NOVARTIS

TAF MEK Lung cancer - BRAF and mechanism of action - HCP

Prescribing information

Image

Image

BRAF mutation and mechanism of action for TAFINLAR® (dabrafenib) + MEKINIST® (trametinib)

TAFINLAR in combination with MEKINIST is indicated in adult patients with advanced non-small cell lung cancer (NSCLC) with a *BRAF* V600 mutation.[1,2]

For the full safety profile, please refer to the Summary of Product Characteristics (SmPC) for TAFINLAR and MEKINIST.

Adverse event reporting: Details of how to report adverse events are available at

the bottom of the page. Please refer to the respective SmPC for all licensed indications.

BRAF represents a novel therapeutic target for the treatment of advanced NSCLC[3]

Testing for *BRAF* in the UK

In England, *BRAF* testing can now be done as part of the next-generation sequencing (NGS) panel. For more information, go to the national genomic test directory for cancer in England.[4]

Visit the national genomic test directory for cancer in England

Image

Molecular characterisation of NSCLC marked a turning point in the treatment of lung tumours harbouring kinase alterations suitable for targeted drug inhibition.[3]

The role of *BRAF* mutations in NSCLC

Approximately 1.5–3.5% of patients with NSCLC have a *BRAF* mutation.[3]

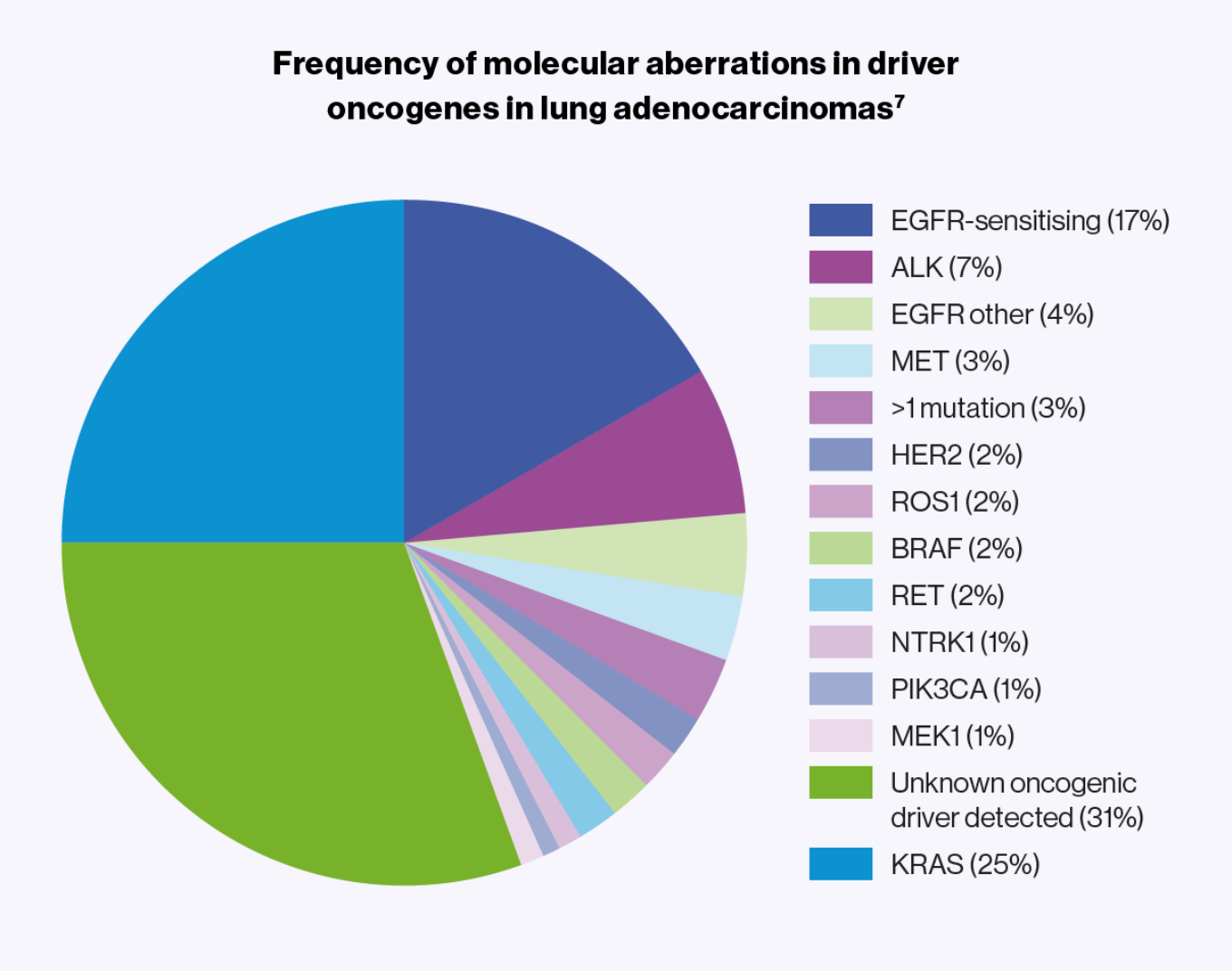
BRAF mutations lead to constitutive activation of the mitogen-activated protein kinase (MAPK) pathway.[5]

BRAF V600E is the most common variant, occurring in roughly 50% of *BRAF*-mutated tumours.[6]

NSCLC with *BRAF* V600E mutations has histological features suggestive of an aggressive tumour.[3]

In patients with NSCLC who received platinum-based chemotherapy, outcomes were less favourable among those with a *BRAF* V600E-mutated tumour vs those with *BRAF* wild-type (WT) tumours.[5]

Image



Adapted from Hirsch FR, et al. 2017.[7]

