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遍在蛋白质-结核MPT64融合基因DNA疫苗的构建及免疫效应 [点此下载全文](#)

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摘要:

目的: 用遍在蛋白质调节结核杆菌单一抗原DNA疫苗, 以期获得更强的免疫保护。方法: 构建结核杆菌MPT64抗原DNA疫苗(pM)和遍在蛋白质基因与MPT64抗原基因融合的DNA疫苗(pUM)。分别将构建的两种DNA疫苗肌内注射免疫BALB/c雌性小鼠, 检测小鼠的血清抗体(IgG、IgG1、IgG2a)、细胞因子(IFN  $\gamma$ 、IL 4)和细胞毒性T淋巴细胞(CTL)反应, 比较融合基因DNA疫苗和单基因DNA疫苗诱导的免疫应答强度。结果: pM组小鼠血清IgG水平高于pUM组(P<0.01), 但IgG2a/IgG1比值低于pUM组(P<0.05)。与pM组相比, pUM组小鼠IFN  $\gamma$ 分泌水平增高(P<0.01), IL 4分泌水平下降(P<0.01); pUM组的CTL活性高于pM组。提示融合基因DNA疫苗诱导的抗原特异性体液免疫应答不及单基因DNA疫苗, 但其能诱导更强的细胞免疫应答。结论: 遍在蛋白质 MPT64融合基因DNA疫苗对于防治结核病可能比单基因DNA疫苗更为有效。

关键词: [结核分枝杆菌](#) [MPT64抗原](#) [DNA疫苗](#) [遍在蛋白质](#) [免疫应答](#)

Construction of ubiquitin Mycobacterium tuberculosis MPT64 fusion gene DNA vaccine and its cellular immunological efficacy in mice [Download Fulltext](#)

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Abstract:

Objective: To modify the mono antigen DNA vaccine of Mycobacterium tuberculosis with ubiquitin, so as to obtain more potent immune response. Methods: We constructed Mycobacterium tuberculosis MPT64 antigen DNA vaccine (pM) and ubiquitin MPT64 fusion gene DNA vaccine (pUM). The constructed DNA vaccines were intramuscularly inoculated into female BALB/c mice separately. The serum antibodies (including IgG, IgG1, and IgG2a), cytokines (IFN  $\gamma$ , IL 4) and cytotoxic T lymphocyte (CTL) response were determined in immunized mice. Results: The IgG level in the pM group was higher than that in the pUM group (P<0.01) and the ratio of IgG2a/IgG1 in the pM group was lower than that in the pUM group ( $[2.16 \pm 0.3]$  vs  $[4.48 \pm 0.4]$ , P<0.05). The IFN  $\gamma$  level was higher (P<0.01) and the IL 4 level was lower (P<0.01) in the pUM group than those in the pM group. Furthermore, the pUM group had higher CTL activity than the pM group. It was indicated that the fusion gene DNA vaccine induced weaker humoral immune response but stronger cellular immune response compared to single gene DNA vaccine. Conclusion: The fusion gene DNA vaccine constructed in the present study might be more effective for prevention against tuberculosis than the single gene DNA vaccine.

Keywords: [Mycobacterium tuberculosis](#) [MPT64 antigen](#) [DNA vaccine](#) [ubiquitin](#) [immune response](#)

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