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病例报告

恶性疟原虫融合抗原PfCP-2.9的单克隆抗体制备及功能分析

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摘要
目的 制备恶性疟原虫（FCC1/HN株）融合抗原PfCP-2.9的单克隆抗体，分析其生物学特性及功能。 方法 用PfCP-2.9免疫BALB/c小鼠，取其脾细胞及SP2/0骨髓瘤细胞在聚乙二醇（PEG1500）作用下进行融合，制备单克隆抗体，并分析其特性。 结果 获得1株能分泌抗PfCP-2.9的小鼠杂交瘤细胞株单克隆抗体F12D，经免疫球蛋白类型和亚类鉴定为IgG1。ELISA和蛋白质印迹法（Western blotting）显示单克隆抗体F12D能与PfCP-2.9发生特异性反应，F12D所识别的PfCP-2.9抗原表位不能耐受还原剂巯基乙醇，表明F12D识别的是构象表位。间接免疫荧光试验（IFA）显示F12D可识别培养的FCC1/HN。体外抑制试验结果显示，F12D终浓度为0.3 mg/ml时，对FCC1/HN的抑制率为56%。 结论 单克隆抗体F12D能与PfCP-2.9发生特异性反应，其所识别表位为构象表位，F12D可识别体外培养的FCC1/HN，并对其生长具有抑制作用。

关键词 恶性疟原虫 疟疾疫苗 单克隆抗体 免疫显性表位

分类号

Preparation and Characterization of Monoclonal Antibody Specific to PfCP-2.9 Chimeric Protein of *Plasmodium falciparum*

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Abstract
Objective To prepare and characterize monoclonal antibody against a malaria vaccine candidate， PfCP-2.9 chimeric protein of Plasmodium falciparum. Methods BALB/c mice were immunized with PfCP-2.9，and the spleen cells were used for fusion with SP2/0 cells. The monoclonal antibodies were analyzed by ELISA，Western blotting as well as growth inhibition assay. Result A monoclonal antibody was obtained. It interacted with the PfCP-2.9 recombinant protein by ELISA and Western blotting. The interaction of the monoclonal antibody with the protein was reduction-sensitive，indicating that the antibody recognized a conformational epitope. Moreover，the antibody also recognized the cultured parasites of P.falciparum by indirect immunofluorescent antibody test （IFA）. When tested by growth inhibition assay，the antibody significantly inhibited parasite growth in vitro of 56% inhibition rate at the antibody concentration of 0.3 mg/ml. Conclusion A monoclonal antibody against PfCP-2.9 malaria vaccine candidate has been obtained，which recognizes a conformational epitope of the protein and natural protein.

Key words *Plasmodium falciparum* Malaria vaccine Monoclonal ntibody Immunodominant epitopes

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