血管内皮細胞におけるMTA1発現は血管新生阻害の標的分子となりうる

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MTA1 expressed in endothelial cells is a candidate target molecule for inhibiting angiogenesis

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Metastasis-associated proteins, such as S100A4 and MTA1, have been studied for over two decades, but correlation between them is not understood. A recent report suggesting that silencing of S100A4 in endothelial cells suppresses in vitro tube formation and in vivo tumor angiogenesis, motivated us to examine MTA1 from the same perspective. In this study, we showed that the suppression of MTA1 in endothelial cells by murine MTA1 siRNA (mMTA1 siRNA) inhibited tube formation in vitro. We found that mMTA1 siRNA has an anti-angiogenic activity in vivo targeting endothelial cells using directed in vivo angiogenesis assay (DIVAA). Moreover, we found mMTA1 siRNA inhibited tumor angiogenesis in a xenograft model. Further, we revealed that inhibition of angiogenesis by mMTA1 siRNA mediates downregulation of S100A4 followed by promoting phosphorylation of non-muscle myosin IIA (NMIIA). These data suggested that silencing of MTA1 in endothelial cells could be used as a new strategy to regress tumors, by inhibiting tumor angiogenesis.