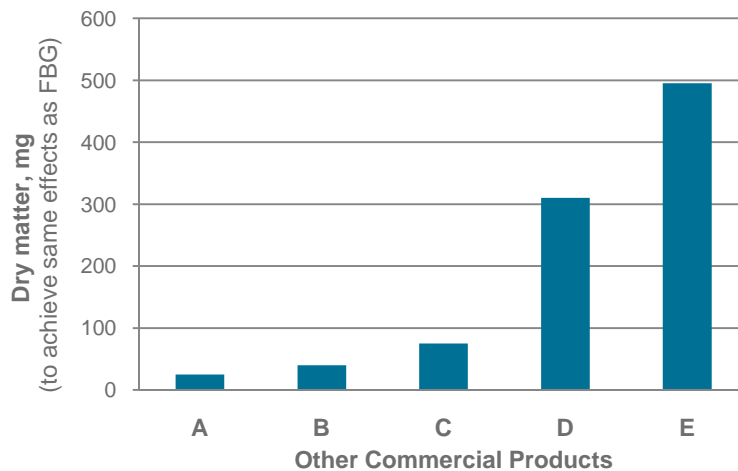
Results

Efficacy

As indicated in the graph below, Fluxome® Beta Glucan proved to have a significantly higher immune response in comparison to the reference beta glucan products included in the test. Graph 1 illustrates the volume equivalence (mg) of the reference products required in order to achieve the same immune response as obtained with 1 g Fluxome® Beta Glucan – equivalent to 1 mg of bioactive material.

The findings in this study suggest that the immune stimulating effect obtained with Fluxome® Beta Glucan is between 25 and 500 times as high as the effect, which in this study could be achieved by the active beta glucan material present in the reference products.

Graph 1 – Fluxome vs. commercial reference products. Amount of other product required to obtain the same immune response as with 1 mg of bioactive beta glucan from Fluxome® Beta Glucan. Immune response was measured by stimulation of Interleukin 1a with a mouse cell line.



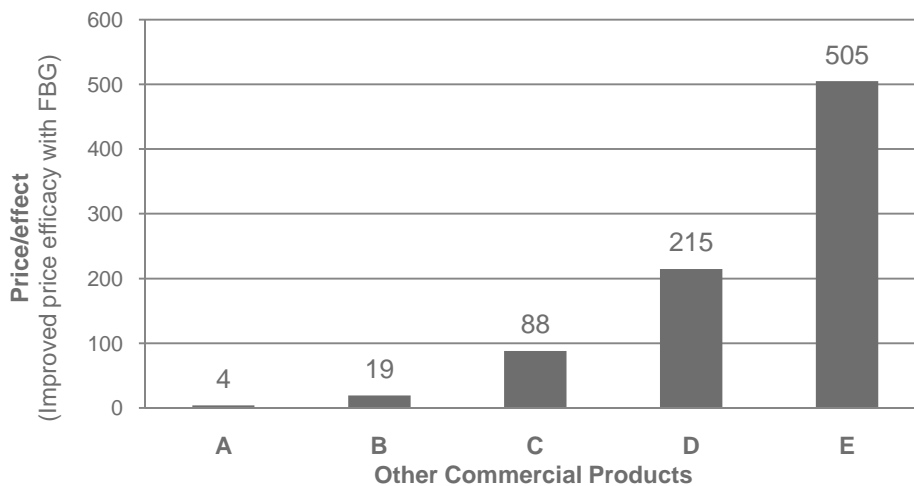
Source: GlycaNova Norway AS, April 2008

Price Efficacy

The comparison of retail price per daily dosage and the efficacy of the beta glucans in the reference products (graph 1) enable the measuring of the price/effect factor of Fluxome® Beta Glucan compared to the reference products.

Graph 2 illustrates the price/effect difference between Fluxome® Beta Glucan and the commercial reference products. It shows that Fluxome® Beta Glucan is between 4 and 505 times more price-efficient than the reference products. I.e. For the same price Fluxome® Beta Glucans provides an immune enhancing effect, which is between 4 and 505 times as high as the commercial reference products.

Graph 2 – Price efficacy of Fluxome® Beta Glucan. Retail price (daily dosage) difference compared to efficacy difference of FBG and commercial reference products. Numbers indicate how many times more price-efficient FBG is.



Source: GlycaNova Norway AS, April 2008; Retail prices as indicated online March 2010

Conclusion

The bioactive beta glucans in Fluxome® Beta Glucan has a significantly higher efficacy level and thus immune stimulating effect, when compared to the commercial reference products included in this study. Based on a comparison of relative price with relative immune stimulating effect, Fluxome® Beta Glucan furthermore proved to be more price-efficient than the tested reference products

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