

Did you know that distinguishing between SCLC and other lung NET subtypes can be difficult?¹⁻³

Many lung NET are asymptomatic or have nonspecific symptoms, which can make them difficult to diagnose.^{2,4}

In addition, shared symptoms can make it difficult to distinguish between lung NET subtypes. Treatment for lung NET subtypes differs; correct diagnosis is essential for optimizing patient outcomes.^{1,5,6}



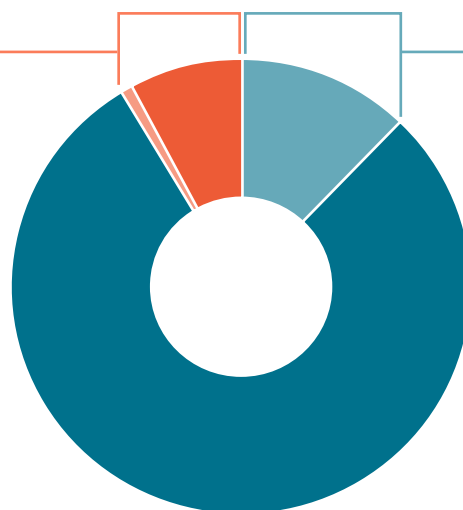
Lung NET account for 25% of all lung cancers^{2*}

Lung NET can be broken down into the following subtypes²:

LUNG CARCINOIDS

8% Typical carcinoid
(grade 1, well differentiated)

0.8% Atypical carcinoid
(grade 2, well differentiated)



12% LCNEC

(grade 3, poorly differentiated)

80% SCLC

(grade 3, poorly differentiated)

Lung carcinoids can be difficult to diagnose and may be misdiagnosed as SCLC^{1,2}

Abbreviations: LCNEC, large-cell neuroendocrine carcinoma; NET, neuroendocrine tumor(s); SCLC, small-cell lung cancer.

*Percentages total more than 100 due to rounding in reference article.

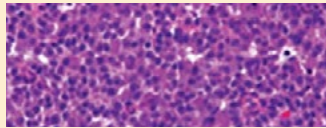
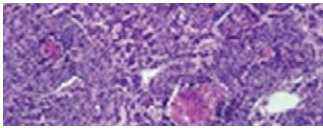
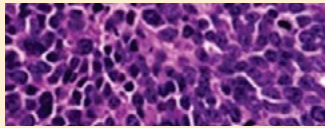
KEY DIFFERENTIATING FACTORS

There are a number of factors that can help you distinguish between these rare lung cancers for an accurate diagnosis.

	Typical and atypical lung carcinoids	SCLC
Shared symptoms¹	<ul style="list-style-type: none"> ■ Persistent cough ■ Hemoptysis 	<ul style="list-style-type: none"> ■ Pneumonia ■ Cushing's syndrome
Smoking^{7,8}	No established correlation for typical carcinoids, but may be a correlation for atypical carcinoids	Strong correlation
Gender^{7,9}	More common in women	More common in men
Associated genetic changes¹⁰	<ul style="list-style-type: none"> ■ May have mutations in <i>MEN1</i> ■ <i>TP53</i> mutations in 9% of typical carcinoids and 11% of atypical carcinoids ■ <i>RB1</i> copy number alterations in 25% of typical carcinoids and 11% of atypical carcinoids 	<ul style="list-style-type: none"> ■ <i>MEN1</i> mutations uncommon ■ <i>TP53</i> mutations in 64% of SCLC ■ <i>RB1</i> copy number alterations in 70% of SCLC
Sensitivity to chemotherapy^{5,6}	Limited sensitivity	Responds to chemotherapy

Ensure sufficient tissue for a complete biopsy to identify lung NET subtype^{2,11}

PATHOLOGICAL CLASSIFICATION OF LUNG NET^{2,4,12}

	Typical carcinoid (Low grade, G1)	Atypical carcinoid (Intermediate grade, G2)	SCLC* (High grade, G3)
			
Mitotic rate and presence of necrosis	<2 mitoses/10 HPF and no necrosis	2-10 mitoses/10 HPF and focal punctate necrosis	>10 mitoses/10 HPF and extensive necrosis
Ki-67	<2% Ki-67 index	2-20% Ki-67 index	>20% Ki-67 index

Abbreviation: HPF, high-power fields.

*Mitotic rate, presence of necrosis, and Ki-67 index are the same for SCLC and LCNEC.

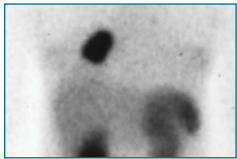
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IMMUNOHISTOCHEMICAL BIOMARKERS²

	Typical and atypical carcinoids	SCLC
Synaptophysin	Strong and diffusely positive expression	Weak reactivity
CgA		Weak reactivity
CD56		A sensitive marker for SCLC
Cytokeratins	Positive in most lung carcinoids; however, nearly 20% are negative	Weak and punctate
Thyroid transcription factor-1	<ul style="list-style-type: none"> ■ Weak and focal expression ■ Positive in ~50% of lung carcinoids 	<ul style="list-style-type: none"> ■ Strong and diffuse expression ■ Positive in ~90% of SCLC

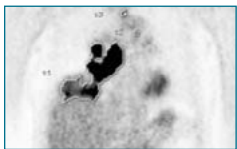
Incomplete IHC panels may interfere with accurate identification of lung NET subtype^{2,11}

Imaging tests to stage lung NET



SRS¹³ AND Ga 68 DOTATATE PET

- Radioactively labeled SSAs bind to SSTRs that are expressed on most lung carcinoid tumors⁴
- For lung carcinoid tumors, SRS is capable of detecting occult tumors as well as metastatic disease¹⁴



FDG-PET¹⁵

- Important for the staging of SCLC, which is a highly metabolic malignancy¹⁶
- As carcinoid tumors have low metabolic activity, FDG-PET use may be limited¹⁷

CT, MRI, and bronchoscopy are frequently used for detecting both lung carcinoids and SCLC.^{1,4,11}

Learn more about how accurately diagnosing lung NET early may help lead to appropriate treatment and optimize patient outcomes

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Abbreviations: CD56, cluster of differentiation 56; CgA, chromogranin A; CT, computed tomography; FDG, fluorodeoxyglucose; IHC, immunohistochemical; MRI, magnetic resonance imaging; PET, positron-emission tomography; SRS, somatostatin receptor scintigraphy; SSA, somatostatin analogue; SSTR, somatostatin receptor.

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