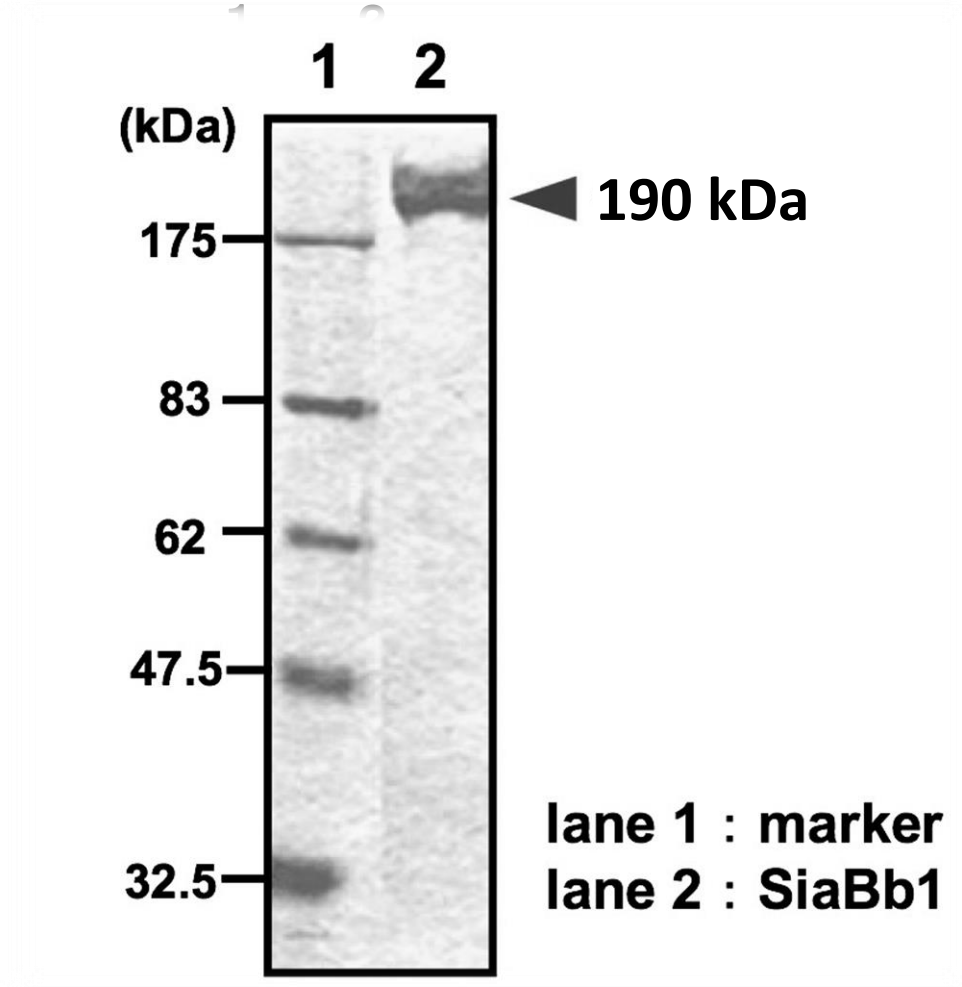
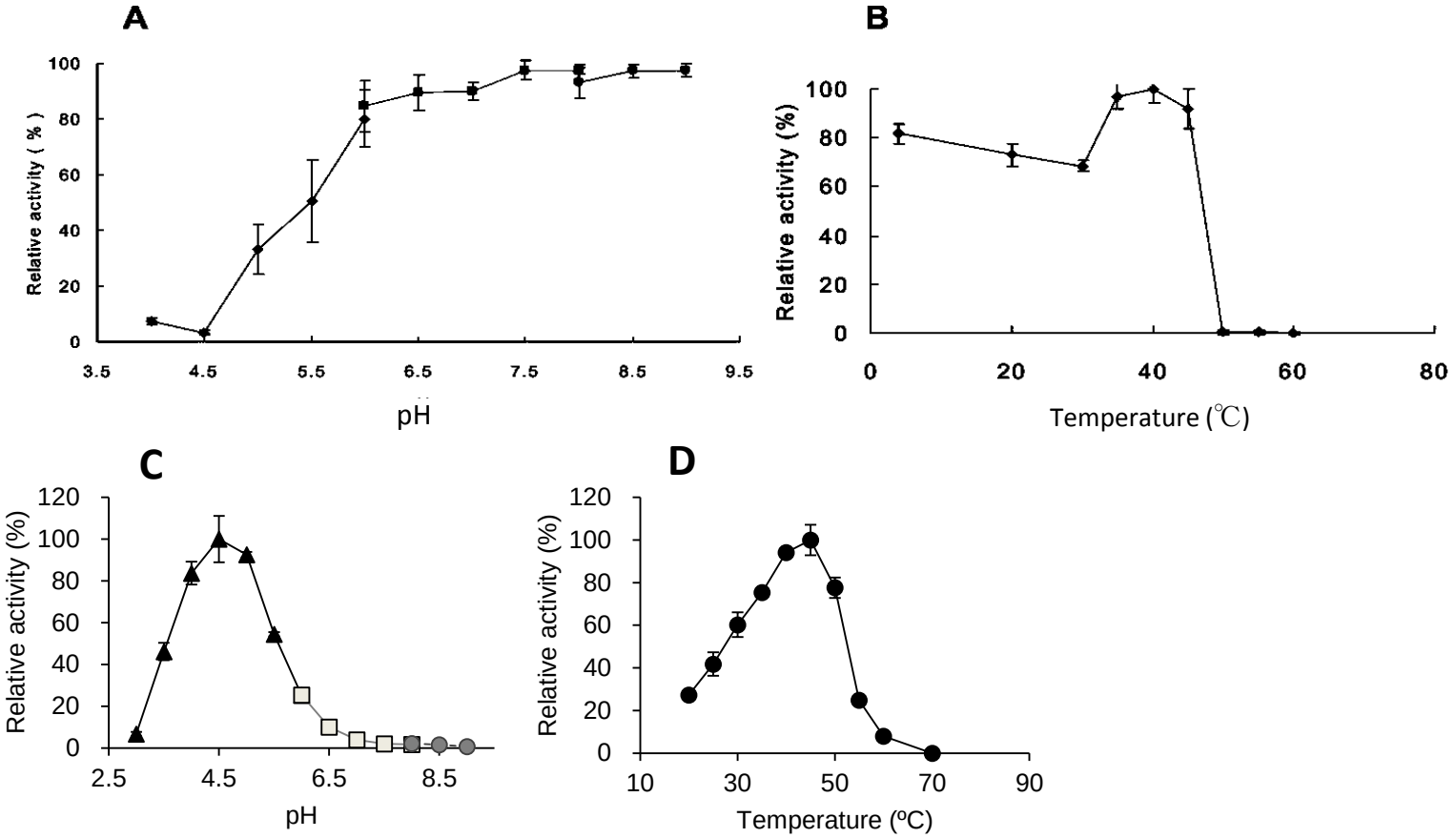


