Journal of Biomedical Science

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Journal of Biomedical Science 2012, **19**:87 doi:10.1186/1423-0127-19-87

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ISSN 1423-0127

Article type Correction

Submission date 17 September 2012

Acceptance date 24 September 2012

Publication date 6 October 2012

Article URL http://www.jbiomedsci.com/content/19/1/87

Correction: A smallest 6 kda metalloprotease, mini-matrilysin, in living world: a revolutionary conserved zinc-dependent proteolytic domain- helix-loop-helix catalytic zinc binding domain (ZBD)

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There is a major mistake in the order of Figure 5 to Figure 7 in [1]. We replce the Figure 5 and Figure 6 in [1] with new corrected Figures of Figure 1 and Figure 2. We also replace the correct original order of Figure 6 and Figure 7 in [1] with Figure 2 and Figure 3 in this correction. Sorry for the inconveniences!

Figure 1 Combination of 0.05% Triton and 0.2 mg/ml heparin give the optimal refolding activities to cleave the synthetic coumarin-labelled peptide substrate, Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH2. ***Panel A*****:** Shows the refolded ZBD activities increased in dose-dependent manner. In the absence of the refolding accessory factors, Triton X-100 and heparin. The significant reduced activities in the high-concentration (> 100 μg/ml) was observed which could be due to autolysis. ***Panel B*****:** Under 37°C incubation for 18 hours, Triton X-100 and heparin can prevent the activity loss. (All experiments were repeated at two batch of purification and refolding preparation and data collected from a representative experiments)

Figure 2 The polymerization of the 6 kDa ZBD of MMP-7 in pentomer and Octmer demonstrate the significant proteolytic activities towards to the CM-transferrin substrate in CM-transferrin zymographic assay. 300 μg of craboxylmethylated transferrin (CM-transferrin) was co-polymerized with SDS-PAGE as a substrate gel for analyzing the MMP-7 activities in situ

Figure 3 Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH2 assay for characterization of refolded ZBD. ***Panel A*****:** Under the optimized conditions, the refolded ZBD shows increasing enzymatic activity in dose-dependent manner. No significant activity loss was found in the high concentration situation. ***Panel B*****:** approximately 6 ng/ml refolded ZBD shows the increasing activity during the time course study and no significant activity loss during overnight incubation. ***Panel C*****:** Recombinant ZBD can be inhibited by 10 nM EDTA, 1 mM CoCl2 and synthetic inhibitors, 50 nM BB94 & SC44463 and CoCl2, but not b6 250 nM Phosphoramidon. (All experiments were repeated at two batch of purification and refolding preparation and data collected from a representative experiments)

References

1. Yu WH, Huang PT, Lou KL, Yu SS, Lin C: **A Smallest 6 kDa Metalloprotease, Mini-matrilysin, in Living World: a Revolutionary Conserved Zinc-Dependent Proteolytic Domain- Helix-Loop-Helix Catalytic Zinc Binding Domain (ZBD).** *J Biomed Sci* 2012, **19**:54.

