



Composition and Biological Activity of Tea Polysaccharides Obtained by Water Extraction and Enzymatic Extraction

Xinlin WEI¹, Zhiwei YANG¹, Yanhong GUO¹, Jianbo XIAO^{1,2} & Yuanfeng WANG^{1*}

¹ *Institute of Food Engineering, College of Life & Environment Science,
Shanghai Normal University, 100 Guilin Rd, Shanghai 200234, PR China*

² *Department of Nutrition, Faculty of Health and Welfare, Okayama Prefectural University,
Kuboki 111, Soja, Okayama 7191197, Japan*

SUMMARY. The composition and biological activities of tea polysaccharides (TPS) obtained by traditional water extraction, boiling water extraction and enzymatic extraction were investigated. Boiling water extraction (100 °C for 2 h) was found to be the optimal method with higher yield of TPS (1.91%) consisting of higher contents of neutral saccharides (57.82%) and acid saccharides (26.95%) with lowest protein content (3.06%). TPS obtained by boiling water extraction exhibited a strong inhibitory effect on α -glucosidase with the inhibitory rate of 86.67%. The inhibitory effect of TPS on α -glucosidase increased with increasing neutral polysaccharides content in TPS. TPS obtained by boiling water extraction (50 μ g/mL) had very strong proliferation effect on lymphocyte.

KEY WORDS: Enzymatic extraction, α -Glucosidase, Immunological activity, Tea polysaccharides, Water extraction.

* Author to whom correspondence should be addressed. *E-mail:* foodlab2010@yahoo.com.cn