

## Supplementary Materials for

### **Pre-conception maternal helminth infection transfers via nursing long-lasting cellular immunity against helminths to offspring**

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#### **This PDF file includes:**

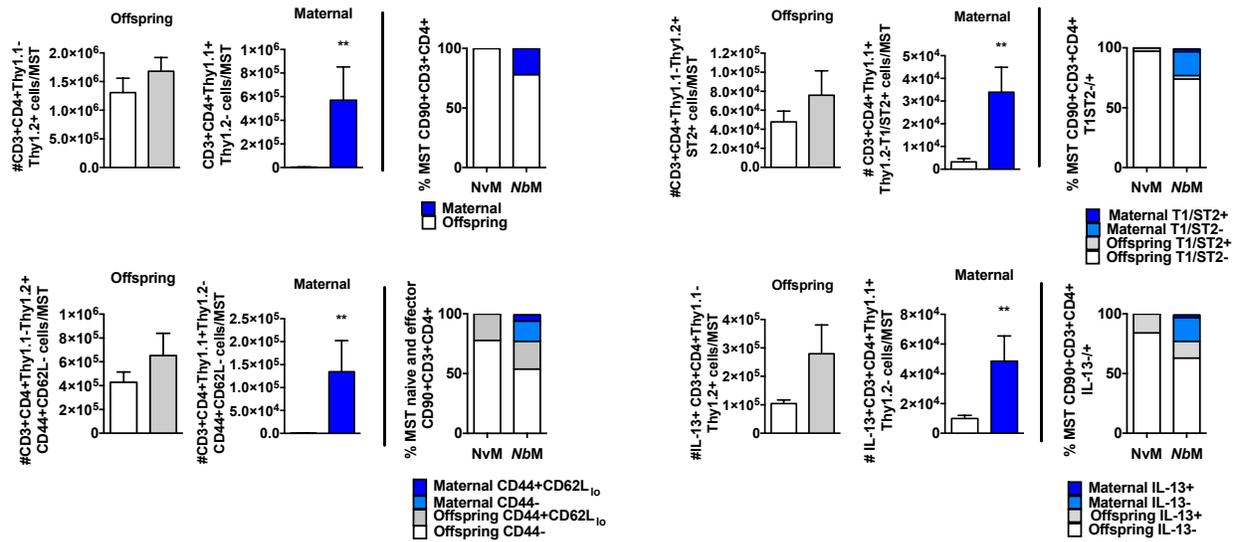
Fig. S1. Offspring acquire, via nursing, a population of maternally derived CD4 T cells with a heightened T<sub>H</sub>2 responsiveness following *Nb* infection.

Fig. S2. Offspring nursed on *Hp*-infected mothers do not demonstrate maternal cell transfer.

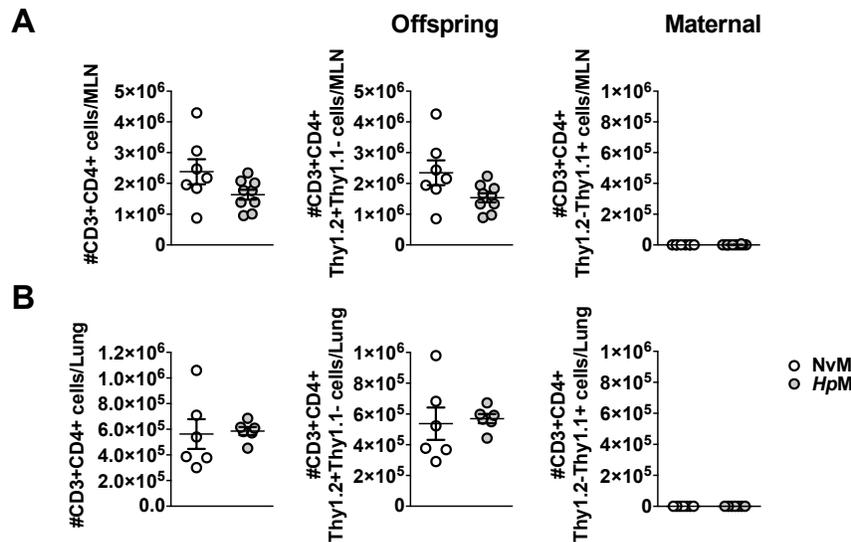
Fig. S3. Allogeneic *NbM* offspring have raised numbers of maternally derived lung CD4<sup>+</sup> T cells following *Nb* infection.

