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Title: CCR2, CCR5, their ligands and chemokine receptor-interacting protein FROUNT have impressive effects on pulmonary adenocarcinoma

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Body: CC chemokine receptor 2 (CCR2), CC chemokine receptor 5 (CCR5) and their ligands, CCL2, CCL5 acts as a potent chemoattractant for inflammatory cells to promote migration from the peripheral circulation to sites of inflammation. FROUNT interacts with CCR2 and CCR5 C-terminal and react to CCR2 and CCR5 signals. 120 patients with pulmonary adenocarcinoma were included in this retrospective analysis. The expression of FROUNT, its' related receptors and ligands mRNA expression in pulmonary adenocarcinoma were examined and evaluated the relation to the clinical data, prognosis, the effect of EGFR, p53 and KRAS genetical mutations. Immunohistochemical staining was performed about the resected cancer specimens. FOUNT and their related-receptors CCR2 and CCR5 mRNA and protein were expressed in clinically resected lung cancer. The differentiation of pathological diagnosis was related with the CCR2, CCR5, CCL2 and CCL5 expression in tumor specimens. High mRNA expression of FROUNT, CCR2, CCR5, and CCL2 are related with smaller tumor size of surgical resected specimens. The mRNA expression of FROUNT in pulmonary adenocarcinoma specimens was influenced by the mutation of EGFR or the combination of p53 and EGFR mutation in lung cancer specimens. High mRNA expression of CCR2, CCR5, CCL2 and CCL5 in lung cancer patients indicated significantly good prognosis than the groups of low expressions. Wild type of p53 and high expression of CCR2, CCR5 and their ligands improved the prognosis. In conclusion, we propose CCR2, CCR5, CCL2, CCL5 and their related molecule, FROUNT as clinical good prognostic factors in pulmonary adenocarcinoma.