

Protocol: adult\_other\_IPCAS2017006\_LiHuijie\_20170907145342653\_1

#### PATIENT POSITION

Patient Entry *Head First*  
 Patient Position *Supine*  
 Coil Configuration *-1*  
 Plane *3-PLANE*  
 Series Description *AB11\_localizer1*

#### SCAN TIMING

TE *Minimum*  
 TR *Minimum*  
 Receiver Bandwidth *83.33*

#### IMAGE ENHANCE

Filter Choice *None*

#### GATING/TRIGGER

Heart Beat per Minute Mode *0*  
 Auto Trigger Type *Off*  
 Auto Trigger Window *Off*

#### 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*

#### IMAGING PARAMETERS

Imaging Mode *2D*  
 Pulse Sequence *Spin Echo*  
 Imaging Options *Seq, EDR, Fast, SS, ARC*  
 n/a *12*

#### SCAN RANGE

FOV *30.0*  
 Slice Thickness *10.0*  
 Slice Spacing *5.0*  
 Center Location 1 *0.0*  
 Center Location 2 *A15.0*  
 Center Location 3 *0.0*  
 Slice for 3 Plane Localizaion *0*  
 Slice for 3 Plane Localizaion *1*  
 Slice for 3 Plane Localizaion *3*  
 Slice for 3 Plane Localizaion *3*  
 Space per Plane 1 *5.0*  
 Space per Plane 2 *5.0*  
 Table Delta *0.00*

#### ACQ TIMING

Freq *256*  
 Phase *128*  
 Freq DIR *Unswap*  
 # of Acq. Before Pause *0*  
 Phase FOV *1.00*  
 Auto Shim *Auto*  
 Phase Correction *No*

#### USER CVS

User CV2 *240.00*  
 User CV13 *1.00*  
 In-range AutoTR Control *0*  
 User CV Mask *57414*

#### MULTI-PHASE

Seperate Series *0*  
 Mask Phase *0*  
 Mask Pause *0*

#### DIFFUSION

Recon All Images *On*

#### CONTRAST

Contrast Yes/No *No*  
 Contrast Amount *Yes*

AB11\_localizer1

AB11\_localizer1

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ABI1_calibration	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	SPGR
	Coil Configuration	HD 8Ch High Res Brain Array by Invivo	Imaging Options	EDR, Fast, ZIP2, Calib
	Plane	AXIAL	n/a	6
	Series Description	ABI1_calibration	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	30.0
	Number of Echoes	1	Slice Thickness	13.0
	<b>IMAGE ENHANCE</b>		GRXOPT	0
	Filter Choice	None	Start Location 1	I216.1
	<b>GATING/TRIGGER</b>		End Location 1	S186.9
	Heart Beat per Minute Mode	0	End Location 2	R2.9
	Auto Trigger Type	Off	End Location 3	A10.1
	Auto Trigger Window	Off	Center of Location Start	R2.9
	<b>FMRI</b>		Center of Location End	A10.1
	PSD Trigger	Internal	Scan Locations	32
	Slice Order	Interleaved	Number of Slices	1
	View Order	Bottom/Up	Slice for 3 Plane Localizaion	0
	# of Repetitions REST	0	Slice for 3 Plane Localizaion	0
	# of Repetitions ACTIVE	0	Slice for 3 Plane Localizaion	0
	<b>SAT</b>		Slice for 3 Plane Localizaion	0
	Tag Type	None	Space per Plane 1	0.0
	<b>TRICKS</b>		Space per Plane 2	0.0
	Pause On/Off	On	Table Delta	0.00
	Auto Subtract	0	<b>ACQ TIMING</b>	
	Auto SCIC	Off	Freq DIR	R/L
			Auto Shim	Auto
			Phase Correction	No
			<b>USER CVS</b>	
			In-range AutoTR Control	0
			User CV Mask	8388672
			<b>MULTI-PHASE</b>	
			Seperate Series	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

