

# The molecular-biological overall analysis of tumor characteristics and host factor in primary lung cancer.

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# 1998 Fiscal Year Final Research Report Summary

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The molecular-biological overall analysis of tumor characteristics and host factor in primary lung cancer.

Research Project

## Project/Area Number

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08407039

## Research Category

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Grant-in-Aid for Scientific Research (A)

## Allocation Type

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Single-year Grants

## Section

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一般

## Research Field

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Thoracic surgery

## Research Institution

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Kanazawa University

## Principal Investigator

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## Co-Investigator(Kenkyū-buntansha)

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## Project Period (FY)

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1996 – 1998

## Keywords

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Lung cancer / VEGF / Micrometastasis / PAI-2 / Angiogenesis / cytokeratin / bcl-2 / P53

## Research Abstract

- 1.) As a result of immunohistochemical study, the bcl-2 protein expression in epidermoid carcinoma was higher than that in adenocarcinoma. In epidermoid carcinoma, a bcl-2 protein expressing group showed a better survival rate than a non-expressing group. A p53 protein positive group showed a poorer survival rate than a negative group. The bcl-2 expression in epidermoid carcinoma patients is a potentially valuable prognostic factor. And p53 protein might be a valuable prognostic indicator in non-small cell lung cancer, particularly in adenocarcinoma.
- 2) The expression of u-PA, u-PAR, and PAT-1 was detected in approximately 80% of lung cancers. A diminished expression level of PAI-2 was significantly correlated with lymph node metastasis and a poor prognosis. The expression of PAI-2 may be useful as a marker for evaluating the prognosis of lung cancer.
- 3) Using monoclonal antibodies against cytokeratin (CK) and a novel immunohistochemical method for the detection of CK positive tumor cells, we examined disseminated tumor cells in the bone marrow and lymph nodes of primary lung cancer patients. Lymphatic micrometastases and bone marrow micrometastases were detected in 27.3% and 23.5% of lung cancer patients, respectively. After revised staging based on the sites of nodal micrometastases, patients with stage II or stage IIIA disease showed significantly poorer survival rates than those with stage I disease. A significant correlation was found between the reduced E-cadherin expression in primary sites and nodal micrometastases.
- 4) In lung cancer tissue samples, the expression of VEGF mRNA was found at a high rate independent of histological subtypes. Among the four splicing variants, VEGF121 and 165 were the dominant types. As a marker of tumor angiogenesis, the VEGF expression level may be a significant prognostic indicator of lung cancers in early stages.

## Research Products (32 results)

All Other

All Publications (32 results)

- [Publications] 正島一徳: "肺癌手術の術前化学療法におけるFas抗原発現とアポトーシス発現に関する免疫組織化学的研究" 金沢大学十全医学会雑誌. 105. 551-568 (1996) ▼
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- [Publications] 徳楽正人: "肺癌における膜型マトリックスメタプロテアーゼ(MT-MMP)の発現とゼラチナーゼA(MMP-2)活性化に際しての意義" 金沢大学十全医学会雑誌. 106. 320-326 (1997) ▼
- [Publications] Yoshino H.外: "Significance of plasminogen activator inhibitor 2 as a Prognostic marker in Primary lung cancer : association of decreased plasminogen ……" Br J Cancer. 78. 833-839 (1998) ▼
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- [Publications] 春原哲之: "原発性・転移性肺腫瘍における接着分子CD44発現に関する研究-p53蛋白発現とK-ras点突然変異との関連-" 金沢大学十全医学会雑誌. 106. 214-235 (1997) ▼
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- [Publications] 太田安彦: "パネルディスカッションII 胸部悪性疾患に対する分子生物学的診断,治療の現状と展望-肺癌におけるVEGF121の発現と血管新生-" 日胸外会誌. 45. 396-398 (1997) ▼
- [Publications] 高島一郎: "原発性非小細胞肺癌における所属リンパ節、原発巣の臨床病理学的研究" 金沢大学十全医学会雑誌. 105. 406-419 (1996) ▼
- [Publications] 吉羽秀磨: "原発性非小細胞肺癌におけるトロンボスポンジン1発現の意義について" 金沢大学十全医学会雑誌. 107. 420-433 (1998) ▼

- [Publications] 野沢寛: "I期原発性非小細胞肺癌における微小リンパ節転移検出の意義" 金沢大学十全医学会雑誌. 107. 293-302 (1998) ▼
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