**Captions of Figures and Tables**

Figure 1 Phylogenetic tree of DSI 2 thermophilic bacterial isolate based on 16S rRNA genes profile.

Figure 2 Electropherogram of DSI 2 endoglucanase gene PCR product.

L = 1 kb DNA marker, NTC = no template control.

Figure 3 Electropherogram of construct confirmation by digestion with BamHI (a) and PCR (b).

L = 1 kb DNA marker, K = pET-EgDSI2, C = control pET-32b without gene insertion, NTC = no template control.

Figure 4 Predicted positions of α-helix and β-strand in DSI 2 thermostable endoglucanase.

Figure 5 Prediction of the 3D structure model of DSI 2 thermostable endoglucanase.

The bluer the color the closer to the N terminus, and the redder the color the closer to the C terminus.

Figure 6 The domain architecture of DSI 2 termostable endoglucanase.

The active sites are indicated by red signs.

Figure 7 Amino acid composition of DSI 2 thermostable endoglucanase.

Table 1 Source strains of the amino acid sequence of endoglucanase used for the primers design.

Table 2 Bioinformatics programs used for in silico analysis of the nucleotide and amino acid sequences of DSI 2 endoglucanase.

Table 3 The ratio of the clear zone diameter to the bacterial colony diameter.

Table 4 Homology/identity of nucleotide/amino acid sequence of DSI 2 thermostable endoglucanase with sequences in the GenBank database.

Table 5 Comparison of amino acid compositions of DSI 2 thermostable endoglucanase with one thermostable and two thermolabile endoglucanases