ABI1\_calibration

PATIENT POSITION		IMAGING PARAMETERS	
Patient Entry	Head First	Imaging Mode	2D
Patient Position	Supine	Pulse Sequence	Gradient Echo
Coil Configuration	HD 8Ch High Res Brain Array by Invivo	Imaging Options	EPI, FMRI
Plane	OBLIQUE	n/a	9
Series Description	AB11_bold_bw_rest	SCAN RANGE	
SCAN TIMING		FOV	22.4
Flip Angle	90	Slice Thickness	3.5
TE	30.0	Slice Spacing	0.7
TR	2000.0	Start Location 1	R4.4
Number of Shots	1	Start Location 2	A13.0
IMAGE ENHANCE		Start Location 3	I54.5
Filter Choice	None	End Location 1	R3.4
GATING/TRIGGER		End Location 2	A13.1
Heart Beat per Minute Mode	0	End Location 3	S79.9
Auto Trigger Type	Off	Number of Slices	33
Auto Trigger Window	Off	Slice for 3 Plane Localizaion	0
FMRI		Slice for 3 Plane Localizaion	0
Brain Wave Real Time	2	Slice for 3 Plane Localizaion	0
Paradigm String	REST	Slice for 3 Plane Localizaion	0
Paradigm UID	1.2.840.113819.3.14709520.2699.1399372018333395.65	Space per Plane 1	0.0
Initial State	Control	Space per Plane 2	0.0
PSD Trigger	Internal	Table Delta	0.00
Slice Order	Interleaved	ACQ TIMING	
View Order	Bottom/Up	Freq	64
# of Repetitions REST	15	Phase	64
# of Repetitions ACTIVE	15	Freq DIR	R/L
# of Dummy Acquisition	0	NEX	1.00
SAT		Phase FOV	1.00
Tag Type	None	Auto Shim	Auto
Fat/Water Saturation	Fat	Phase Correction	Yes
TRICKS		USER CVS	
Pause On/Off	On	User CV0	1.00
Auto Subtract	0	User CV Mask	17
Auto SCIC	Off	MULTI-PHASE	
OTHERS		Slice per Location	240
Protocol Notes	BOLD fMRI imaging with BrainWave for Resting state, 240 scans.	Delay after Acquisition	0
		Seperate Series	0
		Delay after Acquisition without AV	0
		Mask Phase	0
		Mask Pause	0
		DIFFUSION	
		Recon All Images	On
		CONTRAST	
		Contrast Yes/No	No
		Contrast Amount	Yes

Task1	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	0	Imaging Options	EPI, Asset, FMRI
	Plane	AXIAL	n/a	9
	Series Description	Task1	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	Flip Angle	80	Slice Thickness	4.0
	TE	28.0	Slice Spacing	0.0
	TR	2000.0	Start Location 1	I76.0
	Number of Shots	1	End Location 1	S76.0
	<b>IMAGE ENHANCE</b>		End Location 2	L0.9
	Filter Choice	None	End Location 3	A16.0
	<b>GATING/TRIGGER</b>		Center of Location Start	L0.9
	Heart Beat per Minute Mode	0	Center of Location End	A16.0
	Auto Trigger Type	Off	Number of Slices	39
	Auto Trigger Window	Off	Slice for 3 Plane Localizaion	0
	<b>FMRI</b>		Slice for 3 Plane Localizaion	0
	Brain Wave Real Time	2	Slice for 3 Plane Localizaion	0
	Paradigm String	ZXT_ANT_150130	Slice for 3 Plane Localizaion	0
	Paradigm UID	1.2.840.113819.3.14709521 8551.1422604165824368.75	Space per Plane 1	0.0
	Initial State	Control	Space per Plane 2	0.0
	PSD Trigger	Internal	Table Delta	0.00
	Slice Order	Interleaved	<b>ACQ TIMING</b>	
	View Order	Top/Down	Freq	64
	# of Repetitions REST	12	Phase	64
	# of Repetitions ACTIVE	12	Freq DIR	R/L
	# of Dummy Acquisition	0	NEX	1.00
	<b>SAT</b>		Phase FOV	1.00
	Tag Type	None	Auto Shim	Auto
	<b>TRICKS</b>		Phase Correction	Yes
	Pause On/Off	On	<b>USER CVS</b>	
	Auto Subtract	0	User CV0	1.00
	Auto SCIC	Off	User CV Mask	1
			<b>MULTI-PHASE</b>	
			Slice per Location	251
			Delay after Acquisition	0
			Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

