

论文

Lp-1643蛋白单一结构域的黏附功能研究

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摘要:

从植物乳杆菌KLDS 1.0320中克隆出Lp-1643蛋白N端的第一个结构域基因, 与表达载体pET30a连接后成功构建重组质粒pET30a/N1。重组质粒转化大肠杆菌BL21后, 以IPTG进行诱导, 重组蛋白以可溶形式成功获得表达。通过亲和色谱技术用HisTrap FF柱对重组蛋白进行了分离纯化。以BSA作为对照, 研究了重组蛋白His-N1对KLDS 1.0320菌株黏附Caco-2细胞的影响, 发现用该重组蛋白预处理Caco-2细胞之后, 其上黏附的KLDS 1.0320数量显著减少(P<0.05)。这说明Lp-1643蛋白N端的第一个结构域具有黏附Caco-2细胞的功能。

关键词: 植物乳杆菌 Lp-1643蛋白 黏附 Caco-2细胞

Adhesion capacity of the single domain of Lp-1643 protein

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Abstract:

The gene coding for the first domain of the N terminus of Lp-1643 protein was amplified from KLDS 1.0320 genome. An expression vector designated pET30a/N1 was constructed. The recombinant protein was highly expressed in the strain E. coli BL21 induced by IPTG. Affinity chromatography with HisTrap FF column was used to separate and purify the recombinant protein of His-N1. Influences of the recombinant protein His-N1 on adhesion capacity of strain KLDS 1.0320 to Caco-2 cells were studied with BSA as a negative control. It was found that the numbers of KLDS 1.0320 adhering to Caco-2 cells pretreated by His-N1 dramatically decreased. This result indicates the single domain of Lp-1643 protein can adhere to Caco-2 cells.

Keywords:

Lactobacillus plantarum Lp-1643 protein adherence Caco-2 cell

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