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ERα和ERβ在非小细胞肺癌中作用的研究进展

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摘要：

摘 要 雌激素受体（estrogen receptor，ER）包括雌激素受体α（estrogen receptor alpha，ERα）和雌激素受体β（estrogen receptor beta，ERβ），为类固醇激素核受体家族配体依赖性反式转录调节蛋白，包括N末端区、DNA结合区和C末端区3个主要功能域。ER在人类非小细胞肺癌（non-small cell lung cancer，NSCLC）组织、正常肺组织中均有表达，其表达与肺癌组织学类型相关。ERα与ERβ主要通过雌激素信号途径调节转录，通过生长因子受体途径和类固醇信号途径调节其在肿瘤细胞核的活性，进而影响肿瘤细胞的生长、分裂和代谢等生物学行为。ER高甲基化可能与肺肿瘤的发生有关，吸烟与肺癌的相关性在女性更明显，并非ERα影响烟草的致癌代谢。ERα或ERβ的表达是否为肺癌的有效预测因子需进一步确证。总之，ERα和ERβ与NSCLC的发生、发展和预后密切相关，基于ERα和ERβ的生物治疗也可能成为今后肺癌治疗的重要策略。

关键词：癌 非小细胞肺；雌激素受体α；雌激素受体β

Roles of estrogen receptor-alpha and -beta in non-small cell lung cancer

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Abstract:

Abstract Estrogen receptors (ER), including estrogen receptor alpha (ERα) and estrogen receptor beta (ERβ), are ligand-dependent trans-acting transcription factors of steroid hormone nuclear receptor family. They have three major functional domains: the N-terminal region, DNA-binding domain and the C-terminal region. ERα and ERβ are expressed in non-small cell lung cancer (NSCLC) tissues and normal lung tissues, and their expressions are correlated with histological types of lung cancer. ER regulates transcription through the estrogen signaling pathway, and regulates its active form in the nuclei of tumor cells through the growth factor receptor pathway and steroid signaling pathway, thereby affecting the biological behaviors of cells such as growth, division, and metabolism. The hypermethylation of ER is related to the occurrence of lung tumors. ERα does not affect the metabolism of tobacco carcinogens though the correlation of smoking, and lung cancer is more evident in women. Whether the expression of ERα or ERβ is a valid predictor of lung cancer needs to be studied further. In conclusion, ERα and ERβ are closely correlated with the development, progression, and prognosis of NSCLC. Hormonal therapy based on ERα and ERβ may become an important strategy for the treatment of lung cancer.

Keywords:carcinoma non-small cell lung; estrogen receptor alpha; estrogen receptor beta

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