TAFINLAR + MEKINIST target two distinct points on the MAPK pathway to provide concomitant inhibition[1,2]

Mechanism of action for TAFINLAR + MEKINIST

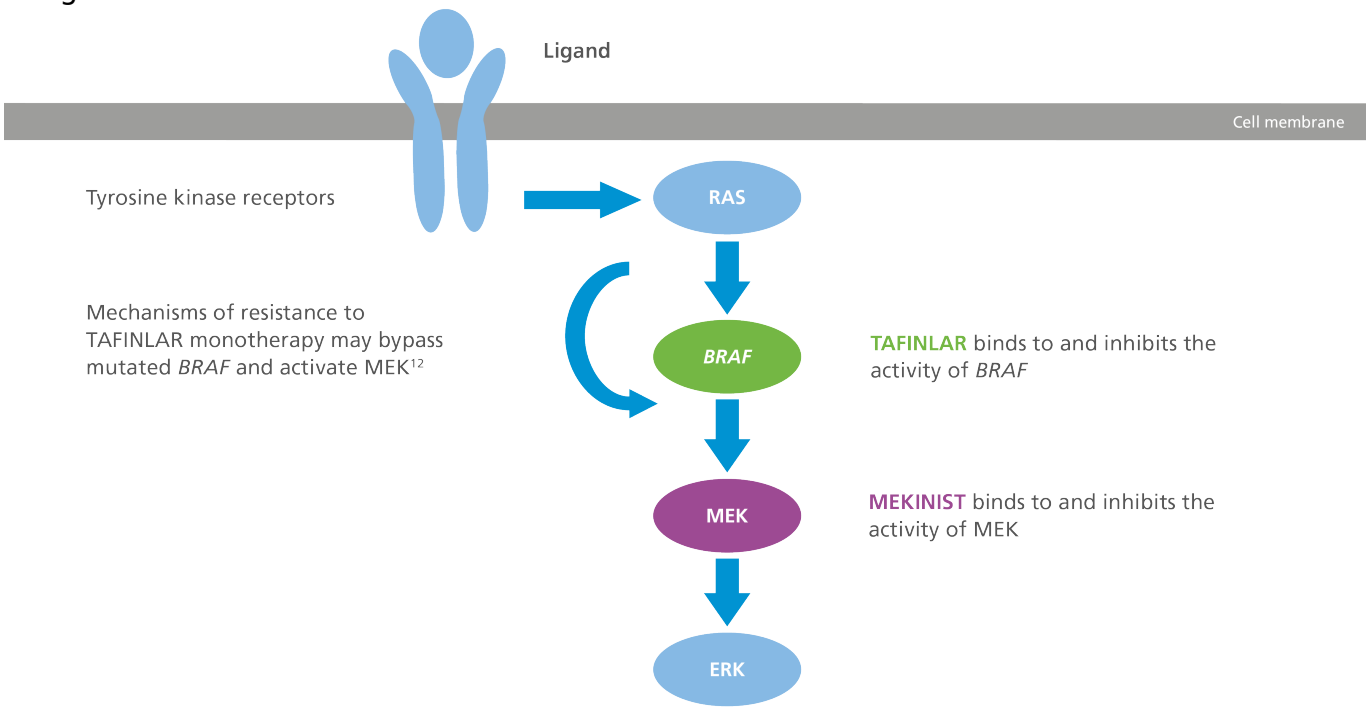
TAFINLAR + MEKINIST target two different kinases in the MAPK pathway (*BRAF* and MEK1/2, respectively) to block the signalling that leads to abnormal cell division and growth.[1,2]

Combination therapy with TAFINLAR + MEKINIST results in prolonged inhibition of tumour growth compared with either drug alone in *BRAF* V600E-mutant tumours, both *in vitro* and *in vivo*.[1,2]

Schematic of the MAPK signalling pathway showing where TAFINLAR and

MEKINIST act[3]

Image



Adapted from Leonetti A, et al. 2018.[3]

ALK, anaplastic lymphoma kinase; *BRAF*, v-raf murine sarcoma viral oncogene homolog B1; *BRAF* V600, mutation of the *BRAF* gene at valine (V) 600; *BRAF* V600E, mutation of the *BRAF* gene at valine (V) 600 to glutamate (E); EGFR, epidermal growth factor receptor; ERK, extracellular signal-regulated kinases; HER2, human epidermal growth factor receptor-2; KRAS, Kirsten rat sarcoma viral oncogene homolog; MAPK, mitogen-activated protein kinase; MEK, mekinist; MEK1/2, mitogen-activated protein kinase 1/2; MET, mesenchymal epithelial transition factor receptor; NGS, next-generation sequencing; NSCLC, non-small cell lung cancer; NTRK1, neurotrophic receptor tyrosine kinase 1; PIK3CA, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha; RAS, rat sarcoma; RET, ret proto-oncogene; ROS1, proto-oncogene 1, receptor tyrosine kinase; SmPC, summary of product characteristics; WT, wild-type.

References

1. TAFINLAR (dabrafenib) Summary of Product Characteristics.

2. MEKINIST (trametinib) Summary of Product Characteristics.

3. Leonetti A, et al. *Cancer Treat Rev* 2018;66:82–94.

4. NHS England. National Genomic Test Directory for cancer. Available at: https://www.england.nhs.uk/publication/national-genomic-test-directories/ [Accessed April 2025].

5. Planchard D, et al. *Lancet Oncol* 2016;17:984–993.

6. O'Leary C, et al. *Transl Lung Cancer Res* 2019;8:1119–1124.

7. Hirsch FR, et al. *Lancet* 2017;389:299–311.

Efficacy

Efficacy

See more details

Hide details

Safety profile

Safety profile

See more details

Hide details

Dosing and administration

Dosing and administration

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UK | April 2025 | FA-11392355

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