

3 Plane Localizer	PATIENT POSITION		IMAGING PARAMETERS		
	Patient Entry	Head First	Imaging Mode	2D	
	Patient Position	Supine	Pulse Sequence	Gradient Echo	
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	Seq, Fast	
	Plane		IMAGE ENHANCE		
	Plane	3-PLANE	Filter Choice	None	
	Series Description	3 Plane Localizer	GATING/TRIGGER		
	SCAN RANGE		Auto Trigger Type	Off	
	FOV	26.0	MULTI-PHASE		
	Slice Thickness	5.0	Seperate Series	0	
	Slice Spacing	0.0	Mask Phase	0	
	ACQ TIMING		Mask Pause	0	
	Freq	256	DIFFUSION		
	Phase	128	Recon All Images	On	
	Freq DIR	Unswap	CONTRAST		
	NEX	1.00	Contrast Yes/No	No	
	Phase FOV	1.00			
	Auto Shim	Auto			
	Phase Correction	No			
	FMRI				
	PSD Trigger	Internal			
	Slice Order	Interleaved			
	View Order	Bottom/Up			
	# of Repetitions REST	0			
	# of Repetitions ACTIVE	0			
SAT					
Tag Type	None				
TRICKS					
Pause On/Off	On				
Auto Subtract	0				
Auto SCIC	Off				

3 Plane Localizer

Calibration Scan	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	Fast, Calib, ZIP2, EDR
	Plane		IMAGE ENHANCE	
	Plane	AXIAL	Filter Choice	None
	Series Description	Calibration Scan	GATING/TRIGGER	
	SCAN RANGE		Auto Trigger Type	Off
	FOV	30.0	MULTI-PHASE	
	Slice Thickness	9.4	Seperate Series	0
	Overlap Locations	0	Mask Phase	0
	ACQ TIMING		Mask Pause	0
	Freq DIR	R/L	DIFFUSION	
	Auto Shim	Auto	Recon All Images	On
	Phase Correction	No	CONTRAST	
	FMRI		Contrast Yes/No	No
	PSD Trigger	Internal		
	Slice Order	Interleaved		
	View Order	Bottom/Up		
	# of Repetitions REST	0		
	# of Repetitions ACTIVE	0		
	SAT			
	Tag Type	None		
	TRICKS			
	Pause On/Off	On		
Auto Subtract	0			
Auto SCIC	Off			
OTHERS				
Protocol Notes	Please do not oblique. Please do not reduce the number of slices. Please do not adjust protocol values.			

Calibration Scan

Accelerated Sag IR-FSPGR	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	EDR, Fast, IrP, Asset
	SCAN TIMING		SCAN RANGE	
	Plane	SAGITTAL	FOV	25.6
	Series Description	Accelerated Sag IR-FSPGR	Slice Thickness	1.0
	Flip Angle	11	Location per Slab	200
	TE	Min Full	Overlap Locations	0
	TI	400	ACQ TIMING	
	Receiver Bandwidth	31.25	Freq	256
	IMAGE ENHANCE		Phase	256
	Filter Choice	None	Freq DIR	S/I
	GATING/TRIGGER		NEX	1.00
	Auto Trigger Type	Off	Phase FOV	1.00
	FMRI		Auto Shim	On
	PSD Trigger	Internal	Phase Correction	No
	Slice Order	Interleaved	USER CVS	
	View Order	Bottom/Up	User CV6	1.00
	# of Repetitions REST	0	User CV23	100.00
	# of Repetitions ACTIVE	0	MULTI-PHASE	
	SAT		Seperate Series	0
	Tag Type	None	Mask Phase	0
	TRICKS		Mask Pause	0
	Pause On/Off	On	DIFFUSION	
Auto Subtract	0	Recon All Images	On	
Auto SCIC	2	CONTRAST		
OTHERS		Contrast Yes/No	No	
Protocol Notes	Please do not oblique. Please do not reduce the number of slices. Please do not adjust protocol values.			

