

**Additional table 1 Results of ROI analyses of volume and FA changes in different brain regions comparing the mean of each genotype with that of every other group**

**Results of ROI analyses (Volume):**

BRAIN REGIONS (VOLUME)	Volume diff (%)	FDR adjusted p value	Volume diff (%)	FDR adjusted p value
	Q331K-Sarm1 <sup>+/-</sup> to NTG		Q331K-Sarm1 <sup>-/-</sup> to Q331K-Sarm1 <sup>+/-</sup>	
DORSOLATERAL ENTORHINAL CORTEX	-11.6538	0.0223	-3.3313	0.9981
VENTRAL NUCLEUS OF THE ENDOPIRIFORM CLAUSTRUM	-7.9053	0.0300	-2.1476	0.9981
DORSAL INTERMEDIATE ENTORHINAL CORTEX	-10.1338	0.0332	-3.1552	0.9981
PODG	-5.9565	0.0387	-0.0686	0.9981
GRDG	-5.7484	0.0332	0.3160	1.0000
ROSTRAL AMYGDALOPIRIFORM AREA	-11.8198	0.0199	0.1169	0.9981
MODG	-4.9296	0.0332	0.0173	0.9981
PERIRHINAL CORTEX	-14.0439	0.0395	-2.0329	0.9981
AMYGDALA	-9.7262	0.0223	-1.3559	0.9981
GLOBUS PALLIDUS	-5.8643	0.0395	2.9526	0.9981
POSTEROLATERAL CORTICAL AMYGDALOID AREA	-8.7475	0.0199	0.9273	0.9981
CA3PY INNER	-6.6886	0.0332	1.7009	0.9981
PIRIFORM CORTEX	-7.6397	0.0332	0.3921	1.0000
CLAUSTRUM: DORSAL PART	-9.6765	0.0332	2.0760	0.9981

<b>INSULAR REGION: NOT SUBDIVIDED</b>	-6.7702	0.0332	-0.3478	1.0000
<b>AMYGDALOPIRIFORM TRANSITION AREA</b>	-13.6769	0.0395	4.9936	0.9981
<b>PRE-PARA SUBICULUM</b>	-7.7679	0.0465	-0.6426	0.9981
<b>MAMMILOTHALAMIC TRACT</b>	-1.5175	0.2651	-3.4164	0.9981
<b>STRIATUM</b>	-4.6261	0.1235	-0.6352	1.0000
<b>CAUDOMEDIAL ENTORHINAL CORTEX</b>	-4.4692	0.1561	-2.3356	0.9981
<b>ECTORHINAL CORTEX</b>	-10.8688	0.0642	2.5069	0.9981
<b>DORSAL NUCLEUS OF THE ENDOPIRIFORM</b>	-7.1351	0.1101	0.3102	0.9981
<b>SUBICULUM</b>	-3.7538	0.1561	0.2727	0.9981

**Results of ROI analyses (FA):**

<b>BRAIN REGIONS (FA)</b>	<b>FA diff (%)</b>	<b>FDR adjusted p value</b>	<b>FA diff (%)</b>	<b>FDR adjusted p value</b>
	<b>Q331K-Sarm1<sup>+/-</sup> to NTG</b>		<b>Q331K-Sarm1<sup>+/-</sup> to Q331K-Sarm1<sup>+/-</sup></b>	
<b>ANTERIOR COMMISSURE: PARS POSTERIOR</b>	-4.0999	0.0447	0.6890	0.6975
<b>CEREBRAL PEDUNCLE</b>	-2.4513	0.0447	-0.0298	0.8237
<b>TEMPORAL ASSOCIATION AREA</b>	2.0450	0.0449	-0.7689	0.7262
<b>ECTORHINAL CORTEX</b>	2.1129	0.0449	-0.9783	0.7575
<b>STRIA TERMINALIS</b>	-3.2239	0.0457	0.4587	0.9239

<b>PRIMARY AUDITORY CORTEX</b>	2.0389	0.0449	0.0425	0.9805
<b>DORSOLATERAL ENTORHINAL CORTEX</b>	2.7990	0.0457	-0.4842	0.8237
<b>FACIAL NERVE (CRANIAL NERVE 7)</b>	-3.5496	0.0457	-0.8996	0.8039
<b>MEDIAL ENTORHINAL CORTEX</b>	2.2699	0.0449	-0.0160	0.8039
<b>INTERNAL CAPSULE</b>	-1.1202	0.0449	-0.1370	0.8237
<b>INSULAR REGION: NOT SUBDIVIDED</b>	3.0023	0.0457	-1.4650	0.3051
<b>MEDIAL SEPTUM</b>	-0.9700	0.0486	0.0516	0.8237
<b>INSULAR REGION: NOT SUBDIVIDED</b>	3.0023	0.0457	-1.4650	0.3051
<b>MEDIAL SEPTUM</b>	-0.9700	0.0486	0.0516	0.8237
<b>SECONDARY AUDITORY CORTEX: VENTRAL AREA</b>	1.2868	0.0615	-0.1850	0.9805
<b>FASCICULUS RETROFLEXUS</b>	-2.4414	0.0615	0.8117	0.9081
<b>SLU</b>	0.9989	0.1588	0.7993	0.6975
<b>PRIMARY SOMATOSENSORY CORTEX: UPPER LIP REGION</b>	0.8457	0.1588	0.9299	0.6975
<b>SUBPENDYMALE ZONE / RHINOCELE</b>	-2.1028	0.1932	-0.8214	0.6572
<b>CA3RAD</b>	1.1479	0.3220	0.5122	0.6572
<b>POSTERIOR COMMISSURE</b>	1.2645	0.3429	0.8172	0.6572
<b>STRIA MEDULLARIS</b>	-0.3826	0.4300	-0.9390	0.3703
<b>LOBULE 1-2 WHITE MATTER</b>	-1.0779	0.6963	-1.8440	0.3703