

研究简报

镓转铁蛋白与HL60细胞的结合

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摘要 用¹²⁵I示踪法测定了不同形式的镓转铁蛋白(Ga_C-Tf, Ga₂-Tf, Ga_C-Tf-Fe_N)与HL60细胞的结合作用。

结果表明0 ℃、pH=7.4时Ga_C-Tf, Ga₂-Tf和Ga_C-Tf-Fe_N均与细胞膜结合, 表观结合常数分别为(1.2±0.14)×10⁸,

(1.1±0.19)×10⁸和(1.8±0.42)×10⁸ L/mol; 同时测定了¹²⁵I标记的脱铁转铁蛋白(apoTf)与HL60细胞的表现结合常数为

(0.97±0.20)×10⁸ L/mol; HL60细胞的平均受体数为(4.8±0.11)×10⁵. 通过体外研究表明,

不同形式的镓转铁蛋白与受体的结合能力次序为apoTf≈Ga_C-Tf≈Ga₂-Tf<Ga_C-Tf-Fe_N.

关键词 [转铁蛋白](#) [镓\(III\)](#) [¹²⁵I示踪法](#) [HL60细胞](#)

分类号

Binding of Gallium-Containing Transferrin to HL60 Cells

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Abstract The interaction of ¹²⁵I-labelled various species of transferrin including Ga_C-Tf, Ga₂-Tf and Ga_C-Tf-Fe_N with HL60 cells was investigated. The results showed that the proteins bound to membrane of cells at pH=7.4 and 0 ℃. The association constants were (1.2±0.14)×10⁸, (1.1±0.19)×10⁸ and (1.8±0.42)×10⁸ L/mol for Ga_C-Tf, Ga₂-Tf and Ga_C-Tf-Fe_N, respectively. At the same time, the association constant for ¹²⁵I-labelled apotransferrin was (0.97±0.20)×10⁸ L/mol.

There were about (4.8±0.11)×10⁵ transferrin receptors per cell surface. *In vitro* studies indicated that complexes of Ga and transferrin bind to transferrin receptor with the order of apoTf≈Ga_C-Tf≈Ga₂-Tf<Ga_C-Tf-Fe_N in terms of their association constants.

Key words [transferrin](#) [gallium\(III\)](#) [¹²⁵I-labeling](#) [HL60 cells](#)

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