



Prognostic significance of long non-coding RNA MALAT-1 in various human carcinomas: a meta-analysis

J. Wang^{1*}, A.M. Xu^{1*}, J.Y. Zhang^{1*}, X.M. He², Y.S. Pan¹, G. Cheng¹, C. Qin¹, L.X. Hua¹ and Z.J. Wang¹

¹State Key Laboratory of Reproductive Medicine, Department of Urology, First Affiliated Hospital of Nanjing Medical University, Nanjing, China

²Department of Obstetrics and Gynecology, First Affiliated Hospital of Nanjing Medical University, Nanjing, China

*These authors contributed equally to this study.

Corresponding author: L.X. Hua

E-mail: drhua1966@163.com

Genet. Mol. Res. 15 (1): gmr.15017433

Received August 12, 2015

Accepted November 9, 2015

Published January 29, 2016

DOI <http://dx.doi.org/10.4238/gmr.15017433>

ABSTRACT. The long non-coding RNA MALAT-1 plays an important role in cancer prognosis. The present research aimed to elucidate its precise predictive value in various human carcinomas. A quantitative meta-analysis was performed by searching PubMed, Embase, Web of Science, and Cochrane Library (most recently, January 2015) databases, and extracting data from studies that investigated the association between MALAT-1 expression and survival outcomes in patients of various cancers. Pooled hazard ratios (HRs) with 95% confidence intervals (CIs) were calculated as a measure of generalized effect. This meta-analysis included 1317 cases from 12 datasets. Our investigation revealed that poor overall survival (OS; HR = 2.14, 95% CI = 1.74-2.64) and shortened disease-free, recurrence-free, disease-specific, or progression-free survival (HR = 2.13, 95% CI = 1.22-3.72) can be predicted by high MALAT-1 expression for various cancers. Moreover, elevated MALAT-1 levels significantly correlated with

decreased OS in a renal cell carcinoma (RCC) subgroup (HR = 3.43, 95% CI = 1.80-6.53). These results imply that MALAT-1 can be used to predict unfavorable prognoses for several cancers, particularly RCC.

Key words: Long non-coding RNA; MALAT-1; Cancer; Prognosis; Survival