

1 **Supplementary files**

2 **Long-lasting antiviral innate immune memory in the Lophotrochozoan Pacific**
3 **oyster, *Crassostrea gigas***

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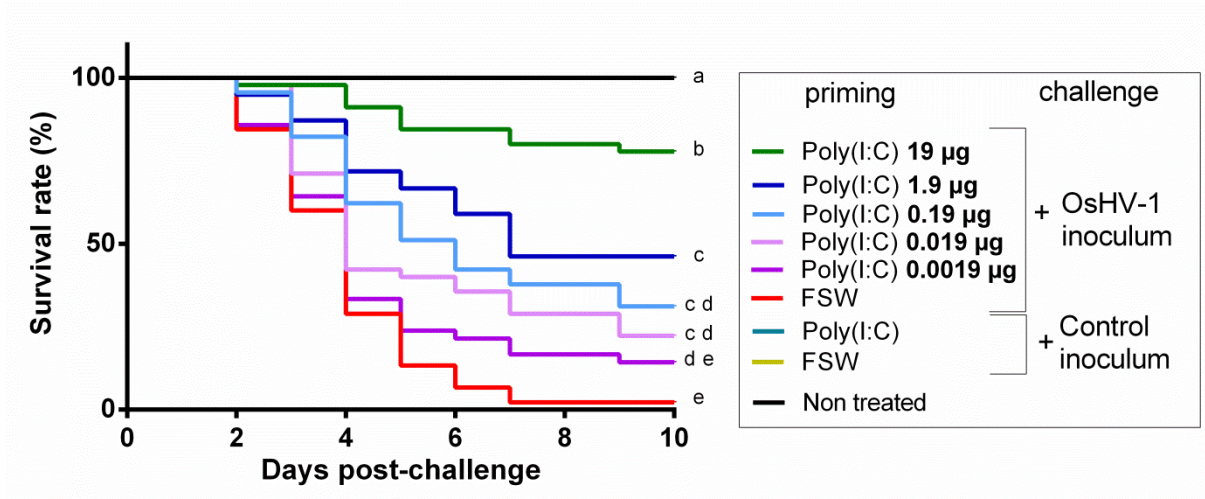
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31 **Supplementary figure 1 S: Poly(I:C) specifically protects against viral infection in a dose**
 32 **dependent manner**

33 Kaplan–Meier survival curves generated from spats primed by injection with poly(I:C) HMW at
 34 different doses (19µg, 1.9µg, 0.19µg, 0.019µg or 0.0019µg per g of oyster) and injected 1 day post-
 35 priming with OsHV-1 µvar homogenate (2.3×10^7 copies of DP per oyster). Priming with sterile
 36 filtered seawater (FSW) or poly(I:C) (19µg per gram of oyster) before challenge with control
 37 inoculums was used as control (lines are hidden behind non-treated control). Mortalities were
 38 monitored for each treatment group comprising 45 oysters (15 per tank) for 10 days after infection.
 39 Different letters next to the graphed lines indicate statistically significant difference among treatment
 40 with a-b corresponding to p -value <0.05; b-c to p -value <0.01; c-d to p -value <0.001; d-e to p -value
 41 <0.01 (log-rank test, n=45).

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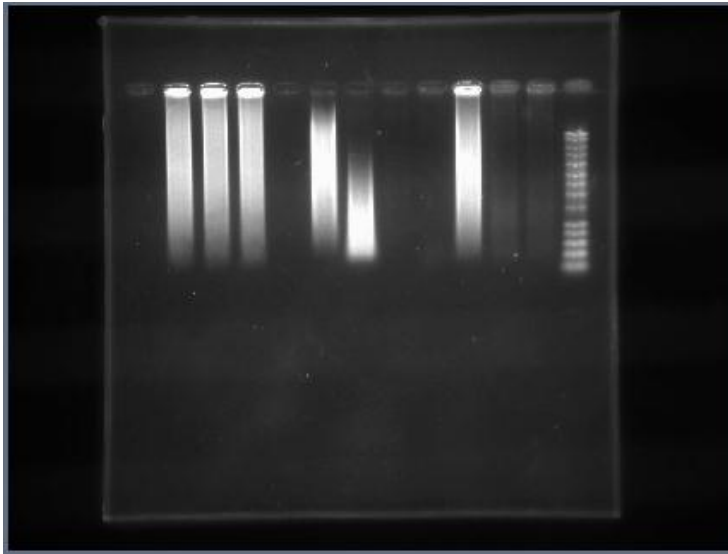
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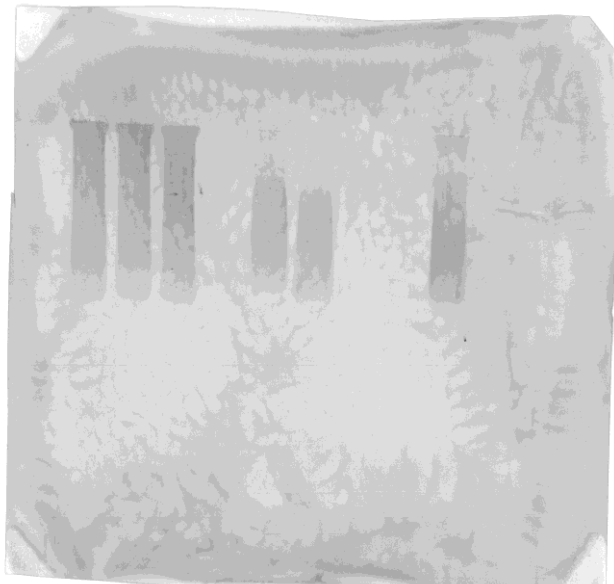
45 **Supplementary figure 2S: Immuno-northern-blotting for Poly(I:C) persistence assay**