Fig. S4. Offspring acquire, via nursing, persistent protection from *Nb* related to raised T<sub>H</sub>2 CD4<sup>+</sup> T cell responses following *Nb* infection in an allogeneic setting.

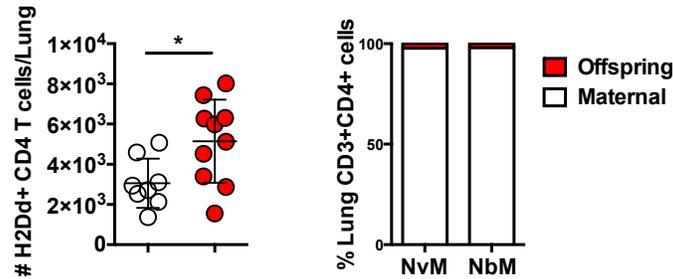
## SUPPLEMENTARY FIGURES



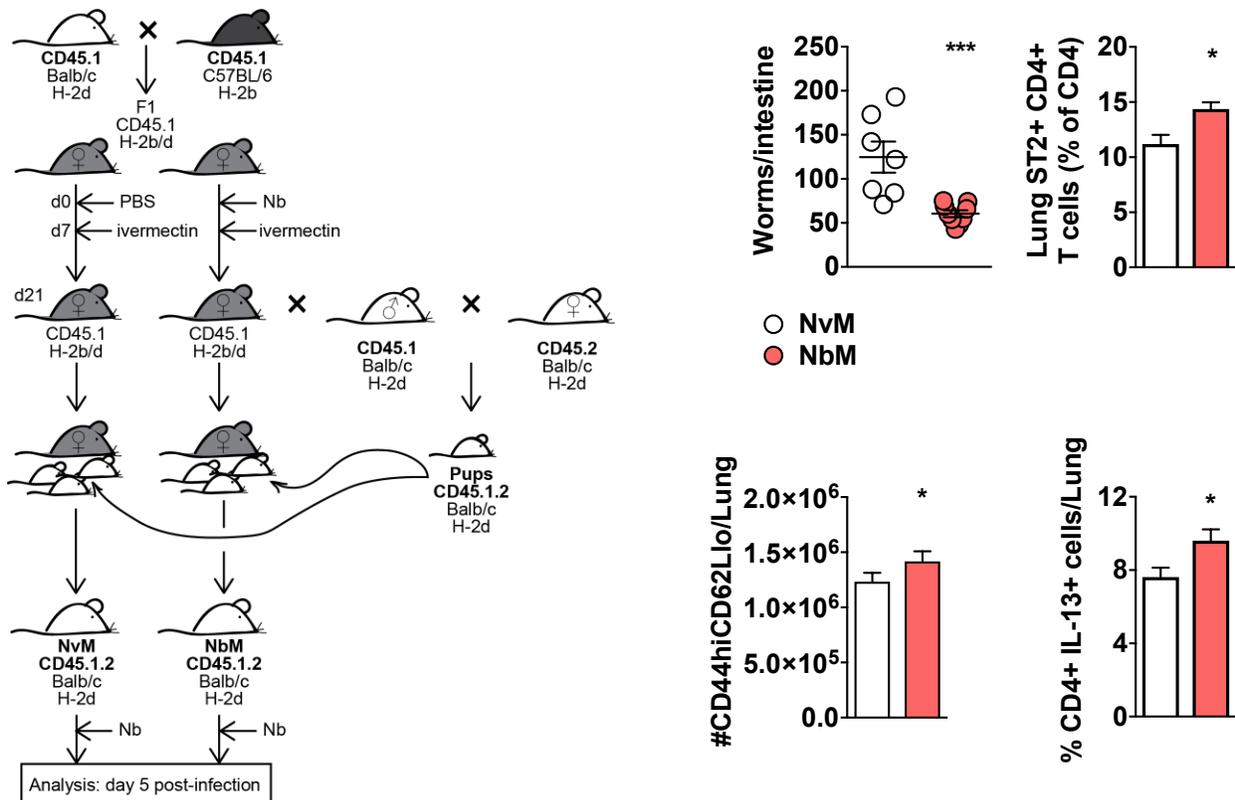
**Fig. S1. Offspring acquire, via nursing, a population of maternally derived CD4 T cells with a heightened  $T_H2$  responsiveness following *Nb* infection.** 3-day-old NvM Thy1.2+ pups were fostered by Thy1.1+ NvM/*Nb*M wildtype dams. 8-week-old NvM Thy1.2+ mice that had been fostered on either NvM or *Nb*M Thy1.1+ dams were infected with 500xL3 *Nb* and killed day 5 PI. Numbers and proportions of offspring endogenous (Thy1.2+Thy1.1-) and maternally derived (Thy1.1+Thy1.2-) MST Thy1+CD3+CD4+, T1/ST2+, IL-13+ and CD44+CD62L<sub>lo</sub> expressing T cell populations were established. All data is representative of a minimum of 2 experimental repeats. \* $P < 0.05$ , \*\* $P < 0.01$ .



