TPS8653 **Poster Session**

ARTEMIDE-Lung03: A phase 3, randomized, double-blind, multicenter, global study of rilvegostomig or pembrolizumab in combination with platinum-based chemotherapy as first-line treatment for patients with metastatic non-squamous non-small-cell lung cancer whose tumors express PD-L1.

Clarissa Mathias, Yasushi Goto, Carolin Gross-Ophoff-Mueller, Shun Lu, Delvys Rodriguez-Abreu, Alona Zer, Moritz Wolfgang Drachsler, Maozhen Gong, James Hurlock, Jakub Tyszecki, Byoung Chul Cho; Oncoclínicas&Co. and Hospital Santa Izabel, Salvador, Bahia, Brazil; Thoracic Oncology Department, National Cancer Center Hospital, Tokyo, Japan; Thoracic Oncology - Lung Clinic Cologne Merheim, Kliniken der Stadt Koeln gGmbH, Cologne, Germany; Shanghai Lung Cancer Center, Shanghai Chest Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai, China; Complejo Hospitalario Universitario Insular-Materno Infantil de Gran Canaria, Universidad de Las Palmas de Gran Canaria, Las Palmas De Gran Canaria, Spain; Rambam HealthCare Campus, Haifa, Israel; Oncology R&D, Late-Stage Development, AstraZeneca, Cambridge, United Kingdom; Oncology R&D, Late-Stage Development, AstraZeneca, Gaithersburg, MD; Oncology R&D, Precision Medicine and Biosamples, AstraZeneca, Cambridge, United Kingdom; Clinical Development, Late Development Oncology, AstraZeneca, Warsaw, Poland; Yonsei Cancer Center, Yonsei University College of Medicine, Seoul, South Korea

Background: In the United States, non-squamous histology accounts for approximately 70% of all non-small-cell lung cancers (NSCLCs), and stage IV disease with no targetable alterations is associated with poor prognosis, with a median overall survival of around 2 years. Immunotherapy targeting programmed cell death (ligand)-1 (PD-1/PD-L1) with or without platinum-based chemotherapy (PBC) is a standard of care first-line (1L) chemotherapy for patients with advanced non-squamous NSCLC. Despite the efficacy of this approach, not all patients respond to PD-1/PD-L1 immunotherapy and more effective therapeutic strategies are needed. Inhibition of the co-inhibitory T cell immunoglobulin and immunoreceptor tyrosine-based inhibitory motif domain (TIGIT) pathway in combination with PD-1/PD-L1 blockade to increase immunotherapy efficacy is being investigated in NSCLC, as well as other cancer types. Preliminary results (Hiltermann TJN, et al. *J Thorac Oncol [WCLC]* 2024; abstract OA11.03) show that rilvegostomig, a monovalent, bispecific, humanized IgG1 monoclonal antibody targeting both PD-1 and TIGIT receptors, achieved encouraging antitumor response rates and durable responses with a manageable safety profile in NSCLC. The phase 3, randomized, double-blind, multicenter ARTEMIDE-Lung03 study (NCT06627647) will assess the efficacy and safety of rilvegostomig versus pembrolizumab, in combination with platinum-based doublet chemotherapy, as 1L treatment for participants (pts) with non-squamous metastatic NSCLC (mNSCLC). **Methods:** Approximately 878 pts will be randomized 1:1 to either Arm A: rilvegostomig + PBC (pemetrexed + cisplatin or carboplatin) intravenous (IV) every three weeks (Q3W) for 4 cycles followed by rilvegostomig + pemetrexed maintenance treatment IV Q3W, or Arm B: pembrolizumab + chemotherapy IV Q3W for 4 cycles followed by pembrolizumab + pemetrexed maintenance IV Q3W. Eligibility criteria include histologically or cytologically confirmed non-squamous mNSCLC not amenable to curative treatment, tumors expressing PD-L1 (TC $\geq$1%), an Eastern Cooperative Oncology Group performance status of 0 or 1, no sensitizing *EGFR* mutations, *ALK* or *ROS1* rearrangements, or mutations in other oncogenes with approved 1L therapies available. Dual primary endpoints are progression-free survival (Response Evaluation Criteria in Solid Tumors v1.1 by blinded independent central review) and overall survival. Safety/tolerability and biomarkers will also be assessed. The study will be conducted across approximately 350 sites in 25–30 countries. Clinical trial information: NCT06627647. Research Sponsor: AstraZeneca.