

Figure S1. WNT7B mRNA and protein levels in fibroblast and biliary cancer cell lines. (A) mRNA levels of WNT7B in non-biliary cancer cell line (fibroblast cell line) and biliary cancer cell lines were evaluated via a reverse transcription-quantitative polymerase chain reaction. NHDF is a fibroblast cell line; G-415, HuCCT1, TFK-1 and YSCCC are biliary cancer cell lines. (B) Protein levels of WNT7B in non-biliary cancer cell line (fibroblast cell line) and biliary cancer cell lines were evaluated via western blotting. WNT7B, wingless-type MMTV integration site family, member 7.

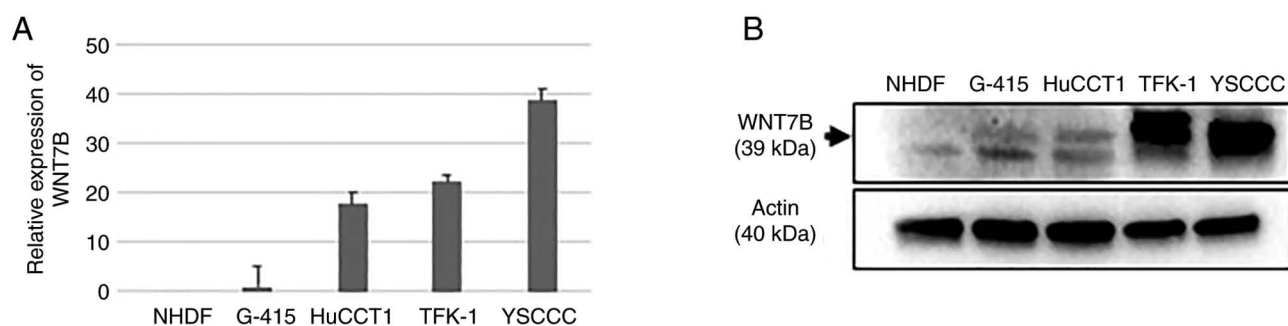


Figure S2. Correlation between the characteristics of biliary cancer patients and serum levels for antibodies against WNT7B₂₃₄₋₂₅₃ (WNT₂₃₄₋₂₅₃-Abs). (A) The correlation between sex and WNT₂₃₄₋₂₅₃-Abs was evaluated using the Wilcoxon rank-sum test. (B) The correlation between age and WNT₂₃₄₋₂₅₃-Abs was evaluated using the Wilcoxon rank-sum test for patients ≥ 65 years and < 65 years. (C) The correlation between CA19-9 and serum levels of antibodies against WNT7B₂₃₄₋₂₅₃ was evaluated using Spearman's rank correlation coefficient. WNT7B, wingless-type MMTV integration site family, member 7; CA19-9, carbohydrate antigen 19-9.

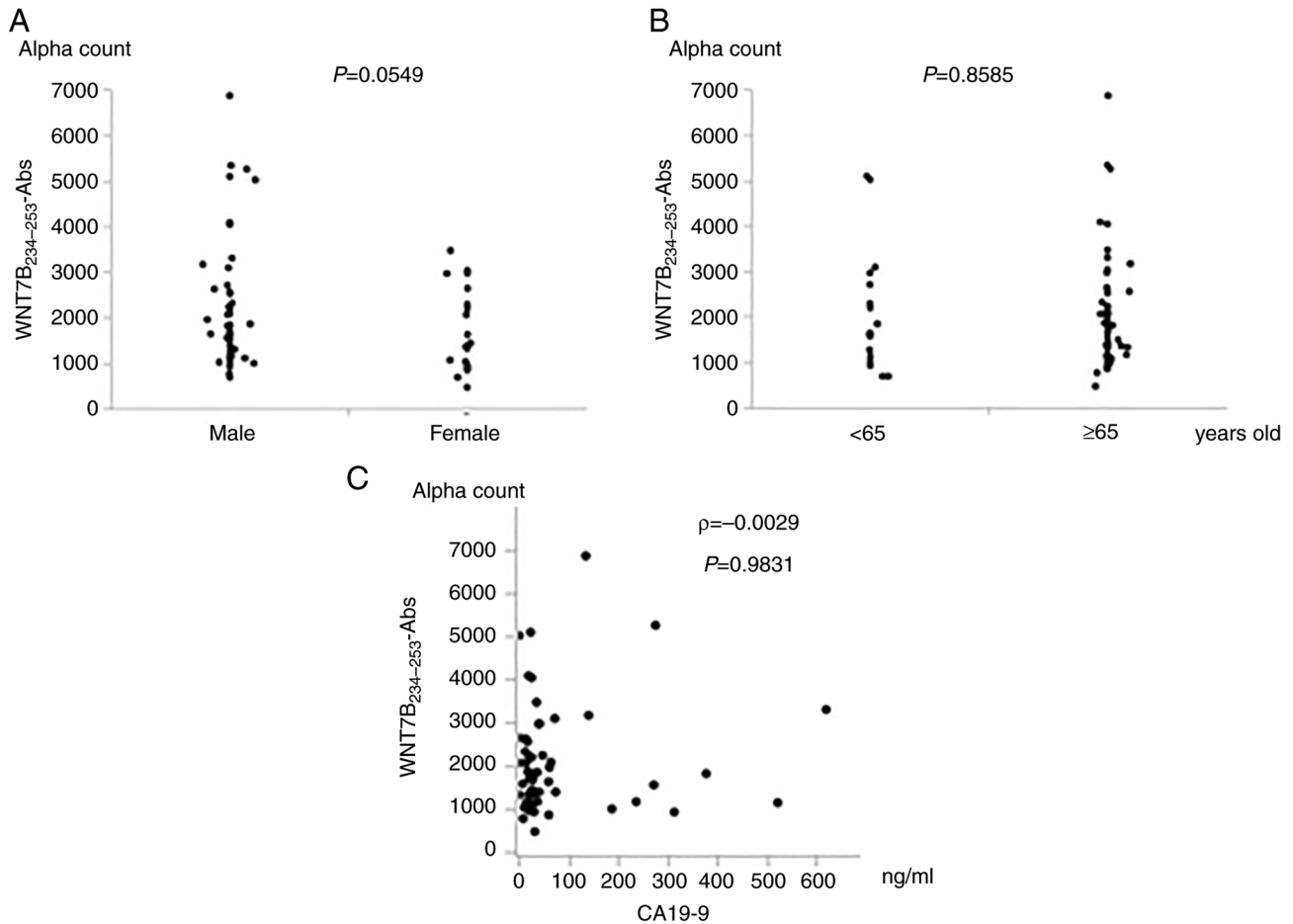


Figure S3. The tertiary structure of WNT7B₂₃₄₋₂₅₃ and WNT7B₂₄₄₋₂₆₃. (A) WNT7B₂₃₄₋₂₅₃ has a helix structure without bending. (B) Since 20 or more amino acid sequences are required to analyze the tertiary structure, WNT7B₂₄₄₋₂₆₀ was analyzed as WNT7B₂₄₄₋₂₆₃ by adding 3 C-terminal amino acids. WNT7B₂₄₄₋₂₆₃ has a helix structure with a bend in the middle. WNT7B, wingless-type MMTV integration site family, member 7.

