

SgreSNMP1	1	-----MQLPVGLAAGGGGVFFMAVVAGWYGMP	39
SgreSNMP2	1	MLSARVCGCGRRLWWGLAA-GAALLAVALVLRWAAFPAILTAKIKQAVQ	49
SgreSNMP1	40	LKKGSDIRQMWSNFSDPIDFRVYVLNLTNPEAVHRGEKPIVQEIGPYFYE	89
SgreSNMP2	50	LHDGSPAMERFVQLPQPLLYKVYLFNVTNPDEVEQGAQKPVLLQVGPVVEE	99
SgreSNMP1	90	EYKQKVLRDHKEDDTSYNNKITWLFNQKSAPGLTGDELVTLPHPLLL	139
SgreSNMP2	100	EWRRRRDV-TRMANGSLDYRLETTYHFSERS-PGLSEDEFTYLNVMV	147
SgreSNMP1	140	GLLLTLERDKPGMLALVNKAIPPLFRKPESIFVTAPVRNFLFDGI-VINC	188
SgreSNMP2	148	GIVVQVSEDYSSLLSMVEPVLSELVPGGAQLFQRASARQLLWSGVPTVDC	197
SgreSNMP1	189	TVTDFSAKALCTGLKKE---AKELKREGDNFFFSFFGHKNGTVDAGRLRV	235
SgreSNMP2	198	RGNLSAVATLACGALPSSLPATVQQTEPGVYVFSFFGFKNGT-SKQWWRV	246
SgreSNMP1	236	KRGIQNIDDLGRVVAFNGEPKMSAW--RGDPCNDLRGTDSTIFPPFRDPK	283
SgreSNMP2	247	DSGVEDVRTLGSVISYDSSRLKVVWSPSPNCNEIRGTDSTLFPPFITPN	296
SgreSNMP1	284	EPIVAFGPDLCLSLGNWERKAEYMGVPGNRYTAELPDMKGNPEHHCYCP	333
SgreSNMP2	297	DTIYIFAHDICRSMHAEYEREQDVSGVHGLRFVASGSLRRGGPNACTCP	346
SgreSNMP1	334	TEQTCLEKGTLDLSPCAGAPVIATLPHFYLASETYLQTVSGLQPTKENHE	383
SgreSNMP2	347	-DGRCLATGAISVRECFRAPIAVSFPHFYQASPEYLQYAEGLSPNKELHE	395
SgreSNMP1	384	LFMVFESTTGSPMEARKRLQFNMFHLKINKIDLLANVPYALMPLIWVEEG	433
SgreSNMP2	396	TFVVIEPETGTPLVGAKRLQFNMKAVRVSQVPALRNVDGLFPLLWVEEG	445
SgreSNMP1	434	LALEEKYVSTLRMLFRMQGIMSGVKWTLMAVGMMAGAGGYLHFKRREL	483
SgreSNMP2	446	VELEEKQLSQVRALYVARASMGGVAVAVLAVGV---AALLFCVRLAKA	491
SgreSNMP1	484	VVGPAEPKKVVAGHDTTGHPIRLESSHSRY-----	513
SgreSNMP2	492	RVAERNRSLSLEKGVTAGGKLSVPTLGAAYPESATKRPSPPAAAPAASTA	541
SgreSNMP1	514	-----	513
SgreSNMP2	542	PAAPVDATHF	551

Figure S1. Alignment of the amino acid sequences of *S. gregaria* SNMP1 and SNMP2. Pairwise sequence alignment were conducted with EMBOSS Needle. Light grey underlined sequences represent intracellular regions of the proteins while black underlined areas denote predicted transmembrane domains. The region indicated by the grey background show the extracellular domains of the proteins used to generate antibodies. The ectodomains of SNMP1 (blue) and SNMP2 (orange) have a sequence identity of 33.7%.