**Fig. S2. Offspring nursed on *Hp*-infected mothers do not demonstrate maternal cell transfer.** 3-day-old NvM Thy1.2+ pups were fostered by Thy1.1+ NvM/*Hp*M wildtype dams. 8-week-old NvM Thy1.2+ mice that had been fostered by either NvM or *Hp*M Thy1.1+ dams were infected with 200 *Hp* third stage larvae and killed day 17 PI. Numbers of offspring endogenous (Thy1.2+Thy1.1-) and maternally derived (Thy1.1+Thy1.2-) MLN (A) and lung (B) Thy1+CD3+CD4+ expressing T cell populations. Data is representative of 1 experimental repeat. \* $P < 0.05$ , \*\* $P < 0.01$ .



**Fig. S3. Allogeneic *NbM* offspring have raised numbers of maternally derived lung CD4<sup>+</sup> T cells following *Nb* infection.** 3-day-old NvM C57/Bl6 (H-2Db) pups were fostered on NvM (white circles) or *NbM* (red circles) BALB/c (H2-Dd) dams before being infected when 8 weeks old with 500xL3 *Nb* and killed at day 5 PI (Fig. 5a). Numbers of maternally derived lung CD3+CD4+ H2-Dd+ expressing T cell populations were quantified in offspring. All data is representative of 2 experimental repeats. \*P<0.05.



**Fig. S4. Offspring acquire, via nursing, persistent protection from *Nb* related to raised T<sub>H2</sub> CD4<sup>+</sup> T cell responses following *Nb* infection in an allogeneic setting.** BALB/c (CD45.1, H-2d) mice were crossed with C57BL/6 (CD45.1, H-2b) mice giving a F1 generation of mixed background (CD45.1, H-2b/d) mice. BALB/c (CD45.1, H-2d) mice were crossed with BALB/c (CD45.2, H-2d) mice giving a F1 generation of (CD45.1.2, H-2d) mice. 3-day-old NvM (CD45.1.2, H-2d) pups were fostered on NvM or *NbM* (CD45.1, H-2b/d) dams before being infected when 8 weeks old with 500xL3 *Nb* and killed day 5 PI. Intestinal worm burdens at day 5 PI in 8-week-old mice born to either NvM or *NbM* were established. Numbers of lung ST2+, IL-13+ and CD44<sup>hi</sup>CD62L<sub>lo</sub> CD4<sup>+</sup> T cells were quantified. Data is representative of a single experiment. \*P<0.05, \*\*P<0.01, \*\*\*P<0.001.