

ALLEN Human Brain Atlas

TECHNICAL WHITE PAPER: CASE QUALIFICATION AND DONOR PROFILES

The case review process described here was employed for three components of the ALLEN **Human Brain Atlas**: (1) the Microarray Survey; (2) the Neurotransmitter Study; and (3) the Subcortex Study. Data for all other components of the Allen Human Brain Atlas were generated using banked tissue that underwent a separate screening process (see *In Situ Hybridization in the Allen Human Brain Atlas* white paper).

In general, postmortem tissue from males and females between 18 – 68 years of age and no known history of neuropsychiatric or neurological conditions ('control' case) were eligible for inclusion in the Microarray Survey, Neurotransmitter Study, and Subcortex Study components of the Allen Human Brain Atlas. Key conditions for exclusion were:

- · Brain injury or disease
- Epilepsy
- Drug/alcohol dependency
- > 1 hour on ventilator
- Positive for infectious disease
- Prion disease
- Chronic renal failure
- Cancer deaths
- Brain cancer
- Time since death > 24 hours

Brain tissue, cerebrospinal fluid and blood samples were collected after obtaining informed consent from decedent's next-of-kin. Institutional Review Board (IRB) review and approval was obtained for collection of tissue and non-identifying case information at the tissue banks and repositories that provided tissue for this project. Following tissue collection and freezing, additional tests and quality measures were performed to ensure the tissue and RNA met quality control (QC) criteria, and to rule out any previously undetected conditions incompatible with a 'control' diagnosis.

A Case Review Committee (CRC) of internal and external advisors reviewed all data and approved cases for inclusion in each study. The schematic in Figure 1 shows a timeline of formal CRC activities in relation to availability of screening data. A summary of screening tests and quality control measures and criteria is provided in Table 1. Specific donor profiles are provided in subsequent tables.

For additional detailed methodological information regarding these studies, please access the following technical white papers:

- Microarray Survey in the Allen Human Brain Atlas
- In Situ Hybridization in the Allen Human Brain Atlas

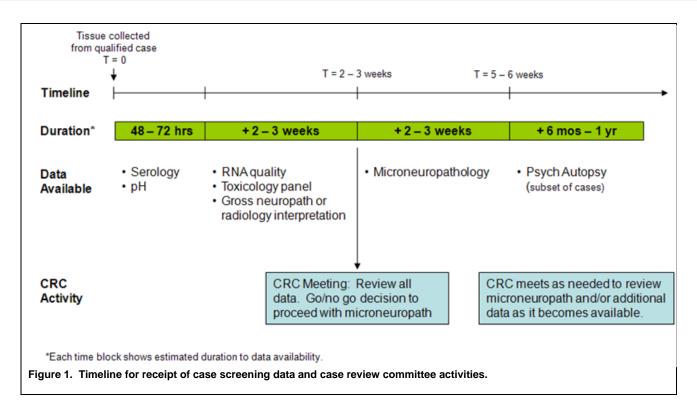


Table 1. Summary of case screens and quality control tests and criteria.

Test	Description	Passing Criteria
Serology	A safety precaution to evaluate blood serum for presence of antigens or antibodies for Hepatitis B, Hepatitis C or HIV1/HIV2.	Negative for all three tests.
рН	Measured in brain tissue homogenate and/or cerebrospinal fluid (CSF). Low pH levels are correlated with poor RNA quality.	pH ≥ 6.0
RNA quality	Assessed using Bioanalyzer-generated RNA Integrity Number (RIN) and assessment of Bioanalyzer electropherograms for 18s/28s ratios.	RIN ≥ 6.0, RNA amount ≥ 50ng, no obvious RNA degradation, no noticeable DNA or other contamination.
Toxicology	Postmortem blood is assessed for presence and concentration of a broad range of therapeutic drugs and drugs with abuse potential.	Absence of drugs prescribed for neuropsychiatric disorders; absence of drugs at toxicologically significant levels (as reported by testing lab).
Gross neuropathology	Assessment of brain for gross morphological abnormalities indicating neuropathology (e.g. stroke, tumor, atrophy). Assessment is performed by a radiologist using MRI data or by a pathologist using digital images of fresh brain sections.	'Normal' assessment by consulting radiologist or pathologist.
Microneuropathology	Analysis of histologically stained tissue sections to assess microscopic indications of pathology such as local ischemic events, abnormal levels of amyloid plaques or neurofibrillary tangles, or indications of abnormal cell morphology.	'Normal' assessment by consulting pathologist.

