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A study of ΔNp63 expression in lung non-small cell carcinomas.

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Abstract

Distinguishing between lung adenocarcinoma and squamous cell carcinoma is becoming increasingly important, given the different treatment regimens available. Although histologic subdivision between the two is generally not difficult in differentiated tumors, it can be challenging in poorly differentiated tumors and may require a panel of immunohistochemistry stains. The p63 gene encodes two different N-termini (TA and ΔN). ΔNp63 is selectively expressed in squamous cell carcinoma, whereas TAp63 is not restricted only to it. 4A4, a widely used anti-p63 antibody, identifies both isoforms and is expressed in about 15% of adenocarcinomas, and, although generally focal, its expression can be diffuse. In this study, a total of 150 lung adenocarcinomas and 50 squamous cell carcinomas were immunostained by antibodies for p63 (4A4), ΔNp63 (p40), and TTF-1 (8G7G3/1). Twenty-seven adenocarcinomas (18%) were positive for p63 to a variable extent, with diffuse reaction being seen in 13 tumors (8.7%). p63 expression was seen in all subtypes of adenocarcinomas, except for the mucinous type. p40 was negative in all adenocarcinomas. All squamous cell carcinomas were diffusely positive for both p63 and p40. Four of 27 p63-positive adenocarcinomas were negative for TTF-1. p63 expression is not uncommonly seen in adenocarcinomas, whereas ΔNp63 (p40) expression is specific for squamous cell carcinoma, with sensitivity comparable to that of p63 expression. Presence of p63-positive cells in poorly differentiated lung adenocarcinoma may be erroneously interpreted as evidence of squamous cell differentiation. p40 appears to be a more reliable marker for squamous cell carcinoma.

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