



Lack of association between the *aryl hydrocarbon receptor* rs2066853 polymorphism and breast cancer: A meta-analysis on *Ahr* polymorphism and breast cancer

Y. Li^{1*}, H.Z. Qin^{2*}, Q. Song¹, X.D. Wu¹ and J.H. Zhu³

¹Department of Internal Medicine-Oncology, Chinese PLA General Hospital, Beijing, China

²Department of Surgical Oncology, Chinese People's Liberation Army Hospital, Beijing, China

³Department of Internal Medicine-Oncology, The First Affiliated Hospital, Chinese PLA General Hospital, Beijing, China

*These authors contributed equally to this study.

Corresponding author: J.H. Zhu

E-mail: jianhuazhudoc@yeah.net

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ABSTRACT. Published data regarding the association between *aryl hydrocarbon receptor* (*Ahr*) rs2066853 polymorphism and the risk of breast cancer shows conflicting results. We performed a meta-analysis on 2999 patients and 3050 controls from three related case-control studies to estimate the association between *Ahr* rs2066853 polymorphism and the risk of breast cancer. The protocol was approved by the Institutional Animal Care and Use Committee (IACUC) at the University of Florida (America NIH Publication No. 86-231985 Revision). According to the three eligible populations, the odds ratios (ORs), 95% confidence intervals (CIs) on the risk of breast cancer for the genotypes GA vs GG, AA vs GG, and A vs G

were 1.06 (0.81-1.40), 0.96 (0.81-1.13), and 1.02 (0.85-1.22), respectively. The OR (95%CI) for *GA + AA vs GG* was 1.05 (0.80-1.37). Furthermore, after multi-variables adjustment, the ORs (95%CIs) were 1.05 (0.80-1.38) for *GA vs GG*, and 0.92 (0.76-1.10) for *AA vs GG*. This meta-analysis suggests that *Ahr* (rs2066853) polymorphism would not modify the risk of breast cancer. However, further research should be conducted to provide more evidence.

Key words: *Ahr*; Gene; Polymorphism; Breast cancer; Meta-analysis