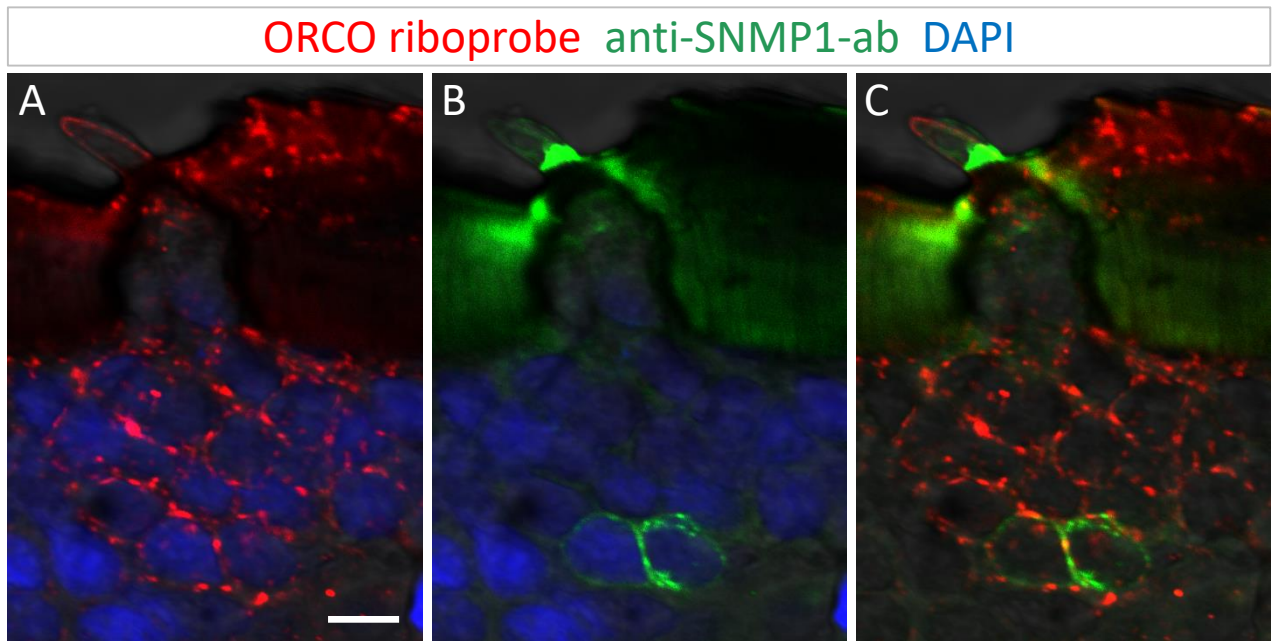


Figure S2. SNMP1 is expressed in a subset of Orco-positive OSNs in basiconic sensilla. In combined FISH/FIHC, Orco-positive cells were visualized using an antisense-Orco riboprobe (red), whereas SNMP1-positive cells were detected using anti-SNMP1-ab (green). Nuclei were stained with DAPI (blue). **A** red and blue channel. **B** green and blue channel. **C** merged depiction of the green and red channel. In all images, the fluorescent channels were overlaid with the transmitted light channel. Scale bar = 10 μm .

