LTL-658 datasheet

Origin	Primary human lung cancer	**Histopathology**	Non-small cell lung cancer
Year of establishment	2006	**Doubling time**	4 days (sub-renal)
Local invasion	Yes	**Metastasis**	Yes
Drug sensitivity	Not determined		

The LTL-658 was developed from a patient's primary lung cancer (Non-small cell lung cancer. Stage T1N2M0). Histopathologically, it closely resembles the patient's tumor (Figs 1, 2). When grafted under the renal capsules of SCID mice, the LTL-658 shows local invasion into adjacent host kidney parenchyma and metastasis to distant organs.

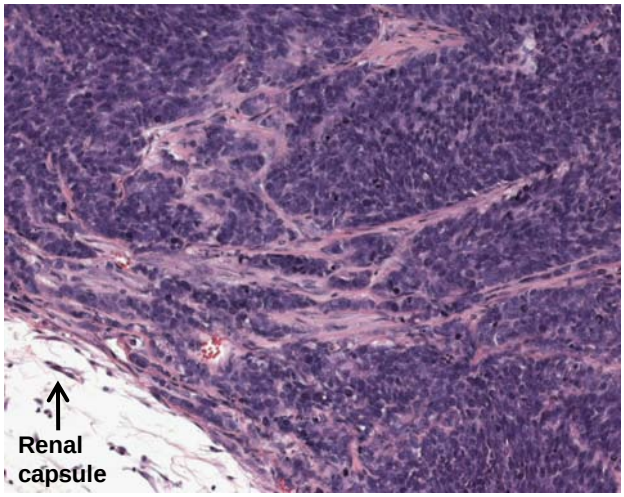

Fig. 1. H&E stained LTL-658 tissue sections.

Showing a undifferentiated non-small cell carcinoma with histopathological characteristics similar to those of the original patient's cancer (Fig. 2). (x200)

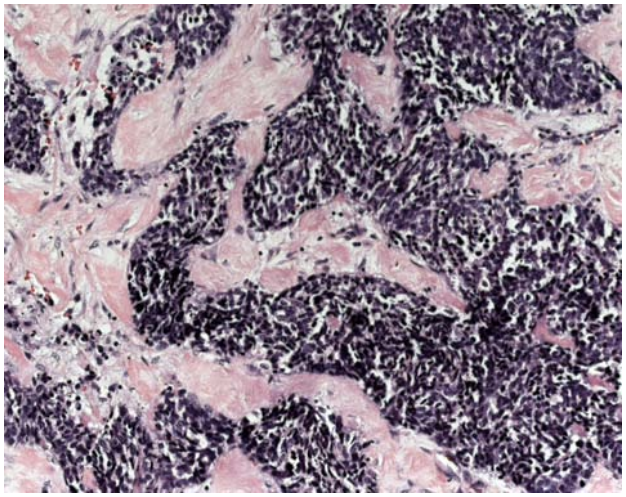

Fig. 2. Patient's cancer tissue before grafting.

Major characteristics:
- Undifferentiated non-small cell carcinoma
- Growth in solid sheets.
- Condensed, coarse chromatin. (x400)

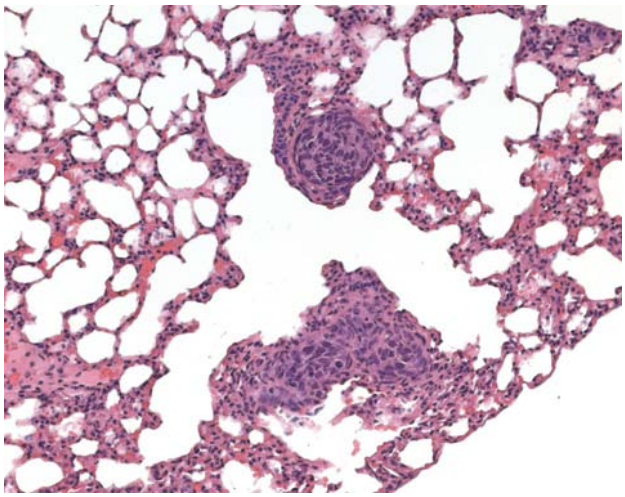

Fig. 3. LTL-658 distant organs metastases in SCID mice.

Solid masses of metastatic tumor cells are present in the lung parenchyma (x400)

Genetic and epigenetic characteristics

The LTL- 658 tissue line has been characterized using array CGH and Affymetrix chips. Some of the genes with potential therapeutic application are listed below.

Tissue microarrays containing LTL-658 tissue are available for screening potential molecular targets.

LTL-658 gene expression profile

Genes	Expression in LTL-658	Current stage in drug development
ERCC1	++	Clinical
RRM1	++++	Clinical
PTEN	+	Clinical
BRCA1	++	Clinical
EGFR	+	Clinical
HER (erb-B)	++	Clinical
KRAS	++	Clinical
P27	++++	Clinical
MRP2	/	Clinical
FasL	-	Clinical
bTubIII (tubulins)	/	Clinical
VEGFR-1	/	Clinical
VEGFR-2	/	Clinical
VEGFR-3	/	Clinical
PDGFR	+	Clinical
CD117 (cKIT)	/	Clinical
RET	+++	Clinical
CSF-1R	/	Clinical
CTLA-4	/	Clinical
CD28	-	Pre-clinical
TLR9	/	Pre-clinical
IGF1R	++	Pre-clinical
ACVRL1 (ALK1)	++++	Pre-clinical
FAK	/	Pre-clinical

Aurora Kinase (AK)	+++	Pre-clinical
mTOR	/	Pre-clinical
c-Met	/	Pre-clinical
Bcl-2	/	Pre-clinical
COX-2	-	Pre-clinical
PCK alpha	+++	Pre-clinical

Applications

1. Pre-clinical evaluation of existing and potential anticancer drugs. Examination of drug efficacy on tumor growth, cell death (apoptosis, necrosis), tissue invasion, metastasis and angiogenesis.

2. Discovery of potential therapeutic targets and/or biomarkers for drug sensitivity.

3. Study of mechanisms underlying tumor growth, progression and metastasis.

References

1. Wang et al., Laboratory Investigation (2005) 85, 1392-1404

2. Cutz et al, Clin. Cancer Res. 12(13): 4043-4054 (2006).

3. Lin et al, Cancer Research 68 p.4352-4359 (2008)

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