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\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\AAHead_Scout_20

TA: 0:14 PM: REF Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
TE	1.37 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HC2,4,6,7;NC2

Contrast - Common

TR	3.15 ms
TE	1.37 ms
Flip angle	8.0 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1

Resolution - iPAT

Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off

System - Miscellaneous

Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Flip angle	8.0 deg
Measurements	1
Time to center	6.2 s

Inline - Inline

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Sequence - Part 1

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Contrasts	1

Sequence - Part 1

Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_Import

TA: 0:11 PM: REF Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Averages	1
Multi-echo Shots	1
Filter	None
Coil elements	BC

Contrast - Common

TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Multi-echo spacing	46.82 ms
Magn. preparation	Non-sel. HSN IR
TI 1	2410 ms
TI 2	7210 ms
Flip angle	5 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
Base resolution	84
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	120 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	0.55 ms
Bandwidth	2052 Hz/Px

Sequence - Part 2

EPI factor	84
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	48

Sequence - Special

RF duration	1000 us
RF BWT product	15

Sequence - Special

Ernst T1	1200 ms
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	-none-
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
HSN RF power scale	2.00
Inversion Delay	0 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4b_import

TA: 0:11 PM: REF Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Averages	1
Multi-echo Shots	1
Filter	None
Coil elements	BC

Contrast - Common

TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Multi-echo spacing	46.82 ms
Magn. preparation	Non-sel. HSN IR
TI 1	2410 ms
TI 2	7210 ms
Flip angle	5 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
Base resolution	84
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	120 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	0.55 ms
Bandwidth	2052 Hz/Px

Sequence - Part 2

EPI factor	84
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	48

Sequence - Special

RF duration	1000 us
RF BWT product	15

Sequence - Special

Ernst T1	1200 ms
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	-none-
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
HSN RF power scale	2.00
Inversion Delay	0 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a

TA: 0:23 PM: REF Voxel size: 0.8×0.8×0.9 mmPAT: 2 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	24
FoV read	150 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
TR 1	110.0 ms
TR 2	6143 ms
TE 1	39.20 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	BC

Contrast - Common

TR 1	110.0 ms
TR 2	6143 ms
TE 1	39.20 ms
Multi-echo spacing	100.66 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1880 ms
TI 2	4520 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	150 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
Base resolution	188
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Acc. factor PE	2
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
Reference Scan Mode	GRE/separate

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	24
FoV read	150 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
TR 1	110.0 ms
TR 2	6143 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H

Geometry - Tim Planning Suite

Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	150 mm
R >> L	150 mm
F >> H	22 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.42 ms
Bandwidth	760 Hz/Px

Sequence - Part 2

EPI factor	70
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.

Sequence - Part 2

RF spoiling	On
Turbo factor	24

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
FID ADC duration	2560 us
Integrate FIDNav	On
Phase cycle FIDNav	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	per Volume
EPI rise time factor	1.10
Mosaic DICOMs	On
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4b

TA: 0:11 PM: REF Voxel size: 2.5×2.5×2.5 mmPAT: Off Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Averages	1
Multi-echo Shots	1
Filter	None
Coil elements	BC

Contrast - Common

TR 1	100.0 ms
TR 2	9620 ms
TE 1	37.00 ms
Multi-echo spacing	46.82 ms
Magn. preparation	Non-sel. HSN IR
TI 1	2410 ms
TI 2	7210 ms
Flip angle	5 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
Base resolution	84
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	48
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.50 mm
TR 1	100.0 ms
TR 2	9620 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	120 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	0.55 ms
Bandwidth	2052 Hz/Px

Sequence - Part 2

EPI factor	84
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	48

Sequence - Special

RF duration	1000 us
RF BWT product	15

Sequence - Special

Ernst T1	1200 ms
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	-none-
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
HSN RF power scale	2.00
Inversion Delay	0 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4b_slab

TA: 8:10 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.5 ms
TR 2	4756 ms
TE 1	28.50 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	80.5 ms
TR 2	4756 ms
TE 1	28.50 ms
Multi-echo spacing	76.51 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1606.5 ms
TI 2	3699.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.5 ms
TR 2	4756 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	22 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_slab

TA: 8:07 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.5 ms
TR 2	4756 ms
TE 1	28.50 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	80.5 ms
TR 2	4756 ms
TE 1	28.50 ms
Multi-echo spacing	76.51 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1606.5 ms
TI 2	3699.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.5 ms
TR 2	4756 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_EPIANAT

TA: 7:39 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	11273 ms
TE 1	15.60 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	43.3 ms
TR 2	11273 ms
TE 1	15.60 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	859.5 ms
TI 2	2158.5 ms
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s

