

# KRAS G12C is a unique oncogenic driver in NSCLC<sup>1</sup>

	EGFR mutation	KRAS G12C mutation	ALK rearrangement	METex14 mutation	HER2 mutation	RET rearrangement	BRAF V600E mutation	ROS1 rearrangement	NTRK1/2/3 gene fusion	NRG1 gene fusion
Incidence in NSCLC	21% <sup>1</sup>	13% <sup>2</sup>	5% <sup>1</sup>	4% <sup>3</sup>	2% <sup>1</sup>	2% <sup>1</sup>	2% <sup>4</sup>	2% <sup>1</sup>	1% <sup>1</sup>	<1% <sup>5</sup>
Associated with smoking history	No <sup>1</sup>	Yes <sup>6</sup>	No <sup>1,7</sup>	No <sup>3</sup>	No <sup>2</sup>	No <sup>7</sup>	Yes <sup>2</sup>	No <sup>1,7</sup>	No <sup>7</sup>	No <sup>8</sup>
Tumor mutational burden <sup>9,*</sup>	Low <sup>10</sup>	Intermediate <sup>11</sup>	Low <sup>10</sup>	Low/Intermediate <sup>12</sup>	Low <sup>10</sup>	Low <sup>10</sup>	Low <sup>10</sup>	Low <sup>10</sup>	Intermediate <sup>13</sup>	Low <sup>8</sup>
Sensitivity to immunotherapy (objective response rate)	12% <sup>14,†</sup>	67% <sup>15,‡</sup>	0% <sup>14,†</sup>	17% <sup>12,†</sup>	7% <sup>14,†</sup>	6% <sup>14,†</sup>	25% <sup>9,§</sup>	17% <sup>14,†</sup>	Unknown	20% <sup>8,  </sup>
Targeted therapy approved in 1L NSCLC	Yes <sup>5</sup>	No <sup>5,#</sup>	Yes <sup>5</sup>	Yes <sup>5</sup>	No <sup>5</sup>	Yes <sup>5</sup>	Yes <sup>5</sup>	Yes <sup>5</sup>	Yes <sup>5</sup>	No <sup>5</sup>

\*TMB-high ≥20 muts/Mb, TMB-intermediate = 6 to 19 muts/Mb, TMB-low ≤5 muts/Mb.<sup>9</sup>

†Retrospective study in EGFR (n = 125), ALK (n = 23), HER2 (n = 29), RET (n = 16), ROS1 (n = 7) patients receiving immunotherapy.<sup>14</sup>

‡Subgroup analysis on 12 patients with a KRAS G12C mutation.<sup>15</sup>

§Retrospective analysis on 24 patients treated with single or combination immunotherapy in 1L, 2L, or 3L treatment.<sup>12</sup>

¶Retrospective study with 21 patients in the BRAF V600E group with only 12 of these patients being treated and evaluated following immunotherapy.<sup>9</sup>

||Retrospective analysis with only 5 patients being treated with single-agent immunotherapy.<sup>8</sup>

#Ongoing Phase 3 trials.<sup>16</sup>

1L = first-line; 2L = second-line; 3L = third-line; Mb = megabase; muts = mutations; NSCLC = non-small cell lung cancer; TMB = tumor mutational burden.

1. Chen R, et al. *J Hematol Oncol.* 2020;13(1):58. 2. Chevallier M, et al. *World J Clin Oncol.* 2021;12(4):217-237. 3. Subramanian J, et al. *Expert Rev Anticancer Ther.* 2021;21(8):877-886. 4. Planchard D, et al. *NPJ Precis Oncol.* 2024;8(1):90. 5. Reuss JE, et al. *JCO.* 2025;43(24):e31-e44. 6. Gu G, et al. *J Cancer Res Clin Oncol.* 2024;150(9):413. 7. Farago AF, et al. *JCO Precis Oncol.* 2018;2018:PO.18.00037. 8. Drilon A, et al. *J Clin Oncol.* 2021;39(25):2791-2802. 9. Dudnik E, et al. *J Thorac Oncol.* 2018;13(8):1128-1137. 10. Negrao MV, et al. *J Immunother Cancer.* 2021;9(8):e002891(suppl). 11. Judd J, et al. *Mol Cancer Ther.* 2021;20(12):2577-2584. 12. Sabari JK, et al. *Ann Oncol.* 2018;29(10):2085-2091. 13. Shang X, et al. *BMC Pulmonary Medicine.* 2023;23:482. 14. Mazieres J, et al. *Annals of Oncology.* 2019;30(8):1321-1328. 15. Ghazali N, et al. *Ther Adv Med Oncol.* 2025;17:17588359251323985. 16. Zhang F, et al. *Front Immunol.* 2025;16:1509173.

