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Supplemental Information

Development of Novel DNA-Encoded PCSK9 Monoclonal Antibodies as Lipid-Lowering Therapeutics

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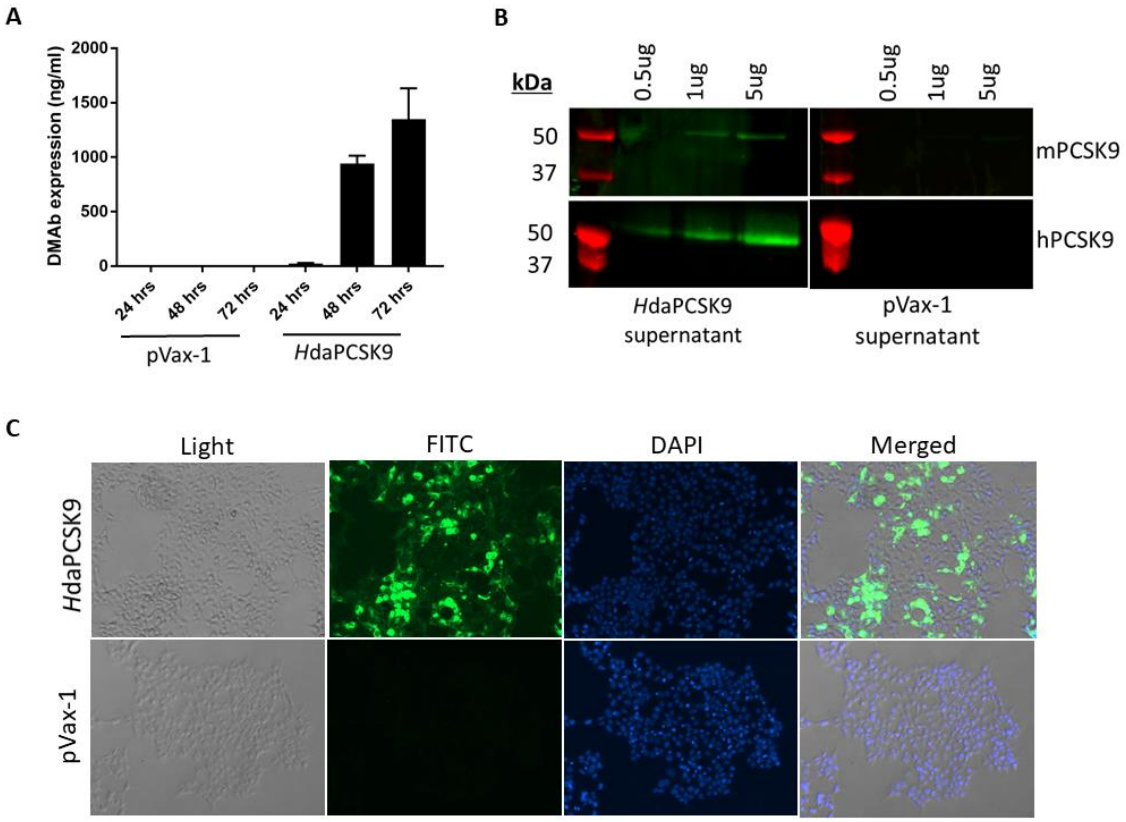

Figure S1. ***In vitro*** **evaluation of** ***H*****daPCSK9.** (A) *In vitro* expression of *H*daPCSK9 compared to empty backbone pVax-1 plasmid in HEK293 cells. Supernatants were harvested at 24 hrs, 48 hrs, and 72 hrs post-transfection, and analyzed by quantitative ELISA. (B) Binding western blot analysis of *H*daPCSK9 from cellular supernatants. Binding of *H*daPCSK9 obtained from HEK293T transfected cells was evaluated against recombinant mouse and human PCSK9 proteins. Membranes were stained with supernatant from *H*daPCSK9 or pVax-1 transfected cells at 72 hrs post-transfection. (C) Immunofluorescence staining of mouse Hepa1-6 cells transfected with *H*daPCSK9 plasmids. Cells were fixed 48 hrs after transfection. Cells were stained with anti-human IgG-FITC and DAPI nuclear stain. pVax-1 transfected cells were used as a negative control.

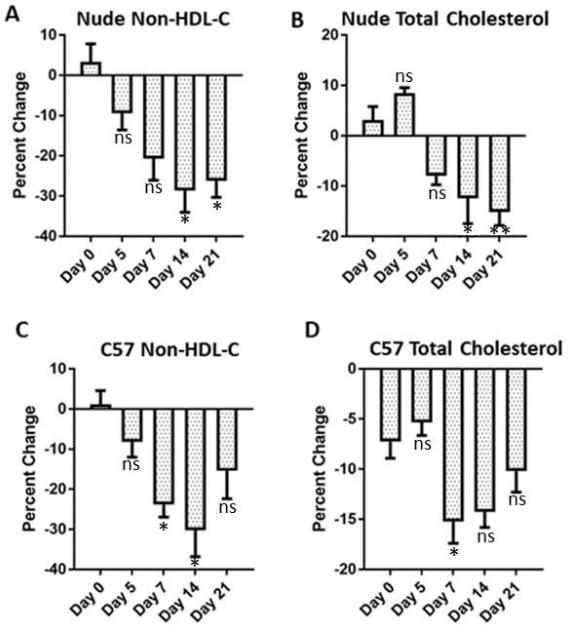

Figure S2. ***In vivo*** **lipid panel analysis of *H*daPCSK9.** (A,B) B6.Cg-foxn1nu/J nude mice and (C,D) C57BL/6J wild-type mice were bled at indicated timepoints following a single intramuscular administration of 300 μg *H*daPCSK9 plasmid. Lipid panel (non-HDL-C and total cholesterol) analysis was carried out on mouse sera using a VITROS 350 Clinical Chemistry Analyzer. Percent changes were calculated for each day relative to control pVax-1 treated mice. Statistical differences are indicated relative to day 0 of treatment. Data are expressed as ± SEM (n=5). Statistical differences were measured using two-way ANOVA tests (*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, n.s. = not significant).