Hypermethylation of the tumor supressor genes (TSG) is an early and frequent event in most neoplasias, including non-small cell lung cancer (NSCLC). Evidences have showed that hypermethylation of TSG can be detected in precursor lesions of the lung cancer, even in sputum of cancer-free individuals at high risk of lung cancer. Our results showed APC promoter hypermethylation would be a promising dignosis biomarker, and better diagnosis efficiency were found for APC methylation test in serum group than that in tissue group, suggesting APC promoter hypermethylation would be an excellent dignosis biomaker in remote non-invasive media. In addition, APC methylation test has better diagnosis ability in adenocarcinoma (AD) than that in squamous cell carcinoma (SQ). Therefore, AD and SQ might have different biomarkers, and thus they should be considered sepatately in future biomarker discovery research.