

Decoding tumour phenotype by noninvasive imaging using a quantitative radiomics approach

Dataset Citation

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Description

In short, this publication applies a radiomic approach to computed tomography data of 1,019 patients with lung or head-and-neck cancer. Radiomics refers to the comprehensive quantification of tumour phenotypes by applying a large number of quantitative image features. In present analysis 440 features quantifying tumour image intensity, shape and texture, were extracted. We found that a large number of radiomic features have prognostic power in independent data sets, many of which were not identified as significant before. Radiogenomics analysis revealed that a prognostic radiomic signature, capturing intra-tumour heterogeneity, was associated with underlying gene-expression patterns. These data suggest that radiomics identifies a general prognostic phenotype existing in both lung and head-and-neck cancer. This may have a clinical impact as imaging is routinely used in clinical practice, providing an unprecedented opportunity to improve decision-support in cancer treatment at low cost.

More information about these data sets can be found at:

- [NSCLC-Radiomics](#)
- [NSCLC-Radiomics-Genomics](#)

This is a companion dataset for the following paper:

Publication Citation

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Note: This data is restricted for commercial use. Please contact Hugo Aerts, hugo_aerts@dfci.harvard.edu with any questions on usage.

- Image Data -- [DICOM](#)
- Clinical Data
 - [Lung1.clinical.csv](#) (Please note that survival time is measured in days from start of treatment.)
 - [Lung3.metadata.xls](#)
- Gene Expression Data - <http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE58661>