



# Differential expression of glypican-3 (GPC3) in lung squamous cell carcinoma and lung adenocarcinoma and its clinical significance

X. Yu, Y. Li, S.W. Chen, Y. Shi and F. Xu

Oncology Department, Gongli Hospital of Pudong New Area, Shanghai, China

Corresponding author: Y. Li  
E-mail: chenshi\_wen3@163.com

Genet. Mol. Res. 14 (3): 10185-10192 (2015)  
Received January 23, 2015  
Accepted June 11, 2015  
Published August 28, 2015  
DOI <http://dx.doi.org/10.4238/2015.August.28.2>

**ABSTRACT.** In this study, we examined the expression of glypican-3 (GPC3) in the 2 most common histological types of lung cancer, squamous cell carcinoma and adenocarcinoma, and explored the relationship between GPC3 expression and the prognosis of these 2 types of lung cancers. Lung cancer tissues and paracancerous tissues were collected from a total of 60 patients with lung squamous cell carcinoma or lung adenocarcinoma. GPC3 gene and protein expression in the tissue samples was examined using fluorescence-based real-time quantitative polymerase chain reaction, immunohistochemistry, and western blot analysis. In addition, the serological levels of GPC3 protein in lung cancer patients were analyzed using enzyme-linked immunosorbent assays. The overall expression of GPC3 protein in lung cancer was 45% (21/60). No GPC3 expression was detected in paracancerous lung tissues. Positive expression of GPC3 protein in lung squamous cell carcinoma was significantly higher than that in lung adenocarcinoma (70 vs 20%,  $P < 0.001$ ). Among GPC3-positive lung squamous cell carcinoma and lung adenocarcinoma samples, samples collected from patients with lymph node metastasis and patients

with poorly differentiated cancer exhibited more pronounced GPC-3 expression. GPC3 protein expression was significantly higher in lung squamous cell carcinoma than in lung adenocarcinoma. GPC3 may be a candidate marker for detecting lung squamous cell carcinoma.

**Key words:** Glypican-3; Lung adenocarcinoma;  
Lung squamous cell carcinoma