SUPPLEMENTAL DATA

ISX is a retinoic acid sensitive gatekeeper that controls intestinal \( \beta,\beta \)-carotene absorption and vitamin A production

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Figure S1. RAR pan-antagonist LE540 prevents ISX induction by RA in CaCo-2 cells. CaCo-2 cells were seeded in DMEM and 10% FBS. After allowing the cells to adhere for 24 h, cells were pre-treated with 1 µM of LE540 for 1 h and then RA (1 µM) was added to the medium and cells were incubated for another 4 h at 37°C in 5% CO\(_2\). As control, cells were treated with RA (1 µM) only. After harvesting, cells were processed for total RNA. mRNA expression of ISX gene and the endogenous control 18s rRNA was determined by quantitative real-time-PCR (qRT-PCR) with gene specific probe sets (ABI). Experiments (\( n = 3 \) per condition) are presented as fold induction ± SD as compared to untreated cells. Grey bar, untreated cells; dark grey bar, cells treated with LE450 and RA; black bar, RA only treated cells.
Figure S2. Vitamin A-deficient Lrat⁻/⁻ mice show reduced ISX expression. 8-week old Lrat⁻/⁻ mice (n = 10) were either fed a diet lacking any source of vitamin A (VAD) or maintained on a vitamin A sufficient (VAS) diet. After 2 weeks animals were sacrificed and their small intestines removed. Total RNA was extracted from duodenum and jejunum and expression of relevant genes was analyzed. Shown are the mRNA expression of ISX and its downstream targets SR-BI and BCMO1 in (A) duodenum and (B) jejunum, as determined using gene specific probe sets (ABI) and qRT-PCR. Animals on VAD diets are indicated by the grey bars, while animals on VAS diet are indicated by black bars. Values represent the means ± SD from 5 animals per supplementation group (* p ≤ 0.001).