Personalized therapy for NSCLC: Biomarker testing, treatment and management in the presence of MET alterations



#### **Disclaimer**

- Unapproved products or unapproved uses of approved products may be discussed by the faculty; these situations may reflect the approval status in one or more jurisdictions
- The presenting faculty have been advised by USF Health and touchIME to ensure that they disclose any such references made to unlabelled or unapproved use
- No endorsement by USF Health and touchIME of any unapproved products or unapproved uses is either made or implied by mention of these products or uses in USF Health and touchIME activities
- USF Health and touchIME accept no responsibility for errors or omissions



# • A conversation between:





**Dr Yasushi Goto** 

Assistant Chief Division of Thoracic Oncology National Cancer Center Hospital Tokyo, Japan

**Prof. Paul Paik** 

Associate Attending Physician Memorial Sloan Kettering Cancer Center New York, USA



# Agenda

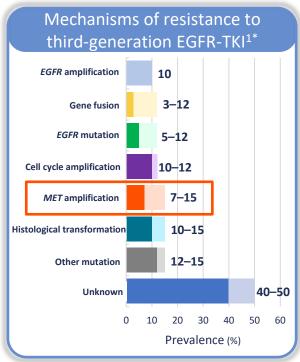
**Emerging mechanisms of resistance to EGFR-TKI therapy in advanced NSCLC** 

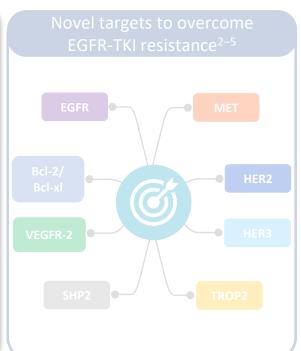
Targeting *MET* amplification in advanced NSCLC

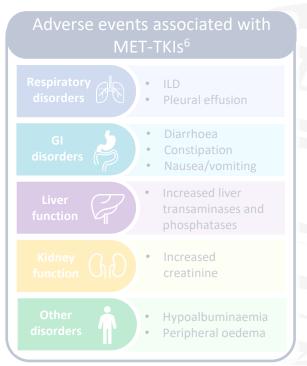
Optimizing outcomes for patients with MET alterations in advanced NSCLC



### MET amplification in advanced EGFR-mutant NSCLC









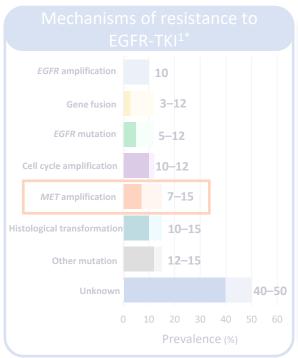
<sup>\*</sup>Mechanisms of resistance to third-generation EGFR-TKI following first-line treatment.

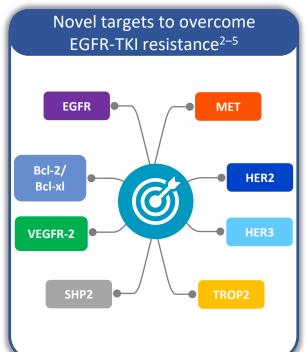
Bcl-2, B-cell lymphoma 2; Bcl-xl, B-cell lymphoma-extra large; EGFR, epidermal growth factor receptor; GI, gastrointestinal; HER2/3, human epidermal growth factor receptor 2/3; ILD, interstitial lung disease; MET, mesenchymal-epithelial transition; NSCLC, non-small cell lung cancer; SHP2, src-homology 2 domain-containing phosphatase 2; TKI, tyrosine kinase inhibitor; TROP2, trophoblast cell surface antigen 2; VEGFR-2, vascular endothelial growth factor receptor 2.