Accelerated Sag IR-FSPGR

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	3D
Patient Position	Supine	Pulse Sequence	Cube T2 FLAIR
Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	EDR, Fast, IrP, ARC
Plane	SAGITTAL	SCAN RANGE	
Series Description	Sagittal 3D FLAIR	FOV	25.6
SCAN TIMING		Slice Thickness	1.2
TE	119.0	Location per Slab	186
TR	4800.0	Overlap Locations	0
TI	1451	ACQ TIMING	
Echo Train Length	182	Freq	256
Receiver Bandwidth	31.25	Phase	256
IMAGE ENHANCE		Freq DIR	S/I
Filter Choice	None	NEX	1.00
GATING/TRIGGER		Phase FOV	1.00
Auto Trigger Type	Off	Auto Shim	Auto
FMRI		Phase Correction	No
PSD Trigger	Internal	USER CVS	
Slice Order	Interleaved	User CV5	1.00
View Order	Bottom/Up	MULTI-PHASE	
# of Repetitions REST	0	Seperate Series	0
# of Repetitions ACTIVE	0	Mask Phase	0
SAT		Mask Pause	0
Tag Type	None	DIFFUSION	
Fat/Water Saturation	Fat	Recon All Images	On
TRICKS		CONTRAST	
Pause On/Off	On	Contrast Yes/No	No
Auto Subtract	0		
Auto SCIC	2		
OTHERS			
Protocol Notes	Please do not oblique. Please do not reduce the number of slices. Please do not adjust protocol values.		

Sagittal 3D FLAIR

Sagittal 3D FLAIR

Axial T2 Star	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	FC, EDR
	SCAN TIMING		SCAN RANGE	
	Plane	AXIAL	FOV	20.0
	Series Description	Axial T2 Star	Slice Thickness	4.0
	Flip Angle	20	Slice Spacing	0.0
	TE	20.0	ACQ TIMING	
	Number of Echoes	1	Freq	256
	TR	650.0	Phase	192
	Receiver Bandwidth	25.00	Freq DIR	A/P
	IMAGE ENHANCE		NEX	1.00
	Filter Choice	None	# of Acq. Before Pause	0
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	MULTI-PHASE		Phase Correction	No
	Seperate Series	0	FMRI	
	Mask Phase	0	PSD Trigger	Internal
	Mask Pause	0	Slice Order	Interleaved
	DIFFUSION		View Order	Bottom/Up
	Recon All Images	On	# of Repetitions REST	0
	CONTRAST		# of Repetitions ACTIVE	0
	Contrast Yes/No	No	SAT	
			Tag Type	None
		TRICKS		
		Pause On/Off	On	
		Auto Subtract	0	
		Auto SCIC	2	
		OTHERS		
		Protocol Notes	Please do not oblique. Please do not reduce the number of slices. Please do not adjust protocol values.	

Axial T2 Star

Axial DTI	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Spin Echo
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	EPI, DIFF, Asset
	SCAN TIMING		SCAN RANGE	
	Plane	AXIAL	FOV	23.2
	Series Description	Axial DTI	Slice Thickness	2.0
	TE	Minimum	Slice Spacing	0.0
	TR	15379.0	ACQ TIMING	
	Number of Shots	1	Freq	116
	IMAGE ENHANCE		Phase	116
	Filter Choice	None	Freq DIR	R/L
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	FMRI		Phase Correction	Yes
	PSD Trigger	Internal	USER CVS	
	Slice Order	Interleaved	User CV5	1.00
	View Order	Bottom/Up	User CV17	1.00
	# of Repetitions REST	0	TR Min	2000.0
	# of Repetitions ACTIVE	0	TR Max	17000.0
	SAT		MULTI-PHASE	
	Tag Type	None	Seperate Series	0
	Fat/Water Saturation	Fat	Mask Phase	0
	TRICKS		Mask Pause	0
	Pause On/Off	On	DIFFUSION	
Auto Subtract	0	Optimized TE	Yes	
Auto SCIC	Off	Diffusion Directions	Tensor	
		Number of Diffusion Directions	32	
		Number of T2 Images	4	
		Dual Spin Echo	Off	
		Diffusion Tenser Processing Output	No Selection	
		Recon All Images	Off	
		CONTRAST		
		Contrast Yes/No	No	