Contrast - Dynamic

Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	11273 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.1 P2.7 H21.3
L	0.1 mm
P	2.7 mm
H	21.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

System - Adjustments

Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1000 us
RF BWT product	15
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-

Sequence - Special

External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	200 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_BOLD_WB

TA: 8:04 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	79.3 ms
TR 2	4758 ms
TE 1	27.80 ms
Averages	1
Multi-echo Shots	1
Filter	Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	79.3 ms
TR 2	4758 ms
TE 1	27.80 ms
Multi-echo spacing	76.51 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	79.3 ms
TR 2	4758 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.1 P2.7 H21.3
L	0.1 mm
P	2.7 mm
H	21.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	60

Sequence - Special

PATRef FA	3 deg
RF duration	1000 us
RF BWT product	15
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4amagec_EPIANAT

TA: 7:39 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	11273 ms
TE 1	15.60 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	43.3 ms
TR 2	11273 ms
TE 1	15.60 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	859.5 ms
TI 2	2158.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s

Contrast - Dynamic

Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On

Resolution - Filter Image

Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	11273 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.1 P2.7 H21.3
L	0.1 mm
P	2.7 mm
H	21.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1000 us
RF BWT product	15
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off

Sequence - Special

Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	200 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11

TA: 1:02 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4808 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	4808 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1619.5 ms
TI 2	3738.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4808 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1

Sequence - Part 1

Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_longBINO11

TA: 1:03 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.0 ms
TR 2	4938 ms
TE 1	30.20 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	84.0 ms
TR 2	4938 ms
TE 1	30.20 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1652 ms
TI 2	3836 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.0 ms
TR 2	4938 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1

Sequence - Part 1

Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Long bino-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_longBINO11_SPAIR

TA: 1:03 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.0 ms
TR 2	4966 ms
TE 1	30.20 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	84.0 ms
TR 2	4966 ms
TE 1	30.20 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1652 ms
TI 2	3836 ms
Flip angle	30 deg
Fat suppr.	SPAIR
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.0 ms
TR 2	4966 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	SPAIR

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1

Sequence - Part 1

Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Long bino-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_spair

TA: 1:02 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4836 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	4836 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1619.5 ms
TI 2	3738.5 ms
Flip angle	30 deg
Fat suppr.	SPAIR
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4836 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	SPAIR

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1

Sequence - Part 1

Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_FAT_sat

TA: 1:05 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5125 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	5125 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1619.5 ms
TI 2	3738.5 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5125 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1

Sequence - Part 1

Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_slab

TA: 1:01 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	4761 ms
TE 1	28.50 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC2,4,6,7;NC2

Contrast - Common

TR 1	80.6 ms
TR 2	4761 ms
TE 1	28.50 ms
Multi-echo spacing	76.51 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1607.8 ms
TI 2	3703.4 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	4761 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 A5.0 H79.0
R	0.1 mm
A	5.0 mm

Geometry - AutoAlign

H	79.0 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A0.8 H76.0 mm
! Orientation	T > C-5.3
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D

Sequence - Part 1

Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_EPIANAT

TA: 0:45 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	45.5 ms
TR 2	11801 ms
TE 1	16.70 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-4

Contrast - Common

TR 1	45.5 ms
TR 2	11801 ms
TE 1	16.70 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	892.5 ms
TI 2	2257.5 ms
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %

Resolution - Common

Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	1
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	45.5 ms
TR 2	11801 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 A5.0 H79.0
R	0.1 mm
A	5.0 mm
H	79.0 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	200 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_EPIANAT_MAGEC

TA: 0:45 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	45.5 ms
TR 2	11801 ms
TE 1	16.70 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-4

Contrast - Common

TR 1	45.5 ms
TR 2	11801 ms
TE 1	16.70 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	892.5 ms
TI 2	2257.5 ms
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %

Resolution - Common

Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	1
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	45.5 ms
TR 2	11801 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 A5.0 H79.0
R	0.1 mm
A	5.0 mm
H	79.0 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	200 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_BOLD

TA: 0:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	4836 ms
TE 1	28.50 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-4

Contrast - Common

TR 1	80.6 ms
TR 2	4836 ms
TE 1	28.50 ms
Multi-echo spacing	76.51 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	3
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	1
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	4836 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 A5.0 H79.0
R	0.1 mm
A	5.0 mm
H	79.0 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	15