Task1

Task2	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	0	Imaging Options	EPI, Asset, FMRI
	Plane	AXIAL	n/a	9
	Series Description	Task2	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	Flip Angle	80	Slice Thickness	4.0
	TE	35.0	Slice Spacing	0.0
	TR	2000.0	Start Location 1	I76.0
	Number of Shots	1	End Location 1	S76.0
	<b>IMAGE ENHANCE</b>		End Location 2	L0.9
	Filter Choice	None	End Location 3	A16.0
	<b>GATING/TRIGGER</b>		Center of Location Start	L0.9
	Heart Beat per Minute Mode	0	Center of Location End	A16.0
	Auto Trigger Type	Off	Number of Slices	39
	Auto Trigger Window	Off	Slice for 3 Plane Localizaion	0
	<b>FMRI</b>		Slice for 3 Plane Localizaion	0
	Brain Wave Real Time	2	Slice for 3 Plane Localizaion	0
	Paradigm String	ZXT_ANT_150130	Slice for 3 Plane Localizaion	0
	Paradigm UID	1.2.840.113819.3.14709521 8551.1422604165824368.75	Space per Plane 1	0.0
	Initial State	Control	Space per Plane 2	0.0
	PSD Trigger	Internal	Table Delta	0.00
	Slice Order	Interleaved	<b>ACQ TIMING</b>	
	View Order	Top/Down	Freq	64
	# of Repetitions REST	12	Phase	64
	# of Repetitions ACTIVE	12	Freq DIR	R/L
	# of Dummy Acquisition	0	NEX	1.00
	<b>SAT</b>		Phase FOV	1.00
	Tag Type	None	Auto Shim	Auto
	<b>TRICKS</b>		Phase Correction	Yes
	Pause On/Off	On	<b>USER CVS</b>	
	Auto Subtract	0	User CV0	1.00
	Auto SCIC	Off	User CV Mask	1
			<b>MULTI-PHASE</b>	
			Slice per Location	251
			Delay after Acquisition	0
			Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

Task2

**PATIENT POSITION**

Patient Entry *Head First*  
 Patient Position *Supine*  
 Coil Configuration *HD 8Ch High Res Brain Array by Invivo*  
 Plane *SAGITTAL*  
 Series Description *AB11\_t1iso\_fspgr*

**SCAN TIMING**

Flip Angle *12*  
 TE *Min Full*  
 Number of Echoes *1*  
 TI *450*  
 Receiver Bandwidth *31.25*

**IMAGE ENHANCE**

Filter Choice *None*

**GATING/TRIGGER**

Heart Beat per Minute Mode *0*  
 Auto Trigger Type *Off*  
 Auto Trigger Window *Off*

**FMRI**

Initial State *Control*  
 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 *2*

**OTHERS**

Protocol Notes *T1 weighted 3D structure imaging.  
 Scan Plane: Sagittal  
 Excitation Mode: Non-selective*

**IMAGING PARAMETERS**

Imaging Mode *3D*  
 Pulse Sequence *SPGR*  
 Imaging Options *EDR, Fast, IrP, Asset*  
 n/a *6*

