

# Supporting information for publication

## **Biochemical and molecular characteristics of a novel hyaluronate lyase from *Citrobacter freundii***

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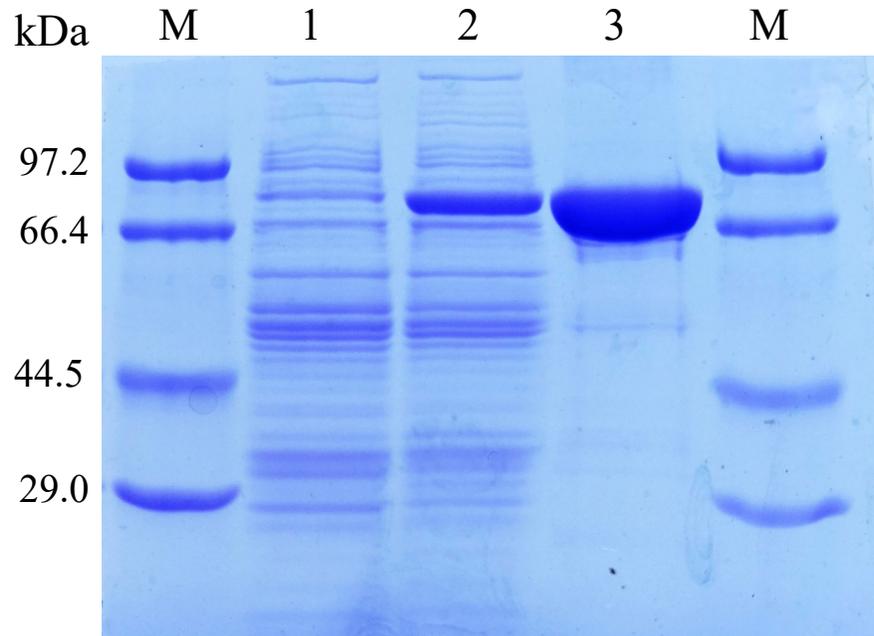
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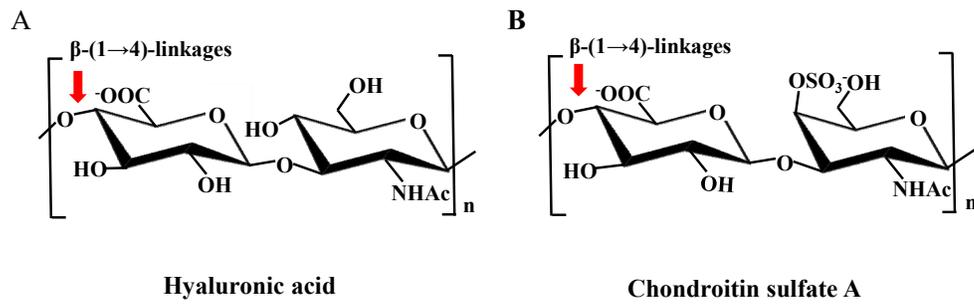
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Running title: A novel hyaluronate lyase from *Citrobacter freundii*

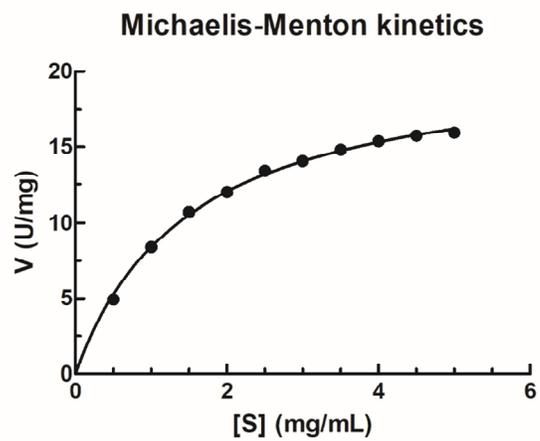


**Figure S1.** SDS-PAGE analysis.

Lanes: M, protein molecular weight marker; 1 culture supernatant of induced transformant harboring the empty plasmid, 2 culture supernatant of the induced transformant harboring *pEASY-hynACF8*, 3 purified recombinant HynACF8 by  $\text{Ni}^{2+}$ -NTA.



**Figure S2.** The illustration of substrate structures degraded by purified rHynACF8.



Michaelis-Menten kinetics	Table of results
Best-fit values	
Vmax	21.05
Km	1.498
Std. Error	
Vmax	0.2192
Km	0.04445
95% Confidence Intervals	
Vmax	20.60 to 21.50
Km	1.407 to 1.589
Goodness of Fit	
Degrees of Freedom	28
R2	0.9958
Absolute Sum of Squares	1.489
Sy.x	0.2306
Constraints	
Km	Km > 0.0
Number of points	
Analyzed	30

**Figure S3.** Kinetic characterization of purified rHynACF8.

**Table S1.** Effects of anions in metal salts on purified rHynACF8

<b>substance</b>	<b>activity-relative activity (%)<sup>a</sup></b>	<b>stability-relative activity (%)<sup>a</sup></b>
NaCl	126.9±2.9	79.4±1.6
Na <sub>2</sub> SO <sub>4</sub>	84.2±5.0	140.7±4.7
NaAc	88.6±4.3	102.5±3.4

<sup>a</sup> Values represent the means ± SD (n = 3) relative to the untreated control sample.