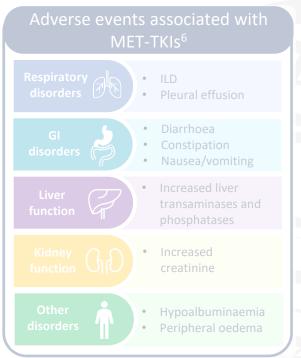
<sup>1.</sup> Reita D, et al. Cancers (Basel). 2021;13:4926; 2. Johnson M, et al. Lung Cancer. 2022;170:41–51; 3. Lu Y, et al. Mol Med Rep. 2021;23:48; 4. Osude C, et al. Cells. 2022;11:1694;

<sup>5.</sup> Sun Y, et al. Cancer Res. 2020;80:4840-53; 6. Cortot A, et al. Clin Lung Cancer. 2022;23:195-207.

## MET amplification in advanced EGFR-mutant NSCLC









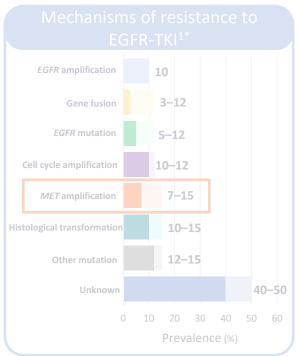
<sup>\*</sup>Mechanisms of resistance to third-generation EGFR-TKI following first-line treatment.

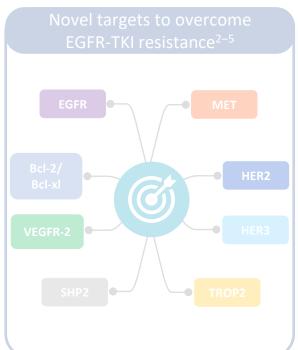
Bcl-2, B-cell lymphoma 2; Bcl-xl, B-cell lymphoma-extra large; EGFR, epidermal growth factor receptor; GI, gastrointestinal; HER2/3, human epidermal growth factor receptor 2/3; ILD, interstitial lung disease; MET, mesenchymal-epithelial transition; NSCLC, non-small cell lung cancer; SHP2, src-homology 2 domain-containing phosphatase 2; TKI, tyrosine kinase inhibitor; TROP2, trophoblast cell surface antigen 2; VEGFR-2, vascular endothelial growth factor receptor 2.

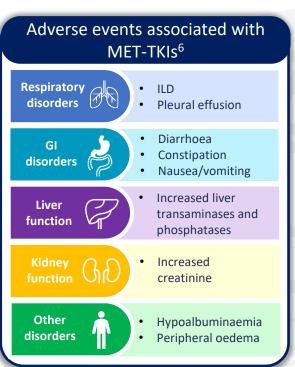
<sup>1.</sup> Reita D, et al. Cancers (Basel). 2021;13:4926; 2. Johnson M, et al. Lung Cancer. 2022;170:41–51; 3. Lu Y, et al. Mol Med Rep. 2021;23:48; 4. Osude C, et al. Cells. 2022;11:1694;

<sup>5.</sup> Sun Y, et al. Cancer Res. 2020;80:4840–53; 6. Cortot A, et al. Clin Lung Cancer. 2022;23:195–207.

# MET amplification in advanced EGFR-mutant NSCLC









<sup>\*</sup>Mechanisms of resistance to third-generation EGFR-TKI following first-line treatment.

Bcl-2, B-cell lymphoma 2; Bcl-xl, B-cell lymphoma-extra large; EGFR, epidermal growth factor receptor; GI, gastrointestinal; HER2/3, human epidermal growth factor receptor 2/3; ILD, interstitial lung disease; MET, mesenchymal-epithelial transition; NSCLC, non-small cell lung cancer; SHP2, src-homology 2 domain-containing phosphatase 2; TKI, tyrosine kinase inhibitor; TROP2, trophoblast cell surface antigen 2; VEGFR-2, vascular endothelial growth factor receptor 2.

<sup>1.</sup> Reita D, et al. Cancers (Basel). 2021;13:4926; 2. Johnson M, et al. Lung Cancer. 2022;170:41–51; 3. Lu Y, et al. Mol Med Rep. 2021;23:48; 4. Osude C, et al. Cells. 2022;11:1694;

<sup>5.</sup> Sun Y, et al. Cancer Res. 2020;80:4840–53; 6. Cortot A, et al. Clin Lung Cancer. 2022;23:195–207.