**SCAN RANGE**

FOV *25.6*  
 Slice Thickness *1.0*  
 Location per Slab *192*  
 Overlap Locations *0*  
 GRXOPT *0*  
 Start Location 1 *L93.2*  
 End Location 1 *R97.8*  
 End Location 2 *A12.7*  
 End Location 3 *I3.5*  
 Center of Location Start *A12.7*  
 Center of Location End *I3.5*  
 Number of Slices *1*  
 Slice for 3 Plane Localizaion *0*  
 Slice for 3 Plane Localizaion *0*  
 Slice for 3 Plane Localizaion *0*  
 Space per Plane 1 *0.0*  
 Space per Plane 2 *0.0*  
 Table Delta *0.00*

**ACQ TIMING**

Freq *256*  
 Phase *256*  
 Freq DIR *S/I*  
 NEX *1.00*  
 Phase FOV *1.00*  
 Auto Shim *Auto*  
 Phase Correction *No*

**USER CVS**

User CV6 *2.00*  
 User CV23 *100.00*  
 In-range AutoTR Control *0*  
 User CV Mask *8388688*

**MULTI-PHASE**

Seperate Series *0*  
 Mask Phase *0*  
 Mask Pause *0*

**DIFFUSION**

Recon All Images *On*

**CONTRAST**

Contrast Yes/No *No*  
 Contrast Amount *Yes*

AB11\_t1iso\_fspgr

AB11\_t1iso\_fspgr

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AB11_t2iso_cube	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	3D
	Patient Position	Supine	Pulse Sequence	Cube T2
	Coil Configuration	HD 8Ch High Res Brain Array by Invivo	Imaging Options	EDR, Fast, FR, ARC
	Plane	OBLIQUE	n/a	53
	Series Description	AB11_t2iso_cube	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	25.6
	TE	Maximum	Slice Thickness	1.0
	TR	3200.0	Location per Slab	196
	Echo Train Length	220	Overlap Locations	0
	Receiver Bandwidth	83.33	Start Location 1	R99.4
	<b>IMAGE ENHANCE</b>		Start Location 2	A13.0
	Filter Choice	None	Start Location 3	I16.6
	<b>GATING/TRIGGER</b>		End Location 1	L91.6
	Auto Trigger Type	Off	End Location 2	A13.0
	Auto Trigger Window	Off	End Location 3	I16.6
	<b>FMRI</b>		Number of Slices	1
	PSD Trigger	Internal	Slice for 3 Plane Localizaion	0
	Slice Order	Interleaved	Slice for 3 Plane Localizaion	0
	View Order	Bottom/Up	Slice for 3 Plane Localizaion	0
	# of Repetitions REST	0	Slice for 3 Plane Localizaion	0
	# of Repetitions ACTIVE	0	Space per Plane 1	0.0
	<b>SAT</b>		Space per Plane 2	0.0
	Tag Type	None	Table Delta	0.00
	<b>TRICKS</b>		<b>ACQ TIMING</b>	
	Pause On/Off	On	Freq	256
	Auto Subtract	0	Phase	256
	Auto SCIC	2	Freq DIR	S/I
	<b>OTHERS</b>		NEX	2.00
	Protocol Notes	T2 weighted 3D structure imaging. Scan Plane: Oblique Excitation Mode: Non-selective	Phase FOV	1.00
			Auto Shim	Auto
			Phase Correction	No
			<b>USER CVS</b>	
			In-range AutoTR Control	0
			User CV Mask	4194304
			<b>MULTI-PHASE</b>	
			Seperate Series	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

