**Structural properties of** ***Bletilla striata* polysaccharide and the synergistic gelation of polysaccharide and xanthan gum**

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*Bletilla strata* polysaccharide (BSP) has been attracting increasing attention because of its numerous bioactive. In this study, BSP was obtained by water-extraction and ethanol-precipitation, and its structure and synergistic interaction with xanthan gum (XG) were then investigated. BSP was identified as a highly linear polymer with a weight average molecular weight (*M*w) of 323.7 kDa, whose ratio of mannose to glucose was 2.4:1.0. It consisted of β-(1 → 4)-Man*p* and β-(1 → 4)-Glc*p*, as well as a small amount of β-(1 → 3)-Man*p* as the backbone, terminated by T-Man*p* residues. Moreover, it was also substituted by a small number of *O*-acetyl groups at C-3 position of →4)-Man*p*-(1→ residue. Despite the poor gelling ability of BSP itself, it could form a firm and thixotropic gel when mixing with xanthan gum (XG). Upon cooling, irrespective of the mixing ratio, all BSP/XG mixtures exhibited a steep increase in G′ at ~63℃, which was defined as the onset temperature of the synergistic gelation. On heating, all gels melted at 63℃, without detectable thermal hysteresis. The most pronounced synergistic interaction occurred at BSP/XG ratio = 5:5. Overall, this study provides new knowledge about the structure of BSP and its synergistic interaction with XG. Especially, the thixotropy of the mixed gels may find usefulness in formulating easy-to-swallowing food products.