Table 2. Donor profile: H0351.1009.

Table 2. Donor profile: H0351.1009.						
Donor H0351.1009 – Micro	array Survey, Neur	otransmit	ter Study (ISH)			
Tissue Receipt Date	2/8/2011					
Sex	Male	Male				
Age	57 years	57 years				
Race/Ethnicity	Caucasian	Caucasian				
Handedness	Cross-dominant	Cross-dominant				
Postmortem Interval	25.5 hours (estin	nated time	of death to time that ti	issue is frozen)		
Serology	Pass					
Toxicology	Positive for caffe significant	eine and th	eobromine, at levels u	sually not toxicologically		
Tissue pH	6.9 (measured in	frontal po	ole)			
RNA Quality	Pass	Region	Tested	RIN value (Mean ± SD)		
		Frontal	poles	6.4 ± 0.4		
		Occipita	l poles	6.1 ± 0.8		
		Cerebel	lum (left & right)	7.1 ± 0.5		
		Brainstem 5.6 ± 1.0				
Neuropathology		Gross pathology: Normal brain Microneuropathology: Normal				
Tissue Received	7 right hemisphe	ere coronal s in sagitta	erebral slabs in corona I slabs al orientation; 1 cm thic			
Additional Medical Information	History of athero	sclerotic c	ardiovascular disease			
Available Datasets	MRI, DTI, Photo	documen	tation			
	MRI		Viewable online, available for download			
	Blockface image	s	Left hemisphere			
	Histology					
	Nissl Full coronal recon sections; individua			nstructions from 2x3 al 2x3 sections		
	SMI-32 2x3 sections					
	Gene Expression	on				
	Microarray		~400 samples from le striatum and white ma controls and sample r	atter structures, including		
	ISH		176 genes in right DL cingulate	PFC, vPFC, anterior		

Table 3. Donor profile: H0351.1010.

ansmitter Study (I	SH)		
2/23//2011			
Male			
26 years			
Hispanic			
Right			
30 hours (estimat	ed time of death to tir	ne that tiss	sue is frozen)
Pass			
		esin and the	eobromine, at levels
6.6 (measured in	frontal pole)		
Pass	Region Tested		RIN value (Mean ± SD)
	Frontal poles		6.4 ± 0.3
	Occipital poles		6.3 ± 0.6
	Cerebellum (left & right)		6.9 ± 0.4
	Brainstem		5.4 ± 0.0
		derosis no	ted
16 left hemisphere 1cm cerebral slabs in coronal orientation 8 right hemisphere coronal slabs 7 cerebellar slabs in sagittal orientation; 1 cm thickness 1 brainstem, whole			
No clinically rema	rkable history.		
Histology			
Nissl Neurotransmitter Study histology (2x3)		ly histology (2x3)	
SMI-32 Neurotransmitter Study histology (2x3)			
Gene Expression	1		
ISH	176 genes cingulate	in right DLI	PFC, vPFC, anterior
	Male 26 years Hispanic Right 30 hours (estimate Pass Positive for atropic usually not toxicol 6.6 (measured in Pass Gross pathology: Microneuropathology: Microneuropathology 16 left hemisphere 8 right hemisphere 7 cerebellar slabs 1 brainstem, whole No clinically remainstem with the stology Nissl SMI-32 Gene Expression	Male 26 years Hispanic Right 30 hours (estimated time of death to time	Male 26 years Hispanic Right 30 hours (estimated time of death to time that tiss Pass Positive for atropine, caffeine, guaifenesin and the usually not toxicologically significant 6.6 (measured in frontal pole) Pass Region Tested Frontal poles Occipital poles Cerebellum (left & right) Brainstem Gross pathology: Normal brain Microneuropathology: Normal, hemosiderosis no 16 left hemisphere 1cm cerebral slabs in coronal 8 right hemisphere coronal slabs 7 cerebellar slabs in sagittal orientation; 1 cm thic 1 brainstem, whole No clinically remarkable history. Histology Nissl Neurotransmitter Stud SMI-32 Neurotransmitter Stud Gene Expression ISH 176 genes in right DL

Table 4. Donor profile: H0351.1012.

