

## 血红蛋白Andrew-Minneapolis:结构和功能研究

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收稿日期 修回日期 网络版发布日期 接受日期

**摘要** 在广西桂林一妇女中发现一种快速泳动的血红蛋白变型。该家系有7名成员为这种异常血红蛋白的杂合子, 并且都表现出红细胞增多症。异常血红蛋白的含量约为50%, 化学结构分析 证明,  $\beta$ 144(HC1)位的赖氨酸被门冬酰胺所替代, 称为血红蛋白Andrew-Minneapolis( $\beta$ 144 [HC1] Lys→Asn)。血红蛋白氧解离曲线表明这是一种氧亲和力升高的异常血红蛋白, 其新鲜溶血液的P50为3.60mmHg (pH7.4, 25℃)。本文对这种异常血红蛋白结构与功能的关系进行了讨论, 认为红细胞增多症是由于异常血红蛋白氧亲和力升高所致。

**关键词**

**分类号**

## Hemoglobin Andrew-Minneapolis:A Study on Its Structure and Function

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### Abstract

An electrophoretically fast moving hemoglobin variant was detected in a Chinese-woman living in Guilin, Guangxi. Seven members in her family were found to be heterozygous for the abnormal hemoglobin. The levels of the hemoglobin variant in the affected individuals were approximately 50%. The affected members of the kindred exhibited erythrocytosis. Structural characterization demonstrated that lysine at the position of  $\beta$  144 (HC1) is replaced by asparagine, known as Hb Andrew-Minneapolis ( $\beta$  144 (HC1) Lys→Asn). The hemoglobin oxygen dissociation curve revealed that it is a hemoglobin variant with high oxygen affinity, with a P50 of the fresh hemolysate of 3.60mmHg (pH 7.4, 25°C). This is the first case of Hb Andrew-Minneapolis reported in China. The relation between the structure and the function of this abnormal hemoglobin was discussed in this paper and it was considered that the erythrocytosis was due to the high oxygen affinity of the hemoglobin variant.

### Key words

DOI:

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