Fig. S1: Distribution of blood glucose levels in (NZOxB6)F2. A, comparison of male and female F2 progeny. B, Blood glucose in week 22 plotted against the body weight in week 12. Filled circles represent mice carrying one or two NZO alleles of *Nob3*, open circles symbolize homozygous carriers of the B6 allele.

Fig. S2: Development of body weight, body fat, and lean mass in congenic line B6.NZO-*Nob3.91.* Female littermates of N3 were kept on a standard chow (SD; $Nob3.91^{B/B}$, n=24; $Nob3.91^{N/B}$, n=34) or high-fat diet (HFD; $Nob3.91^{B/B}$, n=27; $Nob3.91^{N/B}$, n=32). Data represent means ± SEM. Differences to $Nob3.91^{B/B}$ allele carriers were tested for statistical significance by unpaired t-test (a, $p<0.05$; b, $p<0.001$; c, $p<10^{-7}$).

Fig. S3: Development of body weight, body fat, and lean mass in congenic line B6.NZO-*Nob3.91.* Male littermates of N3 were kept on a standard chow (SD; $Nob3.91^{B/B}$, n=31; $Nob3.91^{N/B}$, n=25) or high-fat diet (HFD; $Nob3.91^{B/B}$, n=38; $Nob3.91^{N/B}$, n=34). Data represent means ± SEM. Differences to $Nob3.91^{B/B}$ allele carriers were tested for statistical significance by unpaired t-test (a, $p<0.05$; b, $p<0.001$; c, $p<0.0001$).

Fig. S4: Direct comparison of body weights of congenic lines B6.NZO-*Nob3.91* and B6.NZO-*Nob3.38*. Female mice of N4 were raised on a chow diet, and carriers of the NZO allele (*Nob3.91*, n=32; *Nob3.38*, n=21) were compared with the pooled littermates from both crosses (n=63). Data represent means ± SEM, and differences were tested for statistical significance by ANOVA followed by Bonferroni as post-hoc test (a, $p<0.05$; b, $p<0.01$; c, $p<10^{-7}$).

Fig. S5: Haplotype map of the distal segment of *Nob3 (Nob3.38)*. The indicated microsatellite markers were genotyped in the NZO, B6, NON, and SM strains.

Polymorphic (NZO as reference) markers and haplotype blocks are highlighted in red, non-polymorphic blocks in green. In addition, the position of obesity/diabetes candidate genes as obtained from human and mouse obesity/diabetes gene maps (21, 24, 31) is given.