

15. Production of oligosaccharides by utilizing phosphorolytic enzymes

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Phosphorolytic enzymes that act on carbohydrates are interesting enzymes not only in terms of their basic properties but also in regard to their various applications. However, they have not been studied in as much detail as other types of enzymes such as the hydrolases and the synthases. Phosphorolytic enzymes have attracted attention because of their application in the synthesis of carbohydrate chains, exploiting their strict regio-specificities. In addition, a number of new phosphorolytic enzymes have been discovered recently. In this presentation, the applications of the phosphorolytic enzymes are described in an overview of the research that we have performed on this interesting class of enzymes. The possibility of the production of biologically functional sugar chains at a cost applicable for food ingredient will be discussed.