

Table S1. Composition of groups of investigated mice (F2 generation). Male Bbs8 +/- mice were crossed with BALB/canNRj female mice. Offspring was genotyped for albinism caused by tyr gene mutation and for knockout of the Bbs8 gene.

Bbs8-genotype	Albino-genotype	tyr^G/tyr^G				tyr^C/tyr^C		tyr^G/tyr^C			
(+/+)	#animals	6				5		11			
	sex	♂		♀		♂	♀	♂		♀	
		3		3		3	2	5		6	
	fur color	brown	grey	brown	grey	white		brown	grey	brown	grey
		3	1	2	5		1	4	4	2	
(-/-)	#animals	6				5		11			
	sex	♂		♀		♂	♀	♂		♀	
		4		2		2	3	5		6	
	fur color	brown	grey	brown	grey	white		brown	grey	brown	grey
2		2	0	2	5		1	4	2	4	

Table S2. Time course of behavioral tests
Animals were housed as groups of 4 up to end of week 2, then they were single-caged.

	Week 1	Week 2	Week 3	Week 4
a.m.	Tube test SI test	Marble burying test T Maze test	USV recording Urine scent marking test Olfaction test	Olfaction test Pasta gnawing test Nesting test
p.m.	Huddling test Neophobia test RAWM	Open field test NISOFT test Forced swim test	Pole test Nesting test	Pasta gnawing test

WT

Bbs8^{-/-}

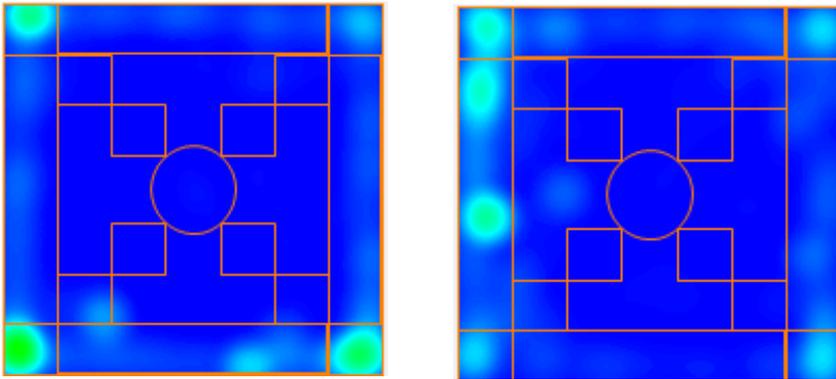


Figure S1. Examples of heat maps for movement profile visualization. A heat map reporting on the localization of an exemplary wild type and a Bbs knockout mouse is shown. The wild type animal stayed for longer periods in the corners, while the Bbs8 animal showed a more spread pattern of localization.