Assays	Equipment/Protocol	Functional measures	Make/Model	Reference
BEHAVIOR				
Modified environments and home cage activity	Reversed lighting	Active phase behavior		
	Fragmented care	Responses to early life adversity		
	Inframot (infrared motion sensor)	Voluntary activity	tse-systems	
	Activity wheels	Voluntary activity	tse-systems	
	Acoustic rearing	Responses to rearing under modified sound		
	Dark rearing	Responses to rearing without light exposure		
	Standardized enriched housing	Responses to enriched social and motor environment	Viewpoint Life Sciences	
SHIRPA		Simple neurological observations		Roger et al. 1997
Visual Function	Optomotor	Visual acuity (brain stem reflex)	Cerebral Mechanics	Prusky et al. 2004
	qOMR (Automated Optomotor)	Visual acuity (brain stem reflex)	Phenosys	Kretschmer et al. 2013
	Visual Water Maze	Visual acuity (higher centers for plasticity)		Robinson et al. 2001
	Visual Cliff	Depth of vision		Baroncelli et al. 2013
	Visual Looming	Ability to avoid collision and navigate		koehler et al. 2019
Acoustic Function	Acoustic Startle Reflex	Hearing reflex	Kinder Scientific	Davis 1980
	Pre-pulse Inhibition	Sensorimotor gating		
Motor Function	Rotarod	Ataxia	Columbus Instrument	
	Treadmill	Forced activity	IITC Life Science	
	DigiGait	Gait analysis	Mouse Specifics	Piesla et al. 2009
	Grip Strength	Motor strength	tse-systems	
	Beam walk	Voluntary activity		
	ActiTrack locomotor activity	Voluntary activity	Harvard Apparatus	
	Activity cage	Voluntary activity		
Emotion	Conditioned Fear	Anxiety/Cognition	Ugo Basile	
	Light Dark Box	Anxiety	Ethovision XT (Noldus)	
	3-Chamber Sociability Test	Anxiety/Social Recognition		Nadler et al. 2004
	Elevated Plus Maze	Anxiety		
	Conditioned Place Preference	Emotional response to stimulus/condition		
	Forced Swim	Response to Stress		
	Tail Suspension	Response to Stress		
	Sucrose consumption	Anhedonia		Hwa et al. 2011
	Open field / holeboards	Anxiety/Activity	Kinder Scientific	
	Ultrasonic Vocalizations	Communication	Sonotrack, Metris	Fischer and Hammershmidt 2011
Cognition	Contextual Fear Conditioning	Anxiety/Cognition	Stoelting (ANY-maze)	Burman et al. 2014
	Novel Object Recognition	Short term Working memory	Ethovision XT (Noldus)	Bevins and Basheer 2006
	Y Maze	Spatial short term working memory		
	Water T Maze	Cognitive flexibility		Deacon and Rawlins 2006
	Morris Water Maze	Spatial short term working memory		
	Operant Touchscreens	Attention/working memory/flexibility	Lafayette Instruments	
	4 choice foraging	Cognitive flexibility		
Pain	Hot plate	Noxious heat sensitivity	Bioseb	
	Thermal Gradient	Threshold heat preference		
	Thermal place preference	Threshold heat preference		
	Von Frey	Mechanical allodynia threshold	Stoelting	
	Acetone drop	Response to cold		
	Pin prick	Sensory neuron function		
PHYSIOLOGY				
EEG	Wireless	Seizure susceptibility, epileptiform abnormalities, circadian disturbances, actigraphy, auditory evoked response potentials; continuous monitoring available for up to 4 months	DSI (Harvard Bioscience)	
EEG	Tethered EEG, multichannel	Sleep architecture analysis for up to 5 days	Pinnacle Technology	
Non-surgical EEG	Subdermal wire electrode EEG		Cadwell	
Non-invasive brain stimulation	TMS with electromyography and/or accelerometry	In vivo cortical stimulation for translational experiments aimed to measure cortical excitability, cortical inhibition, cortical plasticity, motor evoked potentials		
Cardiovascular (ECG)	ECGenie	Conscious, unrestrained ECG	Mouse Specifics	
Breathing	Whole Body Plethysmography	Breathing measures, apneas	SCIREQ (EMKA Technologies)	
Pupillometry		Surrogate for arousal states		
INTEGRATED SYSTEMS				
Calcium imaging and Optogenetics	Microendoscope fitted with fiber-coupled laser and LED light sources that is used in conjunction with implantable gradient-index (GRIN) lenses	Cellular resolution calcium imaging channelrhodopsin stimulation and/or in awake behaving animals.	OASIS (Mightex)	
In vivo calcium imaging	Multi-fiber photometry	Can be synchronized with behavioral analysis	Neurophotometrics	
In vivo microdialysis	Microdialysis	In vivo neurotransmitter sampling	BASi Raturn and BAS HoneyComb	
Open flow microperfusion	Microperfusion	In vivo sampling of large and lipophilic analytes	BASi Microperfusion	
SURGERY				
Dissecting microscopes			Leica/Zeiss	
Stereotaxic frames			Harvard Apparatus	
Anesthesia machines & induction chambers				