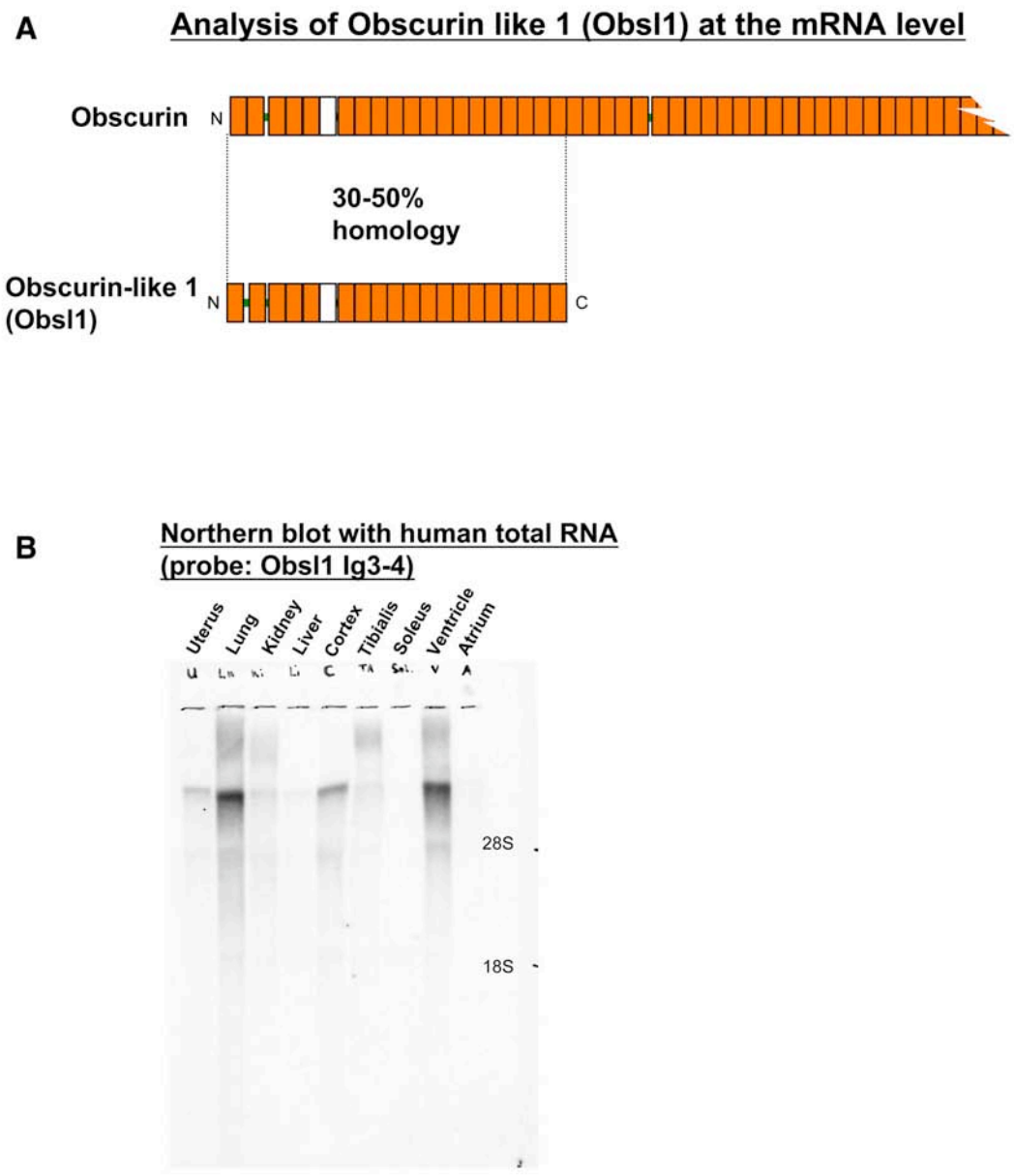
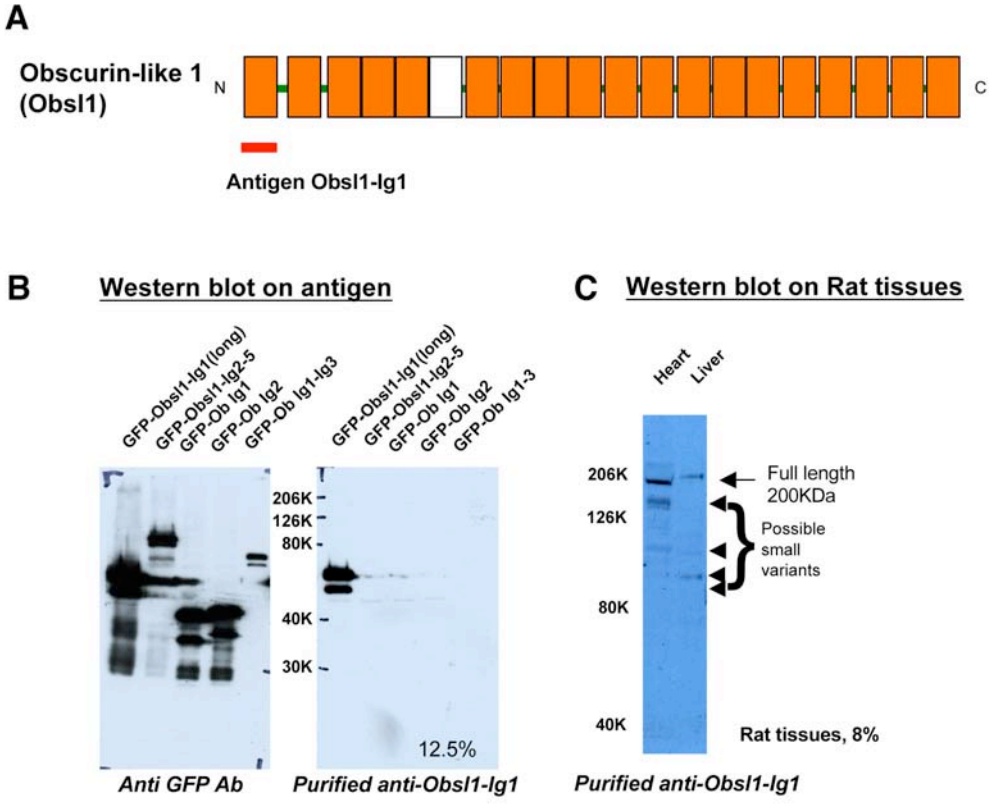
Supplemental Figure 1



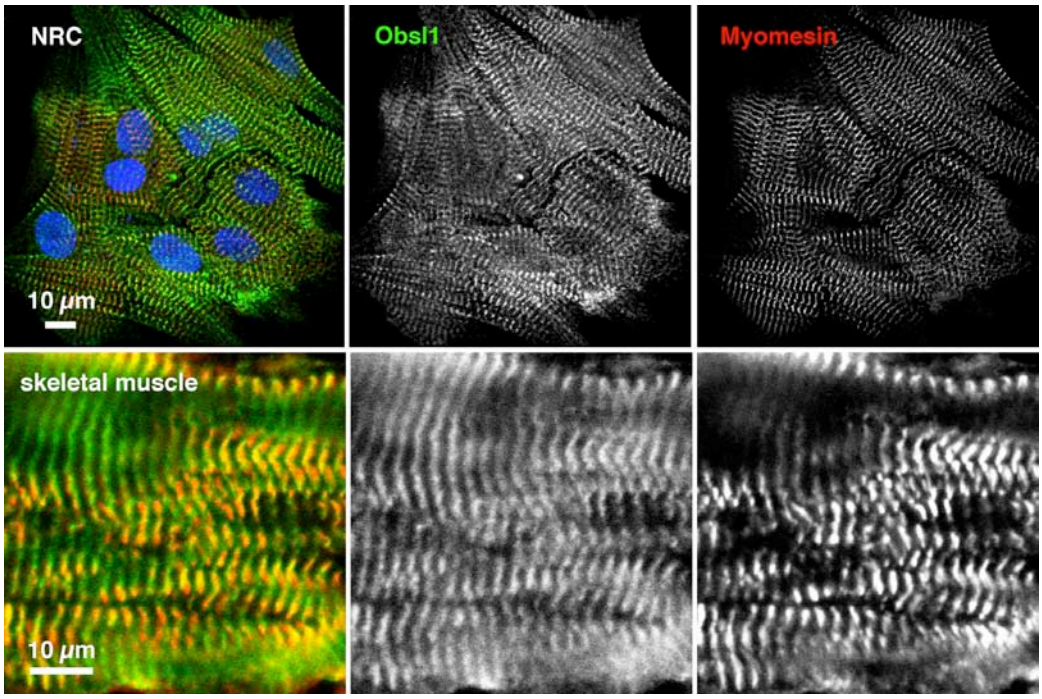
(A) Obsl1 has sequence homology to the N-terminal 20 domains of obscurin and shares the domain pattern of tandem Ig domains and one fibronectin C3 domain. (B) The protein is widely expressed, as detected by Northern blots, but preferentially in striated muscles. However, also tissues with significant smooth muscle components such as lung and uterus express Obsl1. As with obscurin, multiple splice variants may be expressed.

Supplemental Figure 2 A,B,C

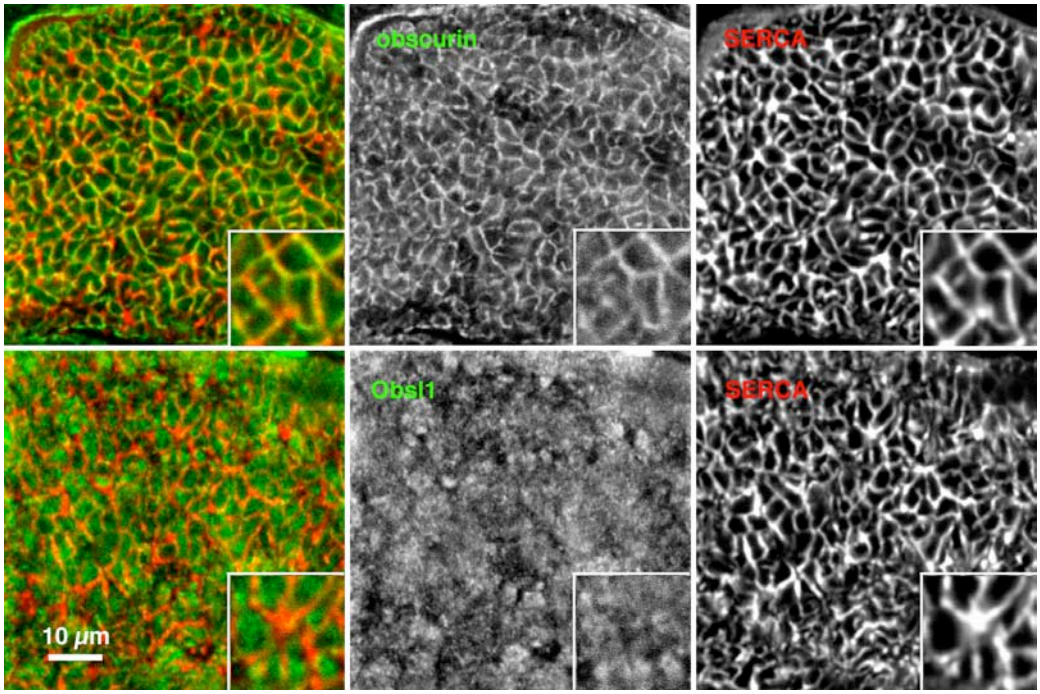


(**A**) rabbit polyclonal antibody was raised against Obsl1 Ig domain 1 and affinity purified on the antigen. (**B**) Western blots of COS1 cells transfected with various GFP-tagged Obsl1 and obscurin constructs demonstrates that this antibody specifically recognised Obsl1. (**C**) Western blots in rat tissues detect a dominant ca. 200 kDa band in heart ventricles; fainter bands are also detected in liver and other tissues. Smaller and fainter bands detected may be splice variants.

Supplemental Figure 2 C and D



(**C**) The Obsl1-Ig1 antibody stains M-bands in neonatal rat cardiomyocytes (NRC) as well as in longitudinal sections of skeletal muscle, as visualized by counterstain with anti-Myomesin antibodies. Intercalated disks in NRC are not stained by anti-obsl1-Ig1. Nuclei in the NRC overlay in blue.



(**D**) In transverse sections of skeletal muscle (here: slow fibres), obscurin stains a perimyofibrillar pattern coinciding with SERCA. The obsl1-Ig1 antibody staining reveals a predominantly myofibrillar pattern surrounded by SERCA-positive sarcoplasmic reticulum. Inserts: 2-fold magnifications.