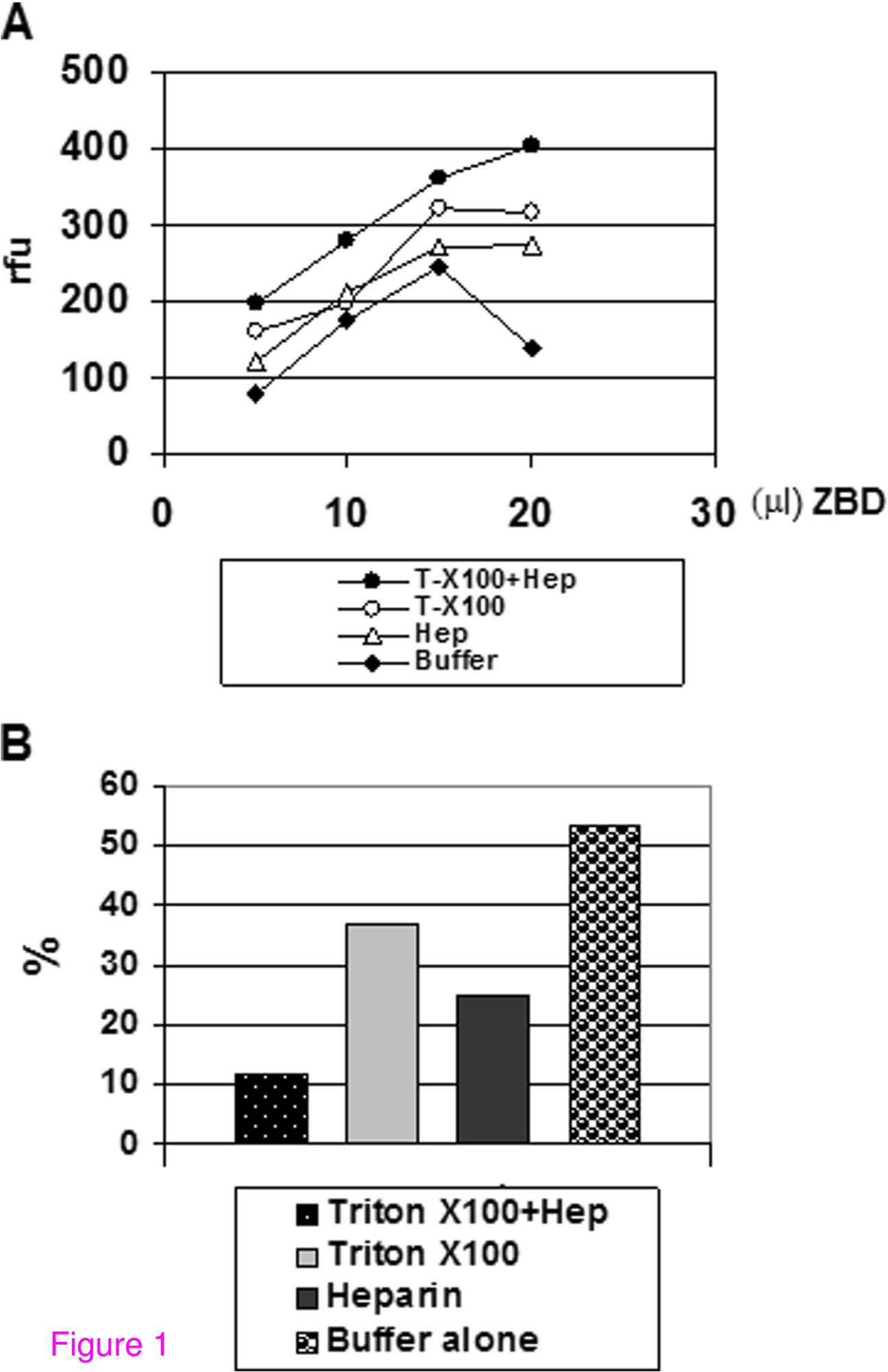
A
500
400
300
200
100
0
rfu
0
10
20
30
(µl) ZBD
T-X100+Hep
T-X100
Hep
Buffer
B
60
50
40
30
20
10
0
%
Triton X100+Hep
Triton X100
Heparin
Buffer alone

Figure 1

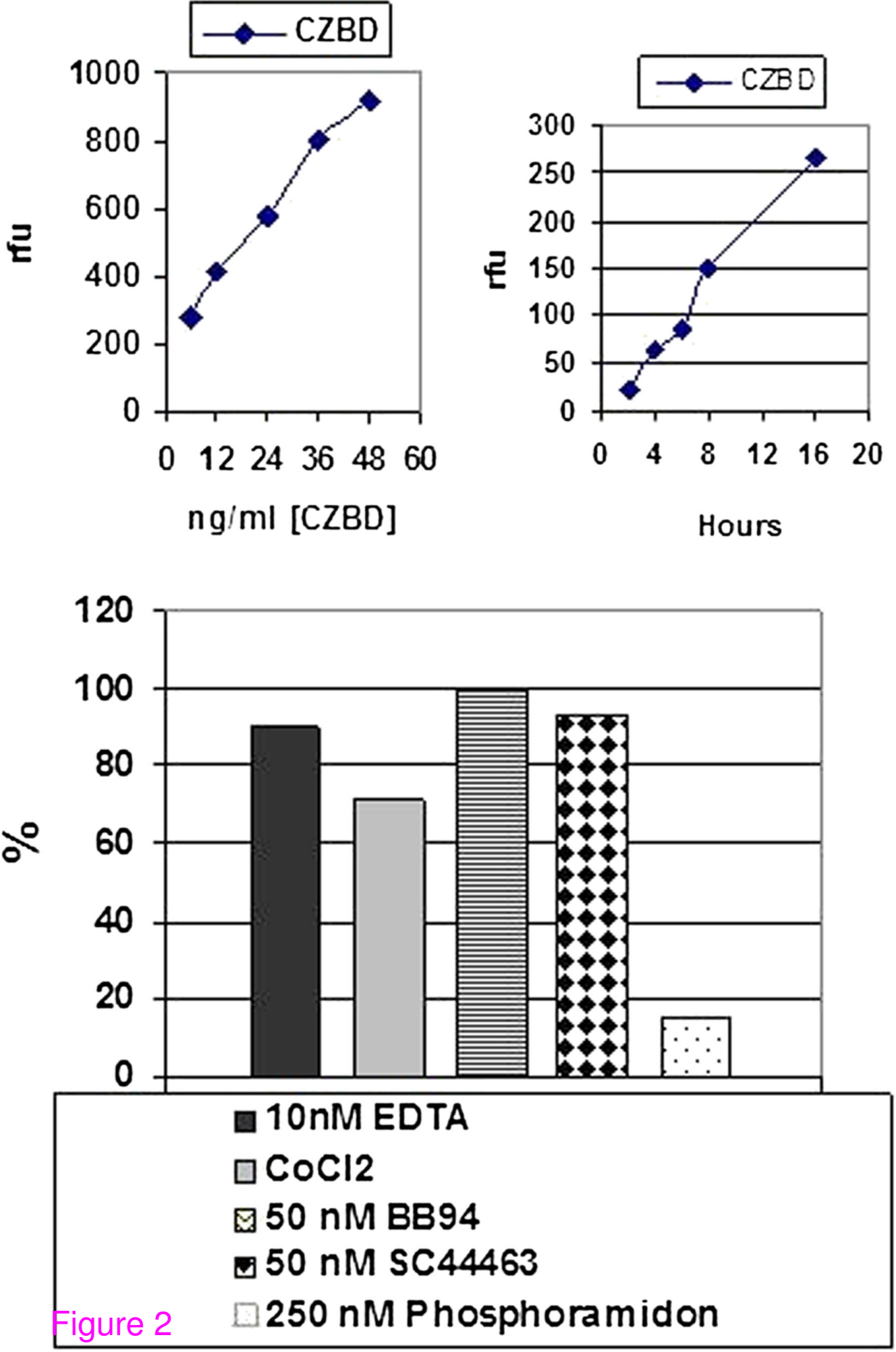
CZBD
1000
800
600
400
200
0
rfu
0 12 24 36 48 60
ng/ml [CZBD]
CZBD
300
250
200
150
100
50
0
rfu
0 4 8 12 16 20
Hours
120
100
80
60
40
20
0
%
10nM EDTA
CoCl2
50 nM BB94
50 nM SC44463
250 nM Phosphoramidon

