



# Quantitative assessment of the effects of the *EPHX1* Tyr113His polymorphism on lung and breast cancer

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**ABSTRACT.** The association between the microsomal epoxide hydrolase 1 gene (*EPHX1*) Tyr113His polymorphism and lung cancer and breast cancer risk has been reported in many recent studies, but there is no consensus among the results. Thus, we examined the association between the *EPHX1* Tyr113His polymorphism and lung cancer through a meta-analysis. A comprehensive literature search was performed using the Pubmed and Embase databases. Odds ratios with 95% confidence intervals were used to assess the strength of associations. Our meta-analysis suggested that the Tyr113His polymorphism was associated with lung cancer risk in Asians under 3 genetic models, including a C vs T, CC vs TT, and recessive model. However, the risk was decreased in Caucasians under the genetic models, including a C vs T, CC vs TT, or CT vs TT, dominant, and recessive model. In contrast, there was no association with breast cancer risk for any of the genetic models. Our meta-analysis suggested that the *EPHX1* Tyr113His polymorphism may be a risk factor for lung cancer in Asians, whereas it may

be a decreased risk factor among Caucasians. However, this polymorphism was not found to be associated with breast cancer.

**Key words:** EPHX1; Polymorphism; Lung cancer; Breast cancer; Meta-analysis