Supplementary Table 11. Phenotypes of Shn-2 KO mice and abnormalities associated with schizophrenia.

	Schizophrenia (1, 2, 3)	Shn-2 KO mice
Positive Signs/Symptoms:	Psychomotor agitation	Increased locomotor activity
Negative Signs/Symptoms:	Social withdrawal	Decreased interaction with a juvenile conspecific, decreased preference for social novelty
	Self neglect	Decreased nest building behavior
Cognitive Signs/Symptoms:	Decreased working memory	Impaired performance in 8-arm radial maze working memory task, impaired working memory in T-maze task
	Deficits in attention/sensorimotor gating	Decreased sensorimotor gating (PPI deficits)
	Inflexibility	Normal performance in reversal learning in T-maze left-right discrimination
Other behavioral signs	Decreased pain sensitivity	Decreased pain sensitivity (5)
	Lack of activity, depressive mood	Increased depression-like behavior in sucrose preference test, Decreased depression-like behavior in forced swim test and tail suspension test (7)
	High prevalence of anxiety disorder/symptomatology (16)	Increased anxiety-related behaviors (4), Increased stay time on open arms in the elevated plus maze (14)
	Increased sensitivity to NMDAR antagonist	Increased sensitivity to MK-801
	Reduction of psychotic agitation by haloperidol (17)	Reduction of increased locomotor activity by haloperidol
	No improvement of PPI by haloperidol (18)	Improvement of PPI by haloperidol
	Reduction of aggression by clozapine (19)	Reduction of increased locomotor activity by clozapine
	Improvement of PPI by clozapine (20)	No improvement of PPI by clozapine
	Poor bilateral transfer (21)	Improved motor coordination in the Rotarod test
Physical signs	Hypercortisolemia (22)	Hypercortisolemia
	Lower body mass index (BMI) (23), no significant BMI difference in male (24), higher BMI in women (24)	Decreased body weight
Physiology (EEG)	Increased delta (25, 26), theta (25) power, Decreased alpha (25, 26), increased gamma power (27), decreased gamma power (28)	Increased Theta wave, decreased Gamma wave
Cortical Thickness	Reduction in frontal lobe and temporal cortex (29), normal (20)	Decreased cortical thickness in PrL and V1
Cortical Cell density	Increase (50, 51), decrease (52, 53), normal (27, 31)	Decrease
Hippocampus Volume	Decrease in bilateral volume (32), Decrease in total volume (33)	Tendency to be large (data not shown)
Parvalbumin	Decrease in hippocampus (34) , PFC (35)	Decreased in hippocampus , PFC
GAD67	Decrease in hippocampus (36), increase in DLPFC (37)	Decreased in hippocampus
Myelination/oligodendrocyte	Decreased CNPase (40), decrease myeline water fraction (5)	Decreased CNPase, MBP was decreased
Astrocytes	Increased GFAP (39, 47), increased S100beta (41, 42, 43, 44) decreased GFAP (38)	Increased GFAP, increased S100beta
Microglia	Increased activated microglia (45), microglia activation (46),	No significant change in Iba-1 expression
Dopamine receptor	Decreased D1R in prefrontal (48)	Decreased D1R binding in dentate gyrus
	Increased D2R in striatum (49)	No significant change in D2R binding

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