

# Development of nucleic acid medicine targeting angiogenic factor: YB-1 for treatment of refractory cancer and proliferative vascular diseases

Target diseases: refractory cancer, pathologically proliferative vascular lesions

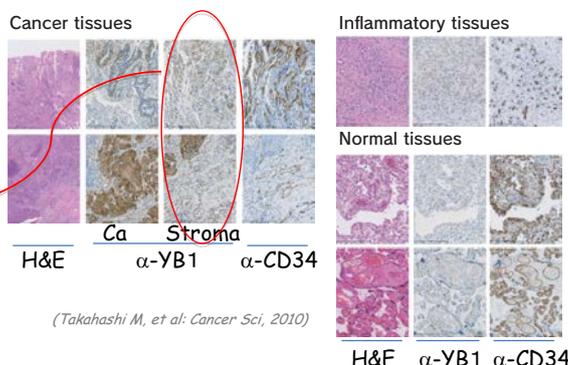
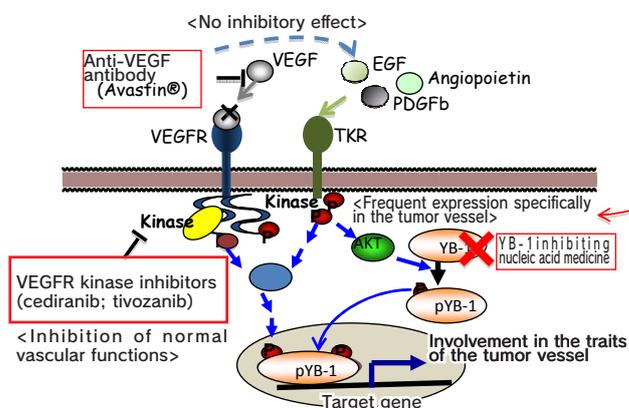
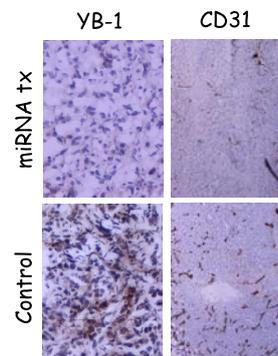
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## Synopsis

A new nucleic acid sequence that effectively inhibits Y-box binding preotein-1 (YB-1) expression and angiogenesis was identified. This sequence could significantly inhibit the vascular growth/ tube formation and enables the induction of apoptosis in tumor vascular endothelium (patent applied for). In this project, we would develop a delivery device for the anti-YB-1 nucleic acid, or modulate the structure of anti-YB-1 nucleic acid to function in the living body without a delivery device. The resultant outcome will open a way for new therapeutic approaches to treat refractory cancer and pathologically proliferative vascular diseases.

## Characteristics of seeds

- \*Nucleic acid sequence newly identified for inhibiting YB-1 expression suppresses the vascular growth and tube formation more significantly than the reported RNA interference sequences, and by itself can induce apoptosis in tumor vascular endothelium (patent applied for), resulting in the decrease in microvascular density (MVD) in tumor tissues (see the right figure).
- \*Because YB-1 is specifically overexpressed in tumor vessels (see the bottom figure right) and the incorporation of the delivery device is accumulated into tumor tissues by enhanced permeability and retention (EPR) effect, the anti-YB-1 nucleic acid seems to have some advantages over conventional angiogenesis inhibitors (Avastin and VEGFR kinase inhibitors) that potentially influence on normal vessels (see the bottom figure left).



Intellectual property information : Patent pending

Related keywords : angiogenic factor YB-1, nucleic acid medicine, delivery device, refractory cancer, pathologically proliferative vascular diseases