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Poster Sessions

The role of growth/differentiation factor 15 (GDF15) in lung fibrosis

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The molecular mechanisms underlying the development of lung fibrosis remain poorly understood. We previously reported that the expression of growth/differentiation factor 15 (*Gdf15*) was considerably induced in the lung from bleomycin-treated lung fibrosis model mice. GDF15 is believed to be associated with stress responses, but the role of GDF15 in lung fibrosis is still unknown. Quantitative RT-PCR analyses confirmed that mRNA expression of GDF15 increased in lung with bleomycin-induced fibrosis. Furthermore, the protein levels of GDF15 were shown to increase in lung, bronchoalveolar lavage fluid and plasma from bleomycin-treated mice compared with those from saline-treated mice by ELISA. Both M1 and M2 macrophages have been noted to be involved in the pathogenesis of lung fibrosis. Using mouse peritoneal macrophages, we then explored the role of GDF15 in M1/M2 macrophage polarization. GDF15 inhibited LPS/IFN γ -induced M1 marker gene expression (*Tnfa* and *Nos2*), but did not affect IL-4/IL-13-induced M2 marker gene expression (*Fizz1* and *Arg1*). These results suggested that GDF15 is involved in M1 polarization. Further *in vitro* studies using other cell types and *in vivo* experiments will be required to elucidate the role of GDF15 in lung fibrosis.