Table 4. Donor profile: HUSS1.1012.	1					
Donor H0351.1012 – Micro	array Survey, Neur	otransmi	tter Study (ISH)			
Tissue Receipt Date	5/24/2011	5/24/2011				
Sex	Male	Male				
Age	31 years	31 years				
Race/Ethnicity	Caucasian	Caucasian				
Handedness	Right	Right				
Postmortem Interval	17.5 hours (estin	17.5 hours (estimated time of death to time that tissue is frozen)				
Serology	Pass					
Toxicology	Positive for atropusually not toxico		ine, ibuprofen and theo significant	bromine, at levels		
Tissue pH	6.8 (measured in	frontal p	ole)			
RNA Quality	Pass	Region	Tested	RIN value (Mean ± SD)		
		Frontal	poles	6.3 ± 0.3		
		Occipita	al poles	5.8 ± 0.3		
		Cerebe	llum (left & right)	6.9 ± 0.2		
		Brainstem 6.4 ± 0.0				
Neuropathology		Gross pathology: Normal brain Microneuropathology: Normal				
Tissue Received	8 right hemisphe 8 cerebellar slab	18 left hemisphere 1 cm cerebral slabs in coronal orientation 8 right hemisphere cerebral slabs in coronal orientation 8 cerebellar slabs in sagittal orientation; 1 cm thickness 1 brainstem, whole				
Additional Medical Information	calcification in te	Sudden cardiac arrest. Benign spindle cell proliferation and dystrophic calcification in temporal horn of lateral ventricle, ~5 mm, possibly an ol choroid plexus infarct or degenerated xanthogranuloma.				
Available Datasets	MRI, DTI, Photo	documer	ntation			
	MRI	MRI		Viewable online, available for download		
	Blockface image	Blockface images		Left hemisphere		
	Histology	Histology				
	Nissl	Nissl		Full coronal reconstructions from 2x3 sections; individual 2x3 sections		
	SMI-32		2x3 sections			
	Gene Expression	Gene Expression				
	Microarray	Microarray		oft cerebral, cerebellar rres, including controls		
	ISH	ISH		176 genes in right DLPFC, vPFC, anterior cingulate		

Table 5. Donor profile: H0351.1015.

Table 5. Donor profile: H0351.1015.							
Donor H0351.1015 - Micro	array Survey						
Tissue Receipt Date	10/11/2011	10/11/2011					
Sex	Female	Female					
Age	49 years	49 years					
Race/Ethnicity	Hispanic						
Handedness	Right						
Postmortem Interval	30 hours (estimate	ed time of death to time that tiss	sue is frozen)				
Serology	Pass						
Toxicology	Positive for caffeir	ne, at levels usually not toxicolo	gically significant				
Tissue pH	6.9 (measured in	frontal pole)					
RNA Quality	Pass	Region Tested	RIN value (Mean ± SD)				
		Frontal poles	7.0 ± 0.2				
		Occipital poles	5.8 ± 1.2				
		Cerebellum (left & right)	7.5 ± 0.2				
	Brainstem 6.1 ± 0.4						
Neuropathology	Microneuropatholomacrophages not	Gross Pathology: Normal brain Microneuropathology: Normal; modest numbers of hemosiderin laden macrophages noted in Virchow-Robin spaces in parietal and occipital lobes, mild arteriosclerosis					
Tissue Received	8 right hemispher 8 cerebellar slabs	16 left hemisphere 1 cm cerebral slabs in coronal orientation 8 right hemisphere cerebral slabs in coronal orientation 8 cerebellar slabs in sagittal orientation; 1 cm thickness 1 brainstem, whole					
Additional Medical Information	Splenectomy, hyp	othyroidism treated with Levoth	nroid				
Available Datasets	MRI, DTI, Photod	locumentation					
	MRI	Viewable online, available for	or download				
	Blockface images	Left hemisphere					
	Histology						
	Nissl Full coronal reconstructions from 2x3 sections; individual 2x3 sections						
	SMI-32	2x3 sections					
	Microarray ~500 samples from left cerebral, cerebellar an brainstem structures including controls and sa replicates						