Supplementary Fig.S1.

SDS-PAGE of purified SiaBb1 expressed by *E.coli* cells.



Supplementary Fig.S2.

Effect of temperature and pH on relative sialidase activity and stability of SiaBb1.

A: Effect of pH on stability of SiaBb1

◆: Sodium acetate buffer, ■: Sodium phosphate buffer, ●: Tris-HCl buffer. The level of residual activity at pH 7.5 (48 hr-incubation at 4℃) was defined as 100%.

B: Effect of temperature on stability of SiaBb1

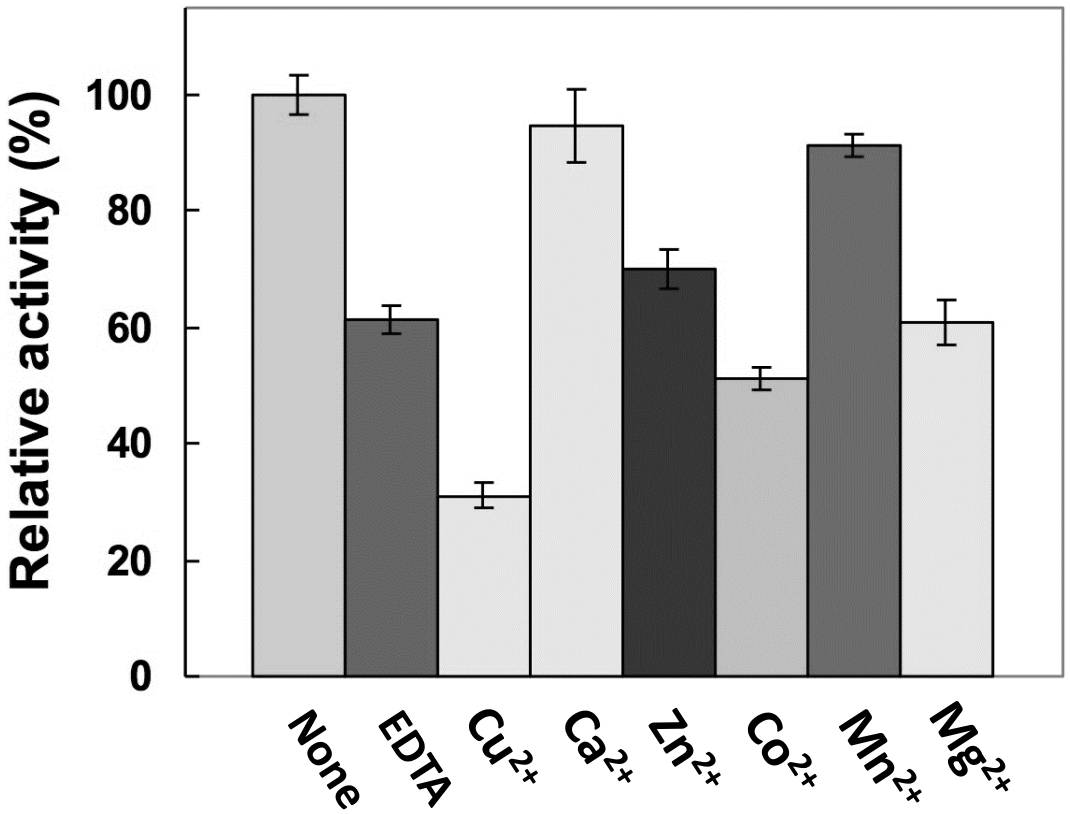
The level of residual activity at 45℃ (30 min-incubation at pH 5.0) was defined as 100%.

C: Effect of pH on sialidase activity of SiaBb1

▲: Sodium citrate buffer, ■: Sodium phosphate buffer, ●: Tris-HCl buffer. The level of activity at pH 4.5 (5 min-incubation at 37℃) was defined as 100%.

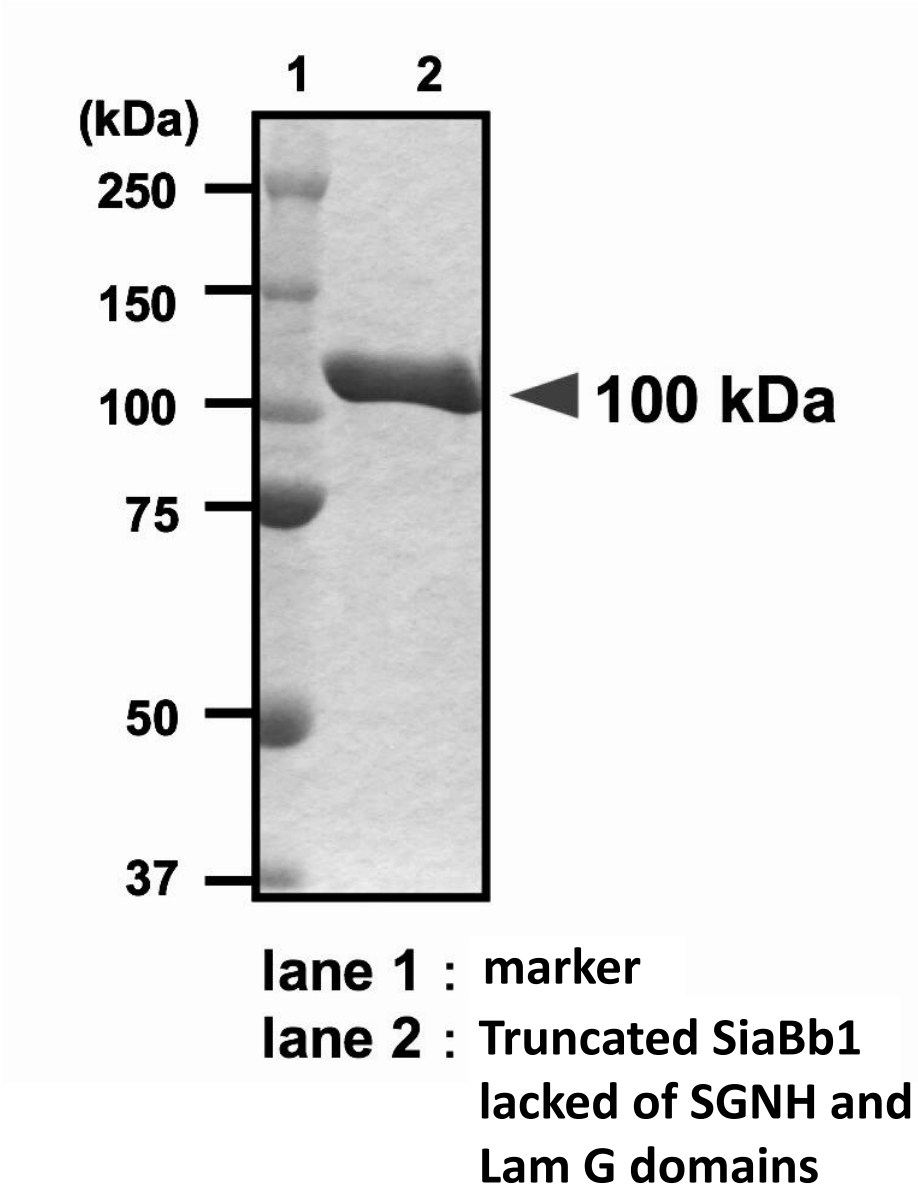
D: Effect of temperature on sialidase activity of SiaBb1

The level of activity at 45℃ (5 min-incubation at pH 5.0) was defined as 100%.



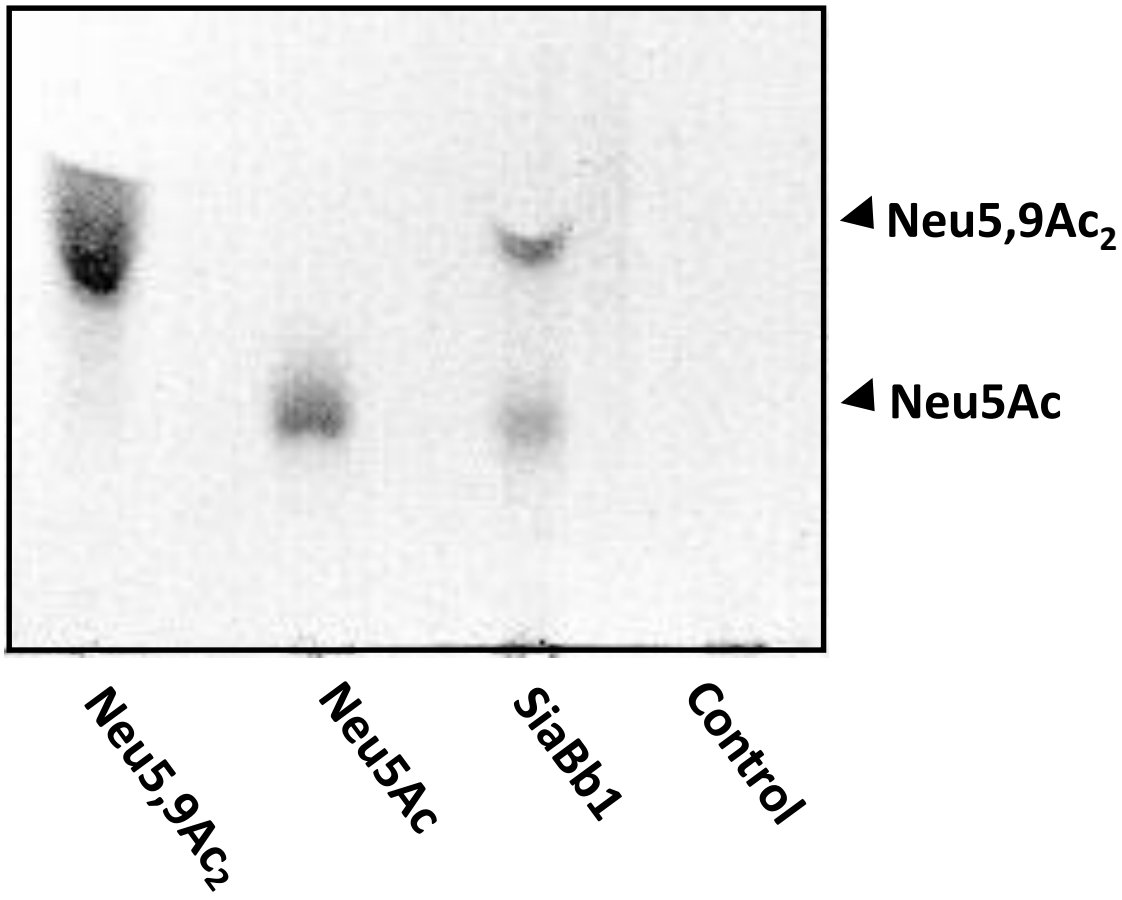
Supplementary Fig.S3.

Effect of various metal ions added on sialidase activity of SiaBb1. Relative activities were expressed as percentage of the activity of SiaBb1 incubating without metal ions added under standard assay condition.



Supplementary Fig.S4.

SDS-PAGE of the truncated SiaBb1 lacked of both SGNH and Lam G domains.



Supplementary Fig.S5.

The reaction mixtures were analyzed by TLC using a solvent of 1-butanol/acetic acid/water (2/1/1) followed by spraying with the diphenylamine-aniline-phosphoric acid reagent. The reaction mixture without substrate acted as the control.