脂多糖保守表位模拟肽的筛选与鉴定

Screening and Identification of Mimotopes for Lipopolysaccharide Conservative Epitope from Random Phage Display Peptide Library

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中文摘要：

　　用针对脂多糖保守表位的单抗2B4对噬菌体随机12肽库进行亲和筛选，通过噬菌体ELISA实验及脂多糖(LPS)竞争抑制实验鉴定阳性克隆.经三轮筛选后，与抗体结合的噬菌体得到明显富集，噬菌体ELISA结果显示，阳性率达80%.将其中12个阳性噬菌体克隆做鼠伤寒杆菌和大肠杆菌LPS竞争抑制实验，抑制作用非常明显，有良好的剂量依赖关系，证明这12个克隆与LPS具相似表位.DNA测序并推导噬菌体展示肽的氨基酸序列为，GPPQWFFSQPQL（5/12，41.7%），LPQYFWNTATTA（3/12，25%），FPQNHWNVPWAT（2/12，16.6%），HSQSFWNAPLAM和AHPWTHGYFPPL（1/12，8.3%).实验结果表明，用2B4抗体筛选到的噬菌体短肽克隆可模拟保守表位，即脂多糖的模拟肽（位）.

英文摘要：

　　To screen and identify the mimotopes for lipopolysaccharide(LPS) epitope, a random phage displayed dodecapeptide library was screened with a monoclonal antibody 2B4 specifically against LPS conservative epitope. The positive clones were identified by phage ELISA and competitive inhibition assay by either *S.typhi* T8-61 LPS or *E.coli* O111:B4 LPS. After three rounds of biopanning,the clones binding with 2B4 antibody were well enriched with positive rate of 80%. The bindings between 12 of positive phage clones and screening antibody were competitively inhibited by the two kinds of LPS,indicating that the positive clones have similar epitope with LPS. The positive peptide sequences were deduced from the corresponding DNA sequences. There were identical sequences among them. The sequences were GPPQWFFSQPQL （5/12，41.7%），LPQYFWNTATTA （3/12，25%），FPQNHWNVPWAT（2/12，16.6%），HSQSFWNAPLAM and AHPWTHGYFPPL （1/12，8.3%） respectively. The results demonstrate that the peptides screened with 2B4 antibody are mimotopes for LPS conservative epitope.

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