Table 6. Donor profile: H0351.1016.

able 6. Donor profile. h0351.1016)•					
Donor H0351.1016 - Micro	oarray Survey, Neur	otransmi	ter Study (ISH)			
Tissue Receipt Date	10/25/2011	10/25/2011				
Sex	Male	Male				
Age	55 years	55 years				
Race/Ethnicity	Caucasian	Caucasian				
Handedness	Right	Right				
Postmortem Interval	18 hours (estima	ated time o	of death to time that tiss	sue is frozen)		
Serology	Pass					
Toxicology	Positive for caffe significant	eine and th	neobromine, at levels us	sually not toxicologically		
Tissue pH	6.8 (measured in	n frontal p	ole)			
RNA Quality	Pass	Region	Tested	RIN value (Mean ± SD)		
		Frontal	poles	6.4 ± 0.5		
		Occipita	al poles	6.7 ± 0.7		
		Cerebellum (left & right)		7.4 ± 0.3		
		Brainstem 6.6 ± 0.2				
Neuropathology		Gross Pathology: Normal brain Microneuropathology: Normal				
Tissue Received	8 right hemisphe	16 left hemisphere 1 cm cerebral slabs in coronal orientation 8 right hemisphere cerebral slabs in coronal orientation 9 cerebellar slabs in sagittal orientation; 1 cm thickness 1 brainstem, whole				
Additional Medical Information	Coronary artery cholesterol.	atheroscle	erosis, prescriptions for	clotting and high		
Available Datasets	MRI, DTI, Photo	odocumer	ntation			
	MRI	MRI		Viewable online, available for download		
	Blockface image	Blockface images		Left hemisphere		
	Histology	Histology				
	Nissl	Nissl		Full coronal reconstructions from 2x3 sections, individual 2x3 sections		
	SMI-32 Yes, 2x3 s		Yes, 2x3 sections			
	Gene Expression	Gene Expression				
	Microarray	Microarray		ft cerebral, cerebellar res, including controls		
	ISH		176 genes in right DL cingulate	PFC, vPFC, anterior		

Table 7. Donor profile: H0351.2001.

Donor H0351.2001 – Microarray Survey						
Tissue Receipt Date	7/29/2009					
Sex	Male					
Age	24 years					
Race/Ethnicity	African American					
Handedness	Left	Left				
Postmortem Interval	23 hours (estimat	ed time of death to time th	nat tissue is frozen)			
Serology	Pass					
Toxicology	Positive for atropi significant	ne and caffeine, at levels	usually not toxicologically			
Tissue pH	6.72					
RNA Quality	Pass	Region Tested	RIN value (Mean ± SD)			
		Frontal poles	7.1 ± 0.4			
		Occipital poles	6.5 ± 0.6			
		Cerebellum (left & right)	8.1 ± 0.4			
		Brainstem 7.1 ± 0.2				
Neuropathology	MRI-based Radiology Report: Normal brain Microneuropathology: Normal					
Tissue Received	32 cerebral slabs in coronal orientation; 5 mm thickness 20 cerebellar slabs in sagittal orientation; 5 mm thickness 1 brainstem, whole					
Additional Medical Information	History of asthma					
Available Datasets	MRI, DTI, Photo	documentation				
	MRI	Viewable online	Viewable online, available for download			
	DTI		Viewable online, available for download			
	Blockface images		Virtual full coronal representation, derived from MRI, of the anterior surface of each tissue slab			
	Histology					
	Nissl Full coronal reconstructions from 2x3 sections; individual 2x3 sections					
	Gene Expressio	n				
	cerebral, cereb		from > 300 left and right ellar and brainstem structures, ols and sample replicates			

Table 8. Donor profile: H0351.2002.

Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness	Table 8. Donor profile: H0351.2002.						
Sex Male	Donor H0351.2002 - Microard	ray Survey					
Age 39 years Race/Ethnicity African American Handedness Left Postmortem Interval 10 hours (estimated time of death to time that tissue is frozen) Serology Pass Toxicology Positive for atropine, caffeine, lidocaine and monoethylglycinexylidide (MEGX) at levels usually not toxicologically significant Tissue pH 6.86 RNA Quality Pass Region Tested Riln value (Mean ± SD) Frontal pole (left & right) 7.5 ± 0.2 Occipital pole (left & right) 7.1 ± 1.0 Cerebellum (left & right) 8.6 ± 0.6 Brainstem 7.3 ± 0.0 Neuropathology MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information None known MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstructio from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray -1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive cerebral, cerebellar and brainstem structures, including positive	Tissue Receipt Date	8/25/2009	8/25/2009				
Race/Ethnicity	Sex	Male	Male				
Handedness Left	Age	39 years					
Postmortem Interval 10 hours (estimated time of death to time that tissue is frozen)	Race/Ethnicity	African America	ın				
Pass Positive for atropine, caffeine, lidocaine and monoethylglycinexylidide (MEGX) at levels usually not toxicologically significant	Handedness	Left	Left				
Toxicology Positive for atropine, caffeine, lidocaine and monoethylglycinexylidide (MEGX) at levels usually not toxicologically significant 6.86 RNA Quality Pass Region Tested (Mean ± SD) Frontal pole (left & right) 7.5 ± 0.2 Occipital pole (left & right) 8.6 ± 0.6 Brainstem 7.3 ± 0.0 Neuropathology MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information Available Datasets MRI, DTI, Photodocumentation MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstructio from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	Postmortem Interval	10 hours (estim	ated time o	of death to time that tiss	sue is frozen)		
(MEGX) at levels usually not toxicologically significant 6.86 RNA Quality Pass Region Tested (Mean ± SD) Frontal pole (left & right) Cocipital pole (left & right) Poccipital pole (le	Serology	Pass					
RNA Quality Pass Region Tested RIN value (Mean ± SD) Frontal pole (left & right) 7.5 ± 0.2 Occipital pole (left & right) Cerebellum (left & right) Rainstem 7.3 ± 0.0 Neuropathology MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information Available Datasets MRI, DTI, Photodocumentation MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstructio from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray -1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	Toxicology						
Region Fested (Mean ± SD)	Tissue pH	6.86					
Occipital pole (left & right) Cerebellum (left & right) Robot Brainstem 7.3 ± 0.0 MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstructio from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	RNA Quality	Pass	Region	Tested			
Cerebellum (left & right) 8.6 ± 0.6 Brainstem 7.3 ± 0.0 MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole			Frontal	pole (left & right)	7.5 ± 0.2		
Brainstem 7.3 ± 0.0			Occipita	al pole (left & right)	7.1 ± 1.0		
MRI-based Radiology Report: Normal brain, possible small pituitary adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex Tissue Received 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Histology Nissl Full coronal 6x8 sections and full coronal reconstructio from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray -1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive			Cerebe	lum (left & right)	8.6 ± 0.6		
adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal cortex 25 cerebral slabs in coronal orientation; 5 mm thickness 17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information Available Datasets MRI, DTI, Photodocumentation MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray -1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive			Brainstem 7.3 ± 0.0				
17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable 1 brainstem, whole Additional Medical Information Available Datasets MRI, DTI, Photodocumentation MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	Neuropathology	adenoma Microneuropathology: Normal; single neurofibrillary tangle in entorhinal					
Information Available Datasets MRI, DTI, Photodocumentation MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	Tissue Received	17 cerebellar slabs in sagittal orientation; 5 mm thickness; 1broken and irreparable					
MRI Viewable online, available for download DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		None known					
DTI Viewable online, available for download Blockface images Yes Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive	Available Datasets	MRI, DTI, Photo	odocumer	ntation			
Blockface images Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		MRI		Viewable online, available for download			
Histology Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		DTI		Viewable online, available for download			
Nissl Full coronal 6x8 sections and full coronal reconstruction from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		Blockface image	es	Yes			
from 2x3 sections; individual 2x3 sections SMI-32 2x3 sections Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		Histology					
Gene Expression Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive							
Microarray ~1,000 samples from > 300 left and right cerebral, cerebellar and brainstem structures, including positive		SMI-32 2x3 sections					
cerebellar and brainstem structures, including positive		Gene Expressi	on				
		cerebellar and brainstem structures, including positiv					