Figure 2

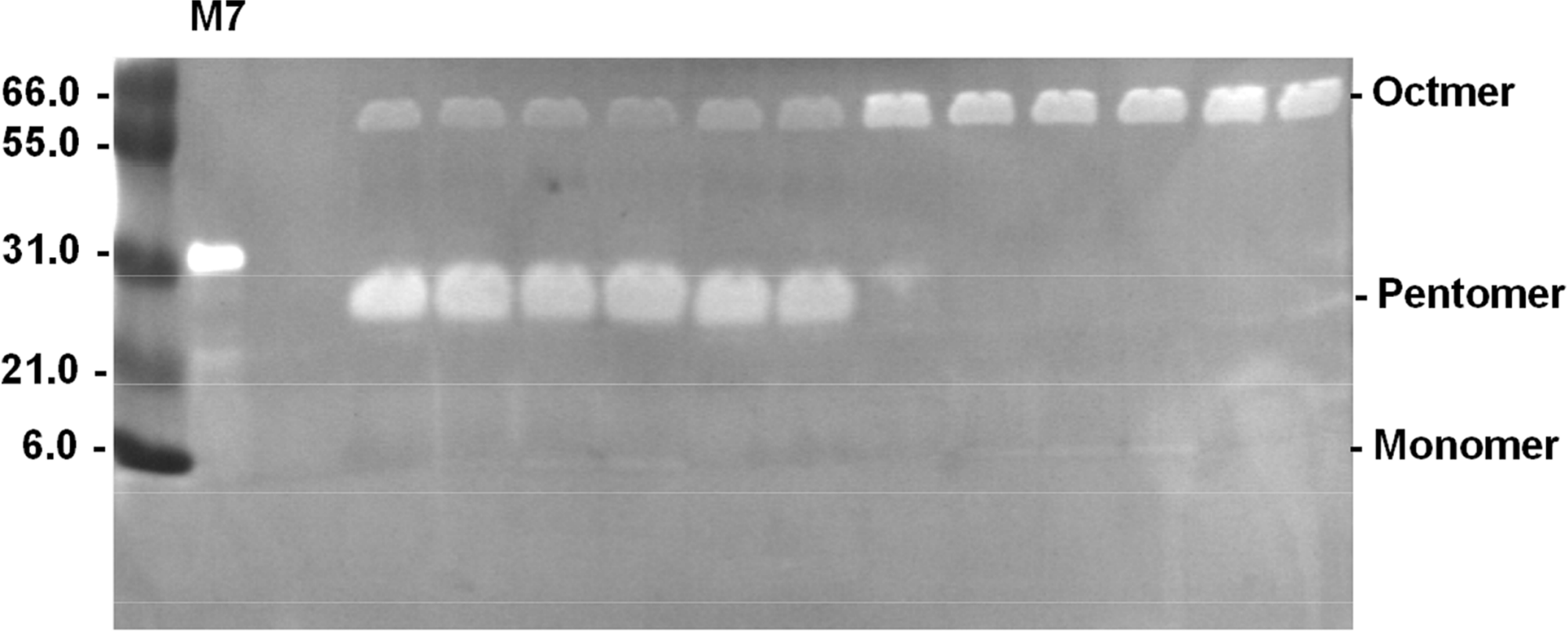
M7
66.0
55.0
31.0
21.0
6.0
Octmer
Pentomer
Monomer
ZBD 0 5 5 5 5 5 5 5 5 5 5 5 5
Heparin 2 0 0.5 1 2 0 0.5 1 2
Triton X100 + - - - - - - + + + + + +

Figure 3