

综述

## 诱导HO-1基因表达的信号通路

杨晓瑜,黄维义,魏宗德

泸州医学院附属医院心内科, 四川 泸州 646000

收稿日期 2006-3-27 修回日期 2006-5-7 网络版发布日期 接受日期

摘要

血红素氧合酶(HO)的诱导型HO-1与其催化血红素降解生成的产物胆红素和CO一道,组成了机体重要的内源性保护系统,广泛参与抗炎与多种急慢性氧化应激损伤。多种理化因素通过不同的细胞内信号转导通路诱导HO-1的表达,这些信号通路涉及丝裂原活化蛋白激酶(MAPKs)、蛋白激酶C(PKC)、cAMP依赖的蛋白激酶A(PKA)、cGMP依赖蛋白激酶G(PKG)、酪氨酸蛋白激酶(TPK)、蛋白磷酸酶(PPs)、磷脂酰肌醇(-3)激酶(PI3K)/Akt

关键词 [HO-1](#); [信号通路](#); [谷胱甘肽](#)

分类号

## Signal transduction pathways of heme oxygenase-1 gene expression

YANG Xiao-yu, HUANG Wei-yi, WEI Zong-de

Department of Cardiovascular Disease, Affiliated Hospital of Lu Zhou Medical College, Luzhou 646000, China

Abstract

Heme oxygenase-1(HO-1), the inducible isoform of heme oxygenase, and biliverdin as well as carbon monoxide, the product of HO-1 degrading heme, constitute the major endogenous protective system in organism, which widely participates in anti-inflammatory and multiple acute and chronic oxidative stress injury. Many physical and chemical factors induce HO-1 expression by various intracellular signal transduction pathways, such as mitogen-activated protein kinases(MAPKs), protein kinase C(PKC), cAMP-dependent protein kinase A(PKA), cGMP-dependent protein kinase G(PKG), tyrosine protein kinase(TPK), protein phosphatase(PPs), and phosphatidylinositol 3-kinase(PI3K). There is a significance in preventing and treating diseases that studying and illuminating these pathways reasonably regulates HO-1 expression.

Key words [HO-1](#) [signal transduction pathway](#) [glutathione](#)

DOI:

通讯作者

作者个人主页 杨晓瑜;黄维义;魏宗德

### 扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(840KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献\[PDF\]](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“HO-1; 信号通路; 谷胱甘肽”的 相关文章](#)
- ▶ 本文作者相关文章

- [杨晓瑜](#)
- [黄维义](#)
- [魏宗德](#)