Table 9. Donor profile H0351.2003 .

Donor H0351.2003 – Subcorte	ex Study			
Tissue Receipt Date	4/1/2010			
Sex	Female			
Age	48 years			
Race/Ethnicity	Caucasian			
Handedness	Right			
Postmortem Interval	24 hours (estimated time of death to time that tissue is frozen)			
Serology	Pass			
Toxicology			neobromine at levels usually ne g/dL) consistent with low level	
Tissue pH	6.65			
RNA Quality	Pass	Regio	n Tested	RIN value (Mean ± SD)
		Fronta	l pole (left & right)	5.9 ± 0.7
		Occipital pole (left & right)		7.7 ± 0.4
		Cerebellum (left & right)		8.2 ± 0.3
		Brains	tem	7.5 ± 0.1
Neuropathology	MRI-based Radiology Report: Normal brain; incidental 4mm angioma left thalamus Microneuropathology: Normal; moderate arteriosclerosis and perivascular hemosiderosis.			
Tissue Received			orientation, anatomy-based c ttal orientation, average thickn	
Additional Medical Information	Enlarged heart, his	story of	sleep apnea and morbid obesi	ty
Available Datasets	MRI, DTI, Photod	ocumer	ntation	
	MRI		Available for download	
	DTI		Available for download	
	Histology			
	Nissl		2x3 sections	
	AchE		2x3 sections	
	Cytochrome Oxidase 2x3 sections			
	Gene Expression			
	ISH		Right hypothalamus/amygda	la: 10 genes
			Left subcortical region extend caudate nucleus posteriorly taspect of the substantia nigra	to the posterior

Table 9. Donor profile: H0372-006.

Donor H0372-006 – Subcorte	Donor H0372-006 – Subcortex Study					
Tissue Receipt Date	12/04/2009					
Sex	Male					
Age	44 years					
Race/Ethnicity	Caucasian	Caucasian				
Handedness	Right					
Postmortem Interval	24 hours (estimate	ed time o	of death to time that tissue is fi	rozen)		
Serology	Pass					
Toxicology	•		ine, lidocaine, theobromine, al ally not toxicologically significa			
Tissue pH	6.85					
RNA Quality	Pass	Regio	n Tested	RIN value		
		Fronta	l pole (left & right)	7.4		
		Occipital pole (left & right)		6.3		
		Cerebellum (left & right)		Not sampled		
	Brainstem 6.0					
Neuropathology	MRI-based Radiology Report: Normal brain Microneuropathology: Normal					
Tissue Received	4 cerebral slabs in coronal orientation Slab thickness: 3.25 - 3.5 mm					
Additional Medical Information	Flu-like symptoms	prior to	death			
Available Datasets	MRI, DTI, Photod	ocumer	ntation			
	MRI		Available for download			
	DTI		Available for download	d		
	Histology					
	Nissl		2x3 sections			
	AchE 2x3 sections		2x3 sections			
	Cytochrome Oxida	ase	2x3 sections			
	Gene Expression	1				
	ISH		Right hypothalamus/amygda	la: 10 genes		
			Left subcortical region extended audate nucleus posteriorly to aspect of the substantia nigra	to the posterior		