AB11\_t2iso\_cube

Task3	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	0	Imaging Options	EPI, Asset, FMRI
	Plane	AXIAL	n/a	9
	Series Description	Task3	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	Flip Angle	80	Slice Thickness	4.0
	TE	35.0	Slice Spacing	0.0
	TR	2000.0	Start Location 1	I76.0
	Number of Shots	1	End Location 1	S76.0
	<b>IMAGE ENHANCE</b>		End Location 2	L0.9
	Filter Choice	None	End Location 3	A16.0
	<b>GATING/TRIGGER</b>		Center of Location Start	L0.9
	Heart Beat per Minute Mode	0	Center of Location End	A16.0
	Auto Trigger Type	Off	Number of Slices	39
	Auto Trigger Window	Off	Slice for 3 Plane Localizaion	0
	<b>FMRI</b>		Slice for 3 Plane Localizaion	0
	Brain Wave Real Time	2	Slice for 3 Plane Localizaion	0
	Paradigm String	ZXT_ANT_150130	Slice for 3 Plane Localizaion	0
	Paradigm UID	1.2.840.113819.3.14709521 8551.1422604165824368.75	Space per Plane 1	0.0
	Initial State	Control	Space per Plane 2	0.0
	PSD Trigger	Internal	Table Delta	0.00
	Slice Order	Interleaved	<b>ACQ TIMING</b>	
	View Order	Top/Down	Freq	64
	# of Repetitions REST	12	Phase	64
	# of Repetitions ACTIVE	12	Freq DIR	R/L
	# of Dummy Acquisition	0	NEX	1.00
	<b>SAT</b>		Phase FOV	1.00
	Tag Type	None	Auto Shim	Auto
	<b>TRICKS</b>		Phase Correction	Yes
	Pause On/Off	On	<b>USER CVS</b>	
	Auto Subtract	0	User CV0	1.00
	Auto SCIC	Off	User CV Mask	1
			<b>MULTI-PHASE</b>	
			Slice per Location	181
			Delay after Acquisition	0
			Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

Task3



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Task4	<b>PATIENT POSITION</b>		<b>IMAGING PARAMETERS</b>	
	Patient Entry	Head First	Imaging Mode	2D
	Patient Position	Supine	Pulse Sequence	Gradient Echo
	Coil Configuration	0	Imaging Options	EPI, Asset, FMRI
	Plane	AXIAL	n/a	9
	Series Description	Task4	<b>SCAN RANGE</b>	
	<b>SCAN TIMING</b>		FOV	24.0
	Flip Angle	80	Slice Thickness	4.0
	TE	35.0	Slice Spacing	0.0
	TR	2000.0	Start Location 1	I76.0
	Number of Shots	1	End Location 1	S76.0
	<b>IMAGE ENHANCE</b>		End Location 2	L0.9
	Filter Choice	None	End Location 3	A16.0
	<b>GATING/TRIGGER</b>		Center of Location Start	L0.9
	Heart Beat per Minute Mode	0	Center of Location End	A16.0
	Auto Trigger Type	Off	Number of Slices	39
	Auto Trigger Window	Off	Slice for 3 Plane Localizaion	0
	<b>FMRI</b>		Slice for 3 Plane Localizaion	0
	Brain Wave Real Time	2	Slice for 3 Plane Localizaion	0
	Paradigm String	ZXT_ANT_150130	Slice for 3 Plane Localizaion	0
	Paradigm UID	1.2.840.113819.3.14709521 8551.1422604165824368.75	Space per Plane 1	0.0
	Initial State	Control	Space per Plane 2	0.0
	PSD Trigger	Internal	Table Delta	0.00
	Slice Order	Interleaved	<b>ACQ TIMING</b>	
	View Order	Top/Down	Freq	64
	# of Repetitions REST	12	Phase	64
	# of Repetitions ACTIVE	12	Freq DIR	R/L
	# of Dummy Acquisition	0	NEX	1.00
	<b>SAT</b>		Phase FOV	1.00
	Tag Type	None	Auto Shim	Auto
	<b>TRICKS</b>		Phase Correction	Yes
	Pause On/Off	On	<b>USER CVS</b>	
	Auto Subtract	0	User CV0	1.00
	Auto SCIC	Off	User CV Mask	1
			<b>MULTI-PHASE</b>	
			Slice per Location	181
			Delay after Acquisition	0
			Seperate Series	0
			Delay after Acquisition without AV	0
			Mask Phase	0
			Mask Pause	0
			<b>DIFFUSION</b>	
			Recon All Images	On
			<b>CONTRAST</b>	
			Contrast Yes/No	No
			Contrast Amount	Yes

Task4