46 **a.**Uncropped image of Poly(I:C) electrophoresis referencing to Figure 6a. **b.**Uncropped image of
47 poly(I:C) immuno-localized using the J2 antibody (Scicons) referencing to Figure6b.**c.**Uncropped
48 image of control membrane for immune-northern-blotting: 2 lanes loaded with 1 μ g of poly(I:C) were
49 separated on 1% TAE agarose gel and blotted onto the same membrane. Membrane was cut in two and
50 one part (Figure 6b and supplementary Figure 2sb) was treated with the J2 antibody whereas for the
51 other part (supplementary Figure 2Sc) was only treated with the secondary antibody.

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54 b.



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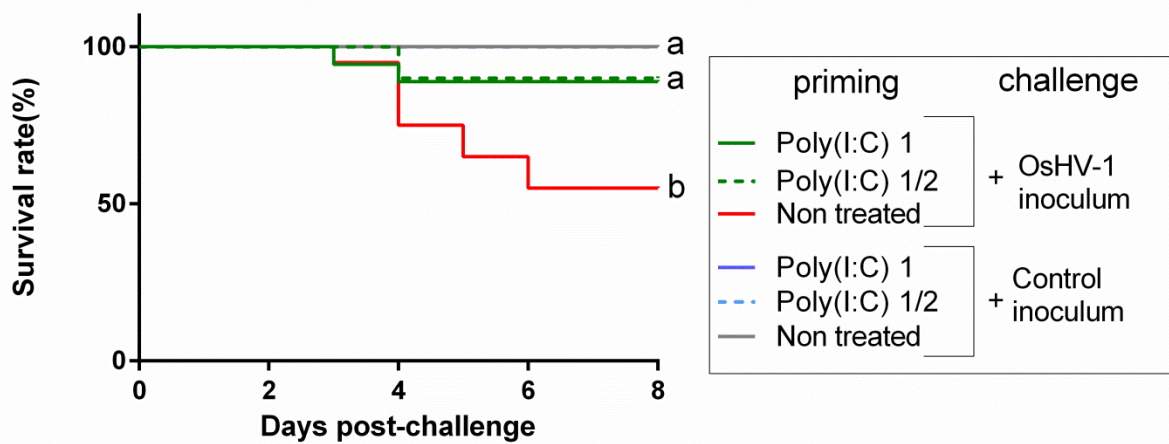
69 c.

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71 **Supplementary figure 3S: Poly(I:C) protection through bath treatment**

72 Kaplan–Meier survival curves were generated from spats exposed after anesthesia to two different
 73 poly(I:C) bath treatments ((1) 76 $\mu\text{g.mL}^{-1}$, solid green and blue lines or (1/2) 38 $\mu\text{g.mL}^{-1}$, dotted green
 74 and blue lines) or only anesthetized as control (red and grey lines) during 2h30. Twenty four hours
 75 after treatment, oysters were injected with OsHV-1 homogenate (3.6x10⁷ copies of DP gene per
 76 oyster; solid green, dotted green and red line) or with a pathogen free control homogenate (0 copies of
 77 DP gene per oyster; solid blue, dotted blue and grey line). Mortalities in groups of 20 oysters per
 78 treatment were monitored for 8 days after injection. Different letters next to the graphed lines indicate
 79 statistically significant difference among treatment at *p*-value <0.05 (log-rank test;n=20).



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