Identification of genomic alterations is the foundation for precision medicine in NSCLC\(^1\)

**KRAS G12C** is the most prevalent emerging biomarker in NSCLC\(^1,2\).

**KRAS G12C** occurs in ~13% of patients with NSCLC, comparable to the prevalence of EGFR mutations\(^1,2,\*)

Each year in the US, ~25,000 patients who are newly diagnosed with NSCLC have the **KRAS G12C** mutation\(^2,3\).

Patients with the **KRAS G12C** mutation have poor survival outcomes consistent with the overall NSCLC population\(^4,\*)

Up to 64% of patients with NSCLC may have identifiable driver mutations\(^1,\*)

\(*\) In patients with lung adenocarcinoma. \(\dagger\) "Other" includes HER2, PIK3CA, MEK1, and patients with no driver mutation detected, but does not include TMB or MSI-H.

The **KRAS G12C** mutation drives cancer cell growth and survival\(^5-9\)

The **KRAS G12C** mutation favors the active form of the KRAS mutant protein, driving tumorigenesis\(^5,7\)

- **KRAS G12C** is a single point mutation at codon 12 that causes the glycine to be substituted by a cysteine\(^6,10,11\)
- Investigating the structure of **KRAS G12C** reveals unique features of the mutant protein such as the P2 pocket and H95 residue\(^12\)

Amgen is committed to investigating and understanding the role of **KRAS G12C** mutations in cancer development and maintenance

AKT, protein kinase B; ALK, anaplastic lymphoma kinase; BRAF, proto-oncogene B-Raf; ERK, extracellular signal-regulated kinase; GDP, guanosine diphosphate; GTP, guanosine triphosphate; KRAS, Kirsten rat sarcoma; MEK, mitogen-activated protein kinase kinase; MET, mesenchymal-to-epithelial transition; mTOR, mammalian target of rapamycin; NF-κB, nuclear factor kappa-light-chain-enhancer of activated B cells; NSCLC, non-small cell lung cancer; NTRK1, neurotrophic tyrosine receptor kinase 1; PI3K, phosphoinositide 3-kinase; RAF, rapidly accelerated fibrosarcoma; RAL, Ras-like; RET, rearranged during transfection; ROS1, c-ros oncogene 1; RTK, receptor tyrosine kinase.
Clinical guidelines recommend biomarker testing for all eligible patients at diagnosis of advanced NSCLC.13-16

Biomarker testing at diagnosis can help inform the treatment journey.13,14,17

Key considerations across the biomarker testing journey

Routine biomarker testing is a standard of care for advanced NSCLC.13,16,18

References:

