

How to use Analyze data

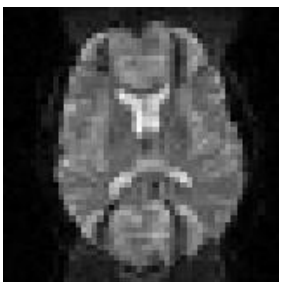
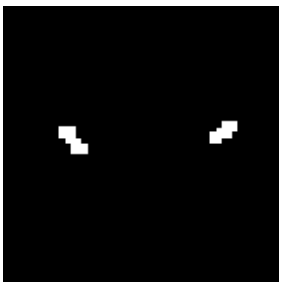


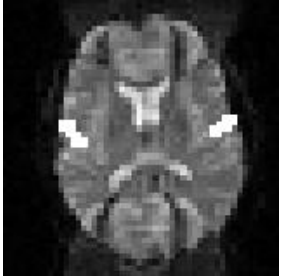
For BrainLAB iPlan 2.x and 3.x 1:

General requirements for the scan:

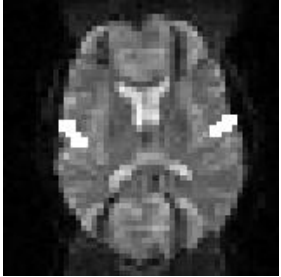
Scan properties	<ul style="list-style-type: none"> • Axial, sagittal and coronal slices supported • For a typical fMRI procedure, more than 30 image sets (with and without brain activity) are acquired • Various modalities can be used as anatomical data (e.g., T1, T2w)
Patient orientation	<ul style="list-style-type: none"> • Suggested head first supine
Angulation	<ul style="list-style-type: none"> • Not supported
Pixel / matrix size	<ul style="list-style-type: none"> • Any matrix size, but must be square, e.g., 64x64, 128x128, 256x256 or 512x512 • Pixel size must be square

Data sets required for storage in Analyze format:

Method 1: Please save the following two data sets in the Analyze format	
	<p>1. At least one complete EPI image set is necessary to provide anatomical information for image fusion</p>
	<p>2. The results of the BOLD processing with the selected threshold can be saved as a separate image set</p>

Method 2: Please save the following data set in the Analyze format	
	<ul style="list-style-type: none"> Using SPM, the fMRI results can be directly “burned” into the EPI or another MRI data set: <ul style="list-style-type: none"> First complete the t-map results with the selected threshold Use ImCalc to load the results as an overlay to the EPI data Save the result as a new data set This result can be transferred as a normal MRI image set
Image format	<ul style="list-style-type: none"> Integer values 8, 16, 32 Bit Little and Big Endian Double or floating values Colored images or complex values are not supported Images must be stored in the multi-frame format A complete data set has one *.img and one *.hdr file with the same file name

Using Analyze data in BrainLAB software:

Import of data	<ul style="list-style-type: none"> Use iPlan to transfer the EPI image set and the activation result You can import one or more Analyze data sets with different activations
iPlan Cranial 	<ul style="list-style-type: none"> In iPlan Cranial the data sets can be fused together with Volumetric Fusion. This method of fusion requires that the following parameters be identical²: <ul style="list-style-type: none"> modality number of slices pixel size matrix size creation date orientation The EPI data set can be fused with any other high-resolution image sets. Use the threshold segmentation in iPlan to outline the fMRI activations, giving a color and name to each activation². Transfer these functional objects to one of the higher resolution image sets for export to navigation

- The Analyze format has very