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4b_BINO11_slab

TA: 6:18 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	3669 ms
TE 1	21.30 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	59.6 ms
TR 2	3669 ms
TE 1	21.30 ms
Multi-echo spacing	55.45 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1334.8 ms
TI 2	2884.4 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	3669 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	22 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4b_WB_BOLD

TA: 7:18 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	71.5 ms
TR 2	4290 ms
TE 1	25.40 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	71.5 ms
TR 2	4290 ms
TE 1	25.40 ms
Multi-echo spacing	67.33 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	71.5 ms
TR 2	4290 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	99 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.23 ms
Bandwidth	890 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal

Sequence - Part 2

Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	60

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4b_BINO_WB_VASO_sd

TA: 7:50 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	33.9 ms
TR 2	9217 ms
TE 1	12.60 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	33.9 ms
TR 2	9217 ms
TE 1	12.60 ms
Multi-echo spacing	29.54 ms
Magn. preparation	Non-sel. HSN IR
TI 1	768.5 ms
TI 2	1785.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	50
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s

Contrast - Dynamic

Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Pause after meas. 40	0.0 s
Pause after meas. 41	0.0 s
Pause after meas. 42	0.0 s
Pause after meas. 43	0.0 s
Pause after meas. 44	0.0 s
Pause after meas. 45	0.0 s
Pause after meas. 46	0.0 s
Pause after meas. 47	0.0 s
Pause after meas. 48	0.0 s
Pause after meas. 49	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	33.9 ms
TR 2	9217 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off

System - Miscellaneous

AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	99 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.05 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off

Sequence - Special

Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	250 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4b_BINO_WB_VASO_ss

TA: 7:01 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	8233 ms
TE 1	21.30 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	59.6 ms
TR 2	8233 ms
TE 1	21.30 ms
Multi-echo spacing	55.45 ms
Magn. preparation	Non-sel. HSN IR
TI 1	677.2 ms
TI 2	1571.2 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	50
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s

Contrast - Dynamic

Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s
Pause after meas. 40	0.0 s
Pause after meas. 41	0.0 s
Pause after meas. 42	0.0 s
Pause after meas. 43	0.0 s
Pause after meas. 44	0.0 s
Pause after meas. 45	0.0 s
Pause after meas. 46	0.0 s
Pause after meas. 47	0.0 s
Pause after meas. 48	0.0 s
Pause after meas. 49	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	8233 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off

System - Miscellaneous

AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	99 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	15

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off

Sequence - Special

Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	250 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO_slab

TA: 6:18 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	3669 ms
TE 1	21.30 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	59.6 ms
TR 2	3669 ms
TE 1	21.30 ms
Multi-echo spacing	55.45 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1334.8 ms
TI 2	2884.4 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	3669 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	22 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_WB_VASO_varflip

TA: 6:26 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	9433 ms
TE 1	21.30 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC3-6

Contrast - Common

TR 1	59.6 ms
TR 2	9433 ms
TE 1	21.30 ms
Multi-echo spacing	55.45 ms
Magn. preparation	Non-sel. HSN IR
TI 1	977.2 ms
TI 2	1871.2 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	40
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Pause after meas. 10	0.0 s

Contrast - Dynamic

Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s
Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Pause after meas. 32	0.0 s
Pause after meas. 33	0.0 s
Pause after meas. 34	0.0 s
Pause after meas. 35	0.0 s
Pause after meas. 36	0.0 s
Pause after meas. 37	0.0 s
Pause after meas. 38	0.0 s
Pause after meas. 39	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	59.6 ms
TR 2	9433 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off

System - Adjustments

Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	177 mm
R >> L	177 mm
F >> H	99 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	15

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11

Sequence - Special

External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\20201221

TA: 0:14 PM: REF Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
TE	1.37 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HC2,4,6,7;NC2

Contrast - Common

TR	3.15 ms
TE	1.37 ms
Flip angle	8.0 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1

Resolution - iPAT

Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off

System - Miscellaneous

Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Flip angle	8.0 deg
Measurements	1
Time to center	6.2 s

Inline - Inline

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Inline Composing	Off
Distortion Corr.	Off

Sequence - Part 1

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Contrasts	1

Sequence - Part 1

Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_BINO11_slab

TA: 8:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4908 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	4908 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1719.5 ms
TI 2	3838.5 ms
Flip angle	30 deg
Fat suppr.	None
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	4908 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal

Sequence - Part 2

Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	Binomial-11
External PC	per Series
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	650 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_fatsat_slab

TA: 8:56 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1719.5 ms
TI 2	3838.5 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal

Sequence - Part 2

Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	650 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_fatsat_slab_Fa60

TA: 8:56 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1719.5 ms
TI 2	3838.5 ms
Flip angle	60 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal

Sequence - Part 2

Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	650 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_fatsat_slab_Fa30_novarflip

TA: 8:56 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D)
Coil elements	HC3-6

Contrast - Common

TR 1	81.5 ms
TR 2	5225 ms
TE 1	28.90 ms
Multi-echo spacing	76.83 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1719.5 ms
TI 2	3838.5 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	81.5 ms
TR 2	5225 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal

Sequence - Part 2

Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	650 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_fatsat_BOLD

TA: 9:27 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	5568 ms
TE 1	28.50 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-4

Contrast - Common

TR 1	80.6 ms
TR 2	5568 ms
TE 1	28.50 ms
Multi-echo spacing	76.51 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	1
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	80.6 ms
TR 2	5568 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 A5.0 H79.0 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 A5.0 H79.0
R	0.1 mm
A	5.0 mm
H	79.0 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	15

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\ma4a_fatsat_BOLD_navigators

TA: 9:48 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	R0.1 P7.3 H10.7 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.1 ms
TR 2	5778 ms
TE 1	32.10 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-6

Contrast - Common

TR 1	84.1 ms
TR 2	5778 ms
TE 1	32.10 ms
Multi-echo spacing	76.51 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	24
CAIPI 3D Shift	1
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	R0.1 P7.3 H10.7 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	84.1 ms
TR 2	5778 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	R0.1 P7.3 H10.7 mm
Orientation	T > C-6.1 > S-0.7
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.1 P7.3 H10.7
R	0.1 mm
P	7.3 mm
H	10.7 mm
Initial Rotation	1.40 deg
Initial Orientation	T > C
T > C	-6.1
> S	-0.7

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.4 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	15

Sequence - Special

PATRef FA	3 deg
RF duration	1100 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	-none-
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_EPIANAT

TA: 17:20 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	14137 ms
TE 1	15.60 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-6

Contrast - Common

TR 1	43.3 ms
TR 2	14137 ms
TE 1	15.60 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1209.5 ms
TI 2	2508.5 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	73
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	14137 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	L0.1 P2.7 H21.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.1 P2.7 H21.3
L	0.1 mm
P	2.7 mm
H	21.3 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard

Geometry - Saturation

Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

Sequence - Part 2

EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1000 us
RF BWT product	15
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off

\\NSI_MR_Research\final_studies\3D_EPI_Spielplatz\Dec_2020\rslh_ep3d_vaso_ma4a_EPIANAT5_functional

TA: 17:20 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 6 Rel. SNR: 1.00 : 0c0b7b7

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.2 A0.4 H35.2 mm
Orientation	T > C-6.6 > S0.5
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	14137 ms
TE 1	15.60 ms
Averages	1
Multi-echo Shots	1
Filter	Distortion Corr.(3D), Prescan Normalize
Coil elements	HC1-6

Contrast - Common

TR 1	43.3 ms
TR 2	14137 ms
TE 1	15.60 ms
Multi-echo spacing	40.07 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1209.5 ms
TI 2	2508.5 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	4

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	73
Pause after meas.	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
Base resolution	216
Phase resolution	100 %

Resolution - Common

Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	45
Acc. factor 3D	2
Ref. lines 3D	20
CAIPI 3D Shift	0
Reference Scan Mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.2 A0.4 H35.2 mm
Orientation	T > C-6.6 > S0.5
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	120
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.82 mm
TR 1	43.3 ms
TR 2	14137 ms
Multi-slice mode	Interleaved
Series	Ascending
Multi-echo Shots	1

Geometry - AutoAlign

Slab group	1
Position	L0.2 A0.4 H35.2 mm
Orientation	T > C-6.6 > S0.5
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.2 A0.4 H35.2
L	0.2 mm
A	0.4 mm
H	35.2 mm
Initial Rotation	-2.60 deg
Initial Orientation	T > C
T > C	-6.6

Geometry - AutoAlign

> S	0.5

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	H
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	150 mm
! F >> H	24 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	123.247819 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved

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Echo spacing	1.44 ms
Bandwidth	772 Hz/Px

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EPI factor	27
Segmentation	2
RF pulse type	Normal
Gradient mode	Performance
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	30

Sequence - Special

PATRef FA	3 deg
RF duration	1000 us
RF BWT product	15
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
PATRef averages	2
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Invert 3D	Off
Invert RO	Off
Alternate RO	Off
Disable PF reco	Off
Ramp Sampling	On
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify IcePAT	Off
HSN RF power scale	3.00
Inversion Delay	550 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	0

Sequence - Assistant

Mode	Off