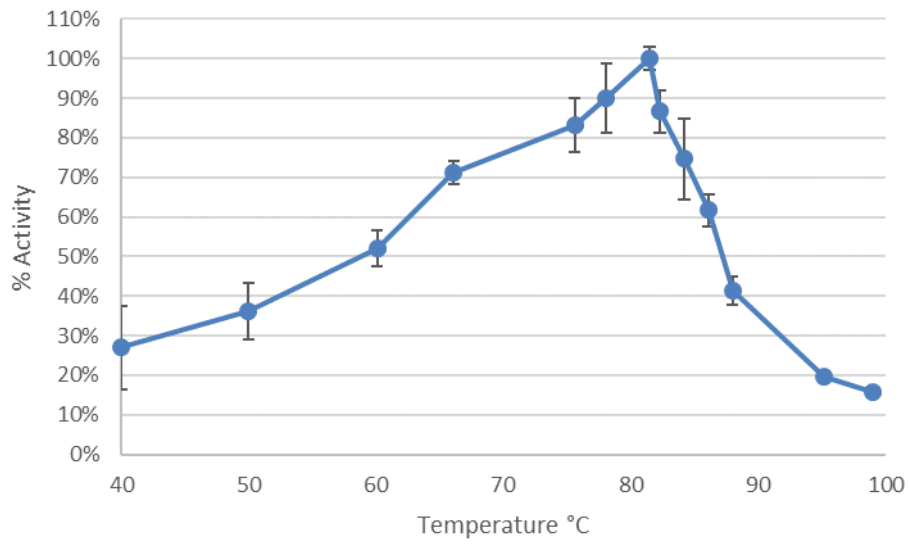
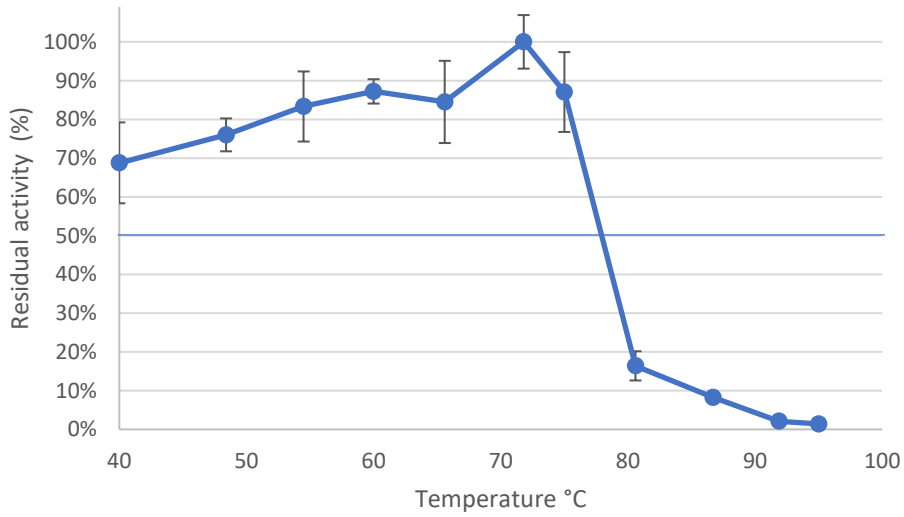


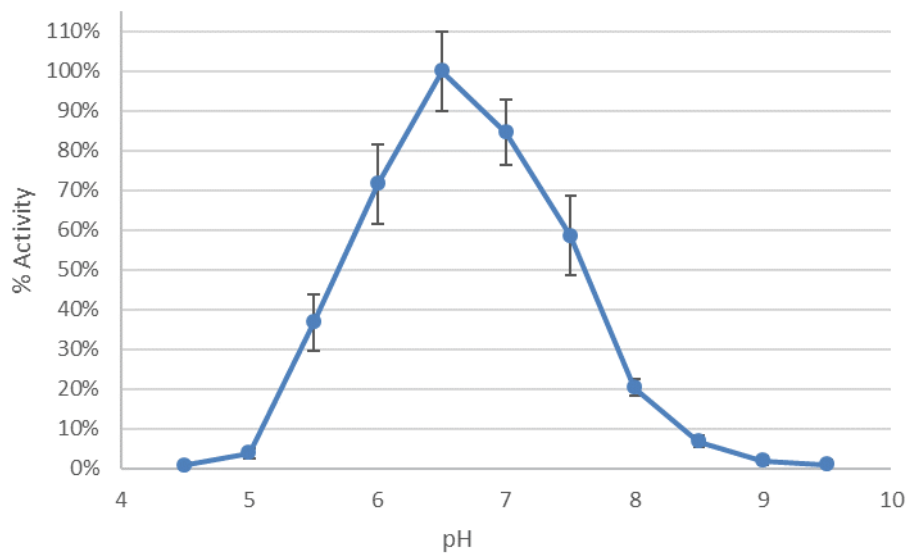
(A)



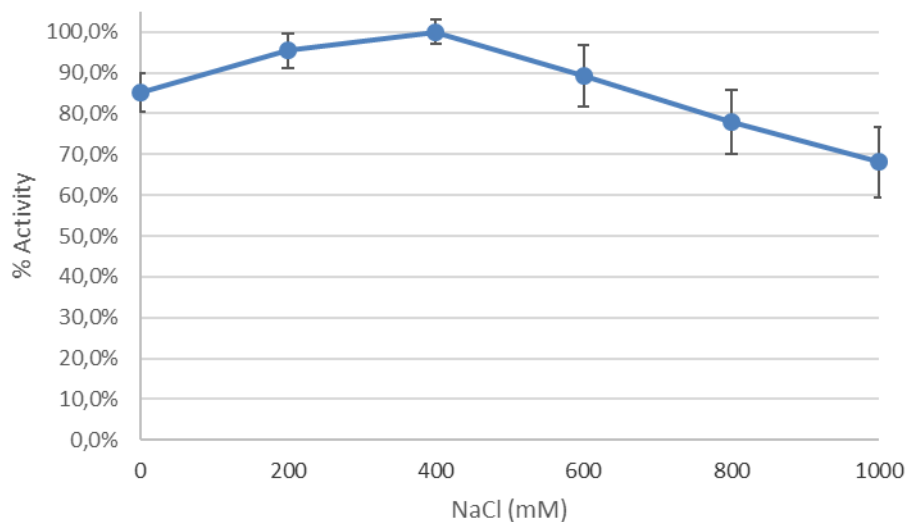
(B)



(C)



(D)



**Supplementary Figure S3.** Characterization of recombinantly produced AlyRm4 carried out applying DNS assay. The reaction time was 1 minute to minimize colour formation of monuronate derivatives. The reactions were done in triplicate. The average values (dots) and standard deviations (error bars) are shown. A) Optimum temperature of activity, B) Thermal stability in absence of substrate. T1/2 determined by incubating the enzyme (1  $\mu$ M) in buffer, at temperatures between 40°C and 95°C for 30 minutes and subsequently measuring the residual activity at 60°C, C) pH activity profile, and D) Optimum salinity.