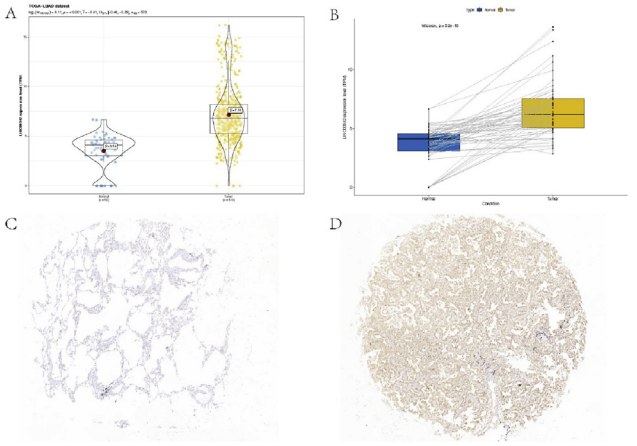

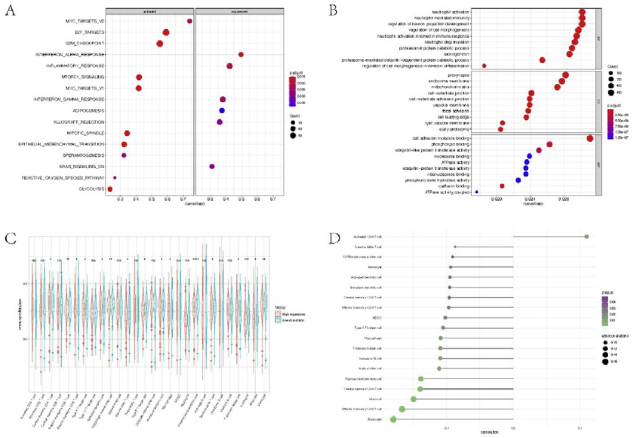

Conclusion: Our study indicates that LINC00942 can act as a biomarker to predict the prognosis of LUAD patients and is correlated with immune cell infiltration in LUAD. **Keywords:** LINC00942, prognosis, immune cell infiltration

P72.09
Study of Relationship Between Proportion of CTLA-4 Positive Tregs in Tumor Infiltrating Lymphocytes and PD-L1 TPS

S. Muto, S. Inomata, H. Yamaguchi, H. Mine, H. Takagi, Y. Ozaki, N. Okabe, Y. Matsumura, Y. Shio, H. Suzuki *Chest Surgery, Fukushima Medical University, Fukushima/JP*

Introduction: KEYNOTE-189 regimen shows a good treatment outcome in patients with previously untreated metastatic non-squamous non-small cell lung cancer (NSCLC) without sensitizing *EGFR* or *ALK* mutation. The problem with this regimen is that patients with a programmed death ligand 1 (PD-L1) tumor proportion score (TPS) of less than 50% have poorer outcomes than those with a PD-L1 TPS of more than 50%. In 2020, FDA approved CheckMate 9LA regimen as first-line treatment of metastatic or recurrent NSCLC. This regimen is promising because similar therapeutic results were reported regardless of PD-L1 TPS. However, in subgroup analysis, the treatment outcome in the group with a PD-L1 TPS of 50% or more was similar to KEYNOTE-189 regimen. Furthermore, ipilimumab may cause a high frequency of adverse events. Biomarkers are desired for appropriate patient selection. Tumor mutation burden has been attracting attention as a biomarker for predicting the effect of ipilimumab, but it is currently considered negative according to the results of CheckMate 227 study. **Methods:** We focused on cytotoxic T-lymphocyte antigen 4 (CTLA-4) positive regulatory T cells (Tregs), which are considered to be the main therapeutic target of ipilimumab. Tumor tissues resected from 55 patients with NSCLC were homogenized using gentleMACS^{TM} Dissociator (Miltenyi Biotec, Germany), and tumor infiltrating lymphocytes were collected using autoMACS® (Miltenyi Biotec, Germany). Patients with sensitizing *EGFR* or *ALK* mutation were excluded. CTLA-4^{+} CD45RA^{-} forkhead box P3^{++} Tregs were measured by flow cytometry. Then, we statistically examined the relationship between the proportion of those cells and PD-L1 TPS. **Results:** The patient background did not vary depending on the PD-L1 TPS. The proportion of CTLA-4^{+} CD45RA^{-} forkhead box P3^{++} Tregs in CD8 T cells was constant regardless of PD-L1 TPS (P=0.4857). Lymphocyte counts in peripheral blood did not differ depending on the PD-L1 TPS (P=0.1797). **Conclusion:** This result suggests that a certain proportion of patients are expected to benefit from CheckMate 9LA regimen, regardless of PD-L1 TPS. Further biomarker study is needed in order to provide appropriate treatment to individual patients. **Keywords:** non-small cell lung cancer, PD-L1, CTLA-4

P72.10
Prognostic Significance of IgA+ B Cells in Non-Small Cell Lung Cancer

M. Vanderputten,[1] F. Aboubakar,[1] C. Bouzin,[2] D. Hoton,[3] C. Stanciu Pop,[4] M. Lecocq,[1] J. Ambroise,[5] C. Pilette,[1] S. Ocak[6] *[1]Irec, Uclouvain, Brussel/BE, [2]Irec Imaging Platform, Uclouvain, Brussel/BE, [3]Cliniques Universitaires Saint-Luc, Bruxelles/BE, [4]Pathology, CHU UCL Namur (Godinne Site), Yvoir/BE, [5]Centre de Technologies Moléculaires Appliquées, Uclouvain, Brussel/BE, [6]Pneumology, CHU UCL Namur (Godinne Site), Yvoir/BE*

Introduction: Lung cancer is the most frequent and the deadliest cancer in the world. In non-small cell lung cancer (NSCLC), which represents 85% of all lung cancers, up to 55% patients relapse following surgery alone or in combination with chemotherapy or radiotherapy. Tumor-infiltrating lymphocytes play a key role in the control of the malignancy and display different phenotypes whilst interacting with cancer cells. Hence, immunoglobulin-A (IgA)-producing cells have been described to have an immunosuppressive function, promoting tumor development and growth in hepatocarcinoma and prostate cancer. Due to the important role of IgA in the lung, we aimed to study the prognostic significance of IgA^{+} cell infiltration in the epithelial and stromal compartments of resected NSCLCs. **Methods:** IgA, CD79a (B cell marker) and pan-cytokeratine expression was analyzed by multiplex immunofluorescence staining in formalin-fixed, paraffin-embedded tissues from 72 NSCLCs resected between 2012 and 2016. Stained sections were scanned using Visiopharm for automatic detection and quantification of CD79a^{+} and IgA^{+} cells in epithelial and stromal areas of the tumors. Expression results were correlated with patient characteristics and clinical outcome. **Results:** Among the 72 cases of NSCLC, 45 were adenocarcinoma and 27 were squamous cell carcinoma. The pathologic stage at diagnosis according to UICC 7th edition was IA for 20, IB for 16, IIA for 9, IIB for 12, IIIA for 11, and IV for four patients. Twenty-three patients were female and 49 were male. First, we confirmed a statistically significant correlation between pathological stage and overall survival (OS) (p<0,001) and disease-free survival (DFS) (p=0,017). The number of intra-tumoral (CD79a^{+}) B cells (with or without IgA expression) was not correlated with OS or DFS. In contrast, a trend was observed between the number of intratumoral IgA^{+} B cells and OS, a higher number of those cells correlating with decreased OS (p=0.06, HR= 3.34). The presence of IgA^{+} B cells in the stromal compartment was not associated with OS (p=0.42) or DFS (p=0.80). **Conclusion:** While we did not observe the correlation between the number of intratumoral B cells and survival previously published in NSCLC, we report a trend for correlation between the presence of intratumoral IgA^{+} B cells and worse OS, in accordance with the immunosuppressive function of IgA^{+} B cells described in other cancers. Further studies are needed to confirm the role of IgA mucosal immunity in lung cancer. **Keywords:** Immunoglobulin-A, Tumor-infiltrating Lymphocytes, non-small cell lung cancer