LTL-613 datasheet

Origin	Primary human lung cancer	**Histopathology**	Squamous cell carcinoma
Year of establishment	2006	**Doubling time**	6.5 days (sub-renal)
Local invasion	Yes	**Metastasis**	Yes
Drug sensitivity	Not determined		

The LTL-613 was developed from a patient's primary lung cancer (Squamous cell carcinoma. Stage T4N0M0). Histopathologically, it closely resembles the patient's tumor (Figs 1, 2). When grafted under the renal capsules of SCID mice, the LTL-613 shows local invasion into adjacent host kidney parenchyma and metastasis to distant organs.

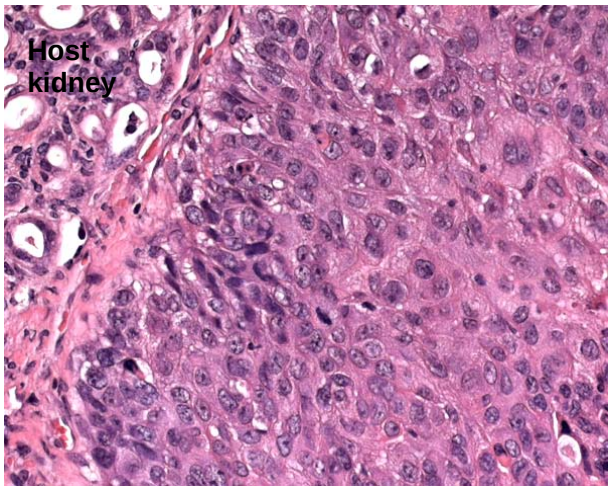

Fig. 1. H&E stained LTL-613 tissue sections.

Showing a poorly differentiated squamous cell carcinoma with focally nuclear stratification and keratinization (x400).

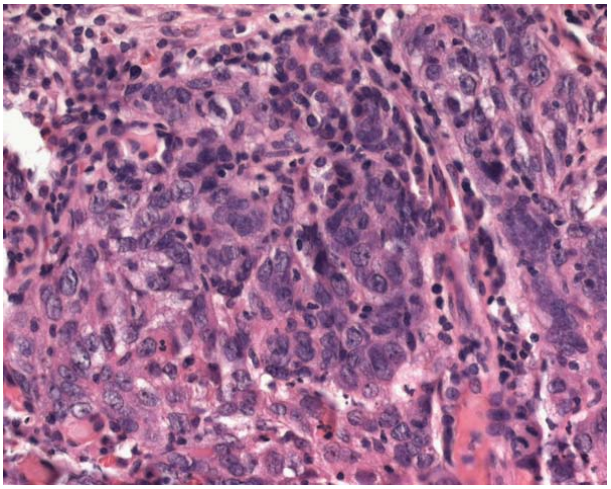

Fig. 2. Patient's cancer tissue before grafting.

The tumor is a poorly differentiated squamous cell carcinoma, surrounded by inflammatory stroma. (x400).

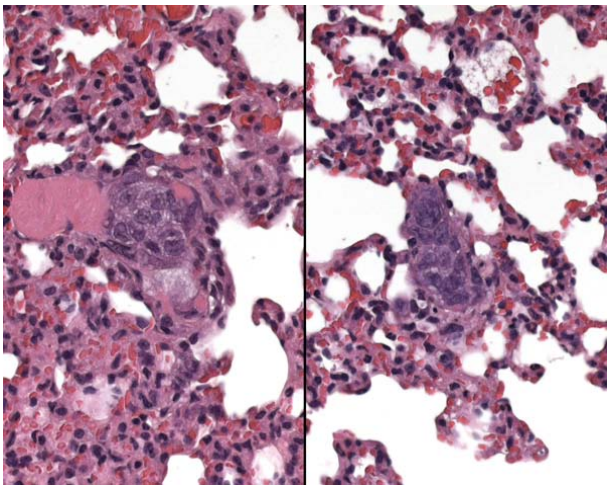

Fig. 3. LTL-613 lung metastases in SCID mice.

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

Genetic and epigenetic characteristics

The LTL- 613 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-613 tissue are available for screening potential molecular targets.

LTL-613 gene expression profile

Genes	Expression in LTL-613	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	++++	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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