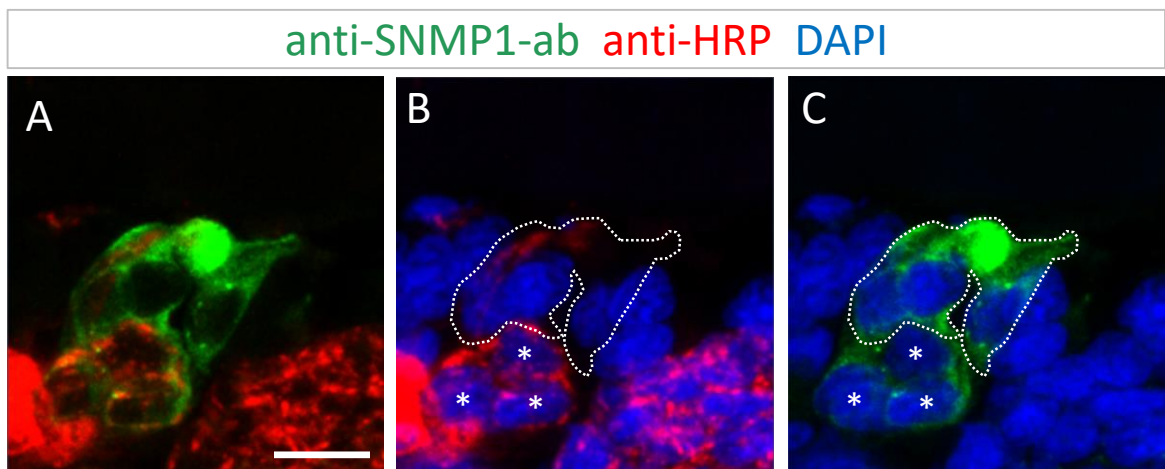


Figure S3. FIHC experiment showing that SNMP1 is expressed in OSNs and the associated support cells of a trichoid sensillum. The anti-SNMP1-ab labelling is shown in green. Neurons are labelled with anti-HRP and shown in red while the nuclei are stained with DAPI shown in blue. **A** green and red channel. **B** red and blue channel. **C** green and blue channel. The encircled area denotes the SNMP1 positive support cells and the asterisks show the SNMP1-positive OSNs. Scale bar = 10 μ m.

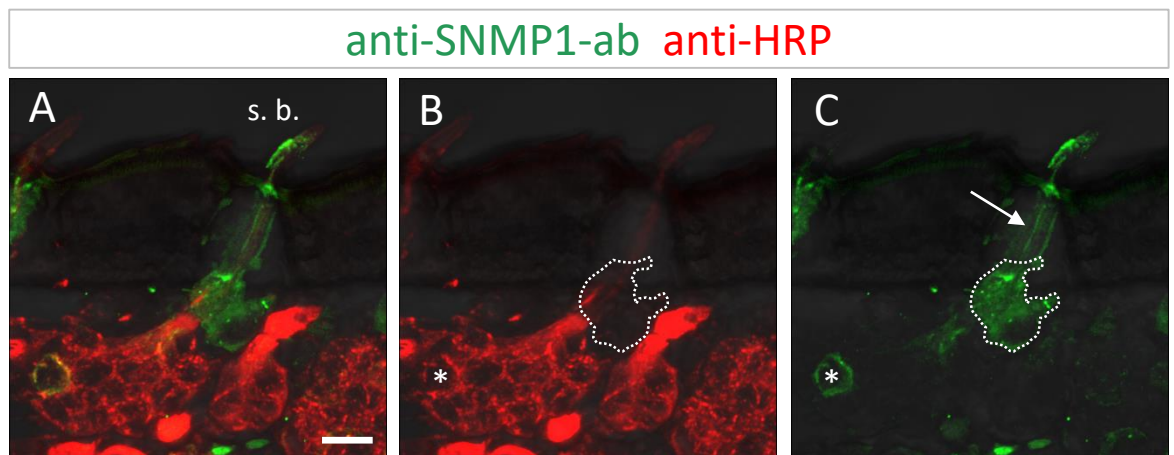


Figure S4. SNMP1 is expressed in distinct OSNs and support cells of a basiconic sensillum in *S. gregaria*. **A-C** FIHC experiment, showing anti-SNMP1-ab immunoreactive cells in the green (**A, C**) and OSNs labelled with anti-HRP in the red (**A, B**) fluorescence channels; the transmitted light channel was overlaid to better display the basiconic sensillum (s. b.). The region encircled denotes the SNMP1-positive support cells; the asterisk marks a SNMP1-expressing OSN within a basiconic OSN cluster. The arrow indicates dendritic labelling by anti-SNMP1-ab. Scale bar = 10 μ m.

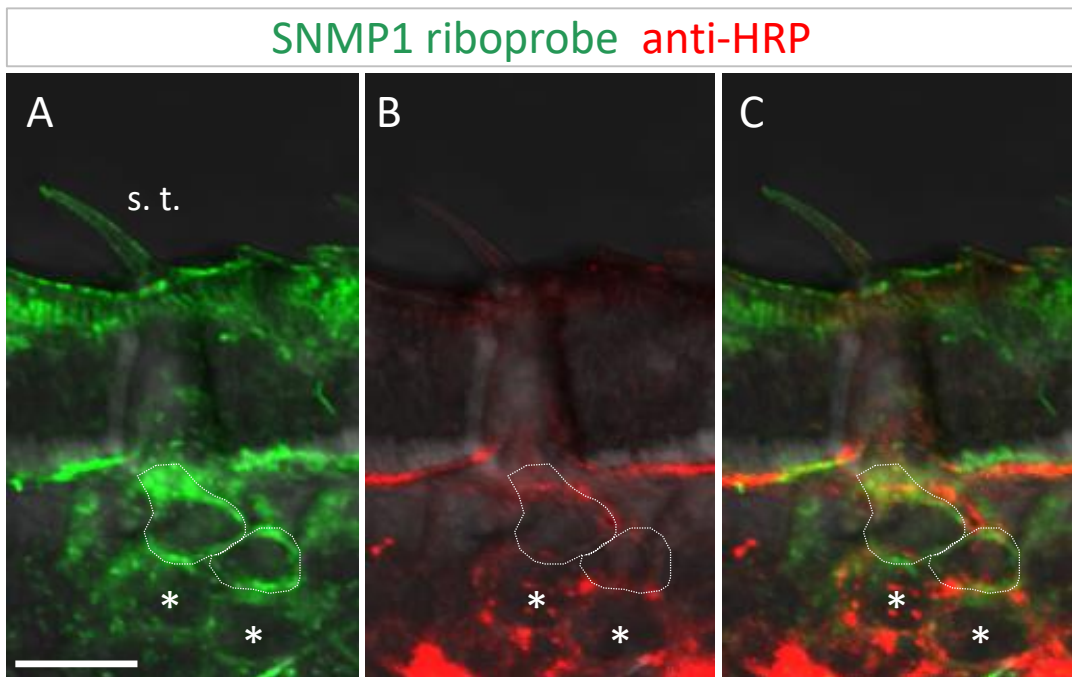


Figure S5. SNMP1 is expressed in support cells and OSNs of a *S. gregaria* trichoid sensillum. The SNMP1-positive cells were visualized by Combined FISH and FIHC using an specific antisense-SNMP1 riboprobe and anti-HRP for labelling of OSN. **A** Cells comprising SNMP1 transcripts visualized in the green fluorescent channel. **B** Labelling of OSNs (red fluorescent channel). **C** merged image of the red and green channels. The encircled areas cells indicated the location of non-neuronal SNMP1-positive support cells while the asterisks show SNMP1-positive OSNs. In all images, the fluorescent channels were overlaid with the transmitted light channels. Scale bar = 10 μ m.

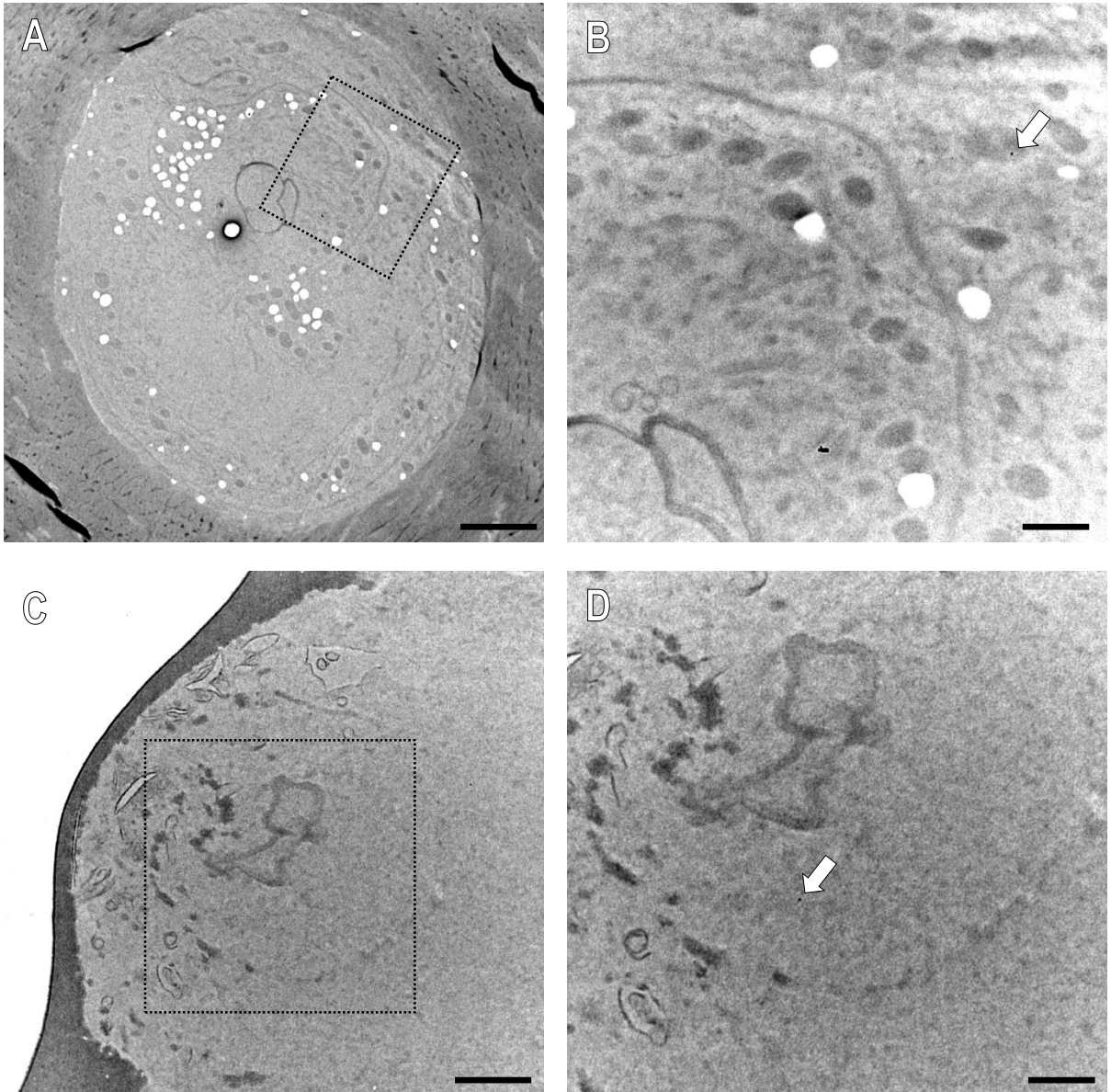


Figure S6. Assessment of secondary antibody binding to ultrathin sections of the *S. gregaria* antenna. Immunogold labelling experiments were conducted omitting the primary antibody, but applying the secondary antibody coupled with colloidal gold. **A** and **C** Overviews of cross section through different sensilla. **B** and **D** show the region boxed in **A** and **C**, respectively, at higher magnifications. Arrows denote single gold grains indicating negligible background labelling of the secondary antibody. Scale bars: A = 2 μm ; C = 1 μm ; B and D = 500 nm.



Fig. S7 Localization of SNMP1 within dendrites of OSNs and microvilli structures of support cells in a basiconic sensillum of *S. gregaria*. Ultrathin sections of antenna were used in immunogold-labelling experiments with anti-SNMP1-ab and assessed by transmission electron microscopy. **A** Overview image showing a basiconic sensillum. **B** Higher magnification of the sensillum shaft. Strong anti-SNMP1-ab immunoreactivity is associated with membranes of dendritic structures within the sensillum shaft. **C** Higher magnification of an area at the base of the sensillum demonstrating anti-SNMP1-ab labeling associated with microvilli structures of support cells. Scale bars: A = 2 µm; B and C = 500 nm.