

Progressive 3q amplification consistently targets *SOX2* in preinvasive squamous lung cancer

Frank McCaughan MRCP, PhD, Jessica CM Pole PhD, Alan T Bankier, Bernard A Konfortov PhD, Bernadette Carroll, Mary Falzon FRCPath, Terence H Rabbitts PhD, P Jeremy George MD, FRCP, Paul H Dear PhD, and Pamela H Rabbitts PhD

ONLINE DATE SUPPLEMENT

## Supplementary Figure 1

(a) Patient 002. Patient 002 had multiple surveillance bronchoscopies over a 13 month period. The left lower lobe lesion (blue) progressed to cancer after 13 months (black). A left lower lobectomy was performed at month 13 as there was a clinical suspicion of lung cancer, despite no definite radiological evidence. The resection specimen showed widespread high-grade dysplasia and a focal area of invasion, CA1.

(b) Patient 017. Patient 017 underwent a left upper lobectomy for squamous cell carcinoma prior to entering the study. He was subsequently found to have high-grade dysplasia in the resection margin and had a number of surveillance bronchoscopies. Although there was no biopsy proven evidence of invasion there was a clinical suspicion of cancer so he proceeded to a pneumonectomy (solid bar) at month 15. The pneumonectomy specimen confirmed high-grade preinvasive disease with no focal invasion. Subsequent biopsies at 17 months demonstrated extensive involvement of the trachea.

(c) Patient 026. Patient 026 entered the surveillance programme after surgical resection of the right middle and lower lobes for SQC - two biopsies (026-HG7 and 12) were taken at the first surveillance bronchoscopy, and another (026-HG13) at a subsequent bronchoscopy at month 5.

**Supplementary Table 1.** Genes within the 3q minimal commonly amplified region (MCAR). Genes, annotated in the reference human genome (Ensembl - NCBI 36; [www.ensembl.org](http://www.ensembl.org)) and their location on 3q. Brief notes on the annotated genes are provided. Information was sourced from on-line databases including the Online Mendelian Inheritance in Man (<http://www.ncbi.nlm.nih.gov/omim>) and references therein.

<b>Gene</b>	<b>Gene Start (bp)</b>	<b>Brief Notes</b>
<i>KCNMB2</i>	<a href="#">180007823</a>	Ca activated potassium channel
<i>ZMAT3</i>	<a href="#">180224221</a>	p53 induced zinc finger transcription factor, anti-proliferative effects
<i>PIK3CA</i>	<a href="#">180349005</a>	See main text.
<i>KCNMB3</i>	<a href="#">180443259</a>	Calcium-activated potassium channel
<i>ZNF639</i>	<a href="#">180524245</a>	Zinc finger transcription factor
<i>MFN1</i>	<a href="#">180548174</a>	Mediates mitochondrial fusion
<i>GNB4</i>	<a href="#">180599696</a>	GTPase binding protein - mediates signal transduction
<i>ACTL6A</i>	<a href="#">180763402</a>	May modulate transcription factor (including p53 and cMyc) effects
<i>MRPL47</i>	<a href="#">180788951</a>	Mitochondrial protein – unknown function
<i>NDUFB5</i>	<a href="#">180805269</a>	Mitochondrial respiratory chain complex
<i>USP13</i>	<a href="#">180853635</a>	Deubiquitinating enzyme
<i>PEX5L</i>	<a href="#">181000744</a>	Binds peroxisomal targeting signal
<i>TTC14</i>	<a href="#">181802625</a>	Potentially involved in RNA binding
<i>CCDC39</i>	<a href="#">181814491</a>	Unknown function
<i>FXR1</i>	<a href="#">182113146</a>	Potentially involved in RNA binding
<i>DNAJC19</i>	<a href="#">182184200</a>	Component of mitochondrial protein import motor
<i>SOX2</i>	182912416	See main text

# Supplementary Figure 1