Axial DTI

Axial 3D pCASL (Eyes Open)	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	3DASL
	Coil Configuration	32 Ch Head Coil; HD 8Ch High Res Brain Array by Invivo	Imaging Options	EDR, Fast, Spiral
	SCAN TIMING		SCAN RANGE	
	Receiver Bandwidth	62.50	FOV	24.0
	IMAGE ENHANCE		Slice Thickness	4.0
	Filter Choice	None	ACQ TIMING	
	GATING/TRIGGER		Freq	512
	Auto Trigger Type	Off	Phase	8
	MULTI-PHASE		Freq DIR	R/L
	Seperate Series	0	NEX	3.00
	Delay after Acquisition without AV	0	Auto Shim	Auto
	Mask Phase	0	Phase Correction	No
	Mask Pause	0	FMRI	
	DIFFUSION		PSD Trigger	Internal
	Recon All Images	On	Slice Order	Interleaved
	CONTRAST		View Order	Bottom/Up
	Contrast Yes/No	No	# of Repetitions REST	0
			# of Repetitions ACTIVE	0
		SAT		
		Tag Type	None	
		TRICKS		
		Pause On/Off	On	
		Auto Subtract	0	
		Auto SCIC	Off	

Axial 3D pCASL (Eyes Open)

Axial fcMRI (Eyes Open)	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	MPh, EPI, Asset
	SCAN TIMING		SCAN RANGE	
	Plane	AXIAL	FOV	22.0
	Series Description	Axial fcMRI (Eyes Open)	Slice Thickness	3.4
	Flip Angle	90	Slice Spacing	0.0
	TE	30.0	ACQ TIMING	
	TR	3000.0	Freq	64
	Number of Shots	1	Phase	64
	IMAGE ENHANCE		Freq DIR	R/L
	Filter Choice	None	NEX	1.00
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Off
	FMRI		Phase Correction	Yes
	Initial State	Control	USER CVS	
	PSD Trigger	Internal	User CV0	1.00
	Slice Order	Interleaved	MULTI-PHASE	
	View Order	Bottom/Up	Slice per Location	200
	# of Repetitions REST	0	Phase Acquisition Order	Interleaved
	# of Repetitions ACTIVE	0	Delay after Acquisition	Minimum
	SAT		Seperate Series	0
	Tag Type	None	Delay after Acquisition without AV	2
	Fat/Water Saturation	Fat	Mask Phase	0
TRICKS		Mask Pause	0	
Pause On/Off	On	DIFFUSION		
Auto Subtract	0	Recon All Images	On	
Auto SCIC	Off	CONTRAST		
OTHERS		Contrast Yes/No	No	
Protocol Notes	<p><i>*Instruct patient to keep eyes open during this scan and to focus on 1 spot. This is critical to the results!</i></p> <p><i>Cover brain in one acq, ensure slab is positioned from inferior to superior. Must have 48 slices, please do not subtract or add any slices. Do not oblique slices. (Do not change series description)</i></p>			

Axial fcMRI (Eyes Open)

HighResHippo	PATIENT POSITION		IMAGING PARAMETERS	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	FSE-XL
	Coil Configuration	32 Ch Head Coil;HD 8Ch High Res Brain Array by Invivo	Imaging Options	Fast, Asset
	SCAN TIMING		SCAN RANGE	
	Plane	OBLIQUE	FOV	17.5
	Series Description	HighResHippo	Slice Thickness	2.0
	Flip Angle	122	Slice Spacing	Intleave
	TE	50.0	ACQ TIMING	
	Number of Echoes	1	Freq	448
	TR	8020.0	Phase	448
	Echo Train Length	15	Freq DIR	Unswap
	Receiver Bandwidth	20.83	Fat Shift DIR	Normal
	IMAGE ENHANCE		NEX	1.00
	Filter Choice	None	# of Acq. Before Pause	0
	GATING/TRIGGER		Phase FOV	1.00
	Auto Trigger Type	Off	Auto Shim	Auto
	FMRI		Phase Correction	Yes
	PSD Trigger	Internal	USER CVS	
	Slice Order	Interleaved	User CV22	1.00
	View Order	Bottom/Up	MULTI-PHASE	
	# of Repetitions REST	0	Seperate Series	0
	# of Repetitions ACTIVE	0	Mask Phase	0
	SAT		Mask Pause	0
	Tag Type	None	DIFFUSION	
TRICKS		Recon All Images	On	
Pause On/Off	On	CONTRAST		
Auto Subtract	0	Contrast Yes/No	No	
Auto SCIC	2	OTHERS		
Protocol Notes	This scan should be set up obliquely so that is a perpendicular to the hippocampal tail, covering from the front to back. Please refer to the ADNI3 MRI manual with questions.			

HighResHippo