

Small cell lung cancer pathway, Collagen high vs low tumors

SMALL CELL LUNG CANCER



Neuroendocrine epithelial cells

Pulmonary neuroendocrine epithelial cell

PHIT \rightarrow ? \rightarrow Reduced apoptosis
Cell-cycle progression

Overexpression

Bcl-2

Mitochondrion

Bax

CytC

Apaf-1

Apoptosis

CASP9

CASP3

Inhibition of apoptosis

Genetic alterations

Oncogene : Myc

Tumor suppressors : RAR β , FHIT, p53, RB, PTEN

Primary small cell carcinoma

ECM-receptor interaction

ECM

ITGA

ITGB

Focal adhesion

FAK

PI3K

PIP3

PKB/Akt

IKK

I κ B α

NF- κ B

Degradation

PI3K-Akt signaling pathway

PTEN

Degradation

Retinoic acid

p53 signaling pathway

DNA damage

p53

DNA

p21

Bax

p48

GADD45

Bak

FOLK

Uncontrolled proliferation
Increased survival
Genomic instability

RAR β
RXR

DNA

Tumour progression

p15^{INK4b}

CDK4/6

CyclinD1

DNA

p27^{Kip1}

CDK2

CyclinE

RB

E2F

DNA

G1/S progression

Cell cycle

Miz1

Skp2

CKS1

DNA

Myc

Max

CyclinD1

Proliferation

cIAPs

Resistance to apoptosis signal

Bcl-XL

TRAFs

Apoptosis

COX-2

iNOS

Angiogenesis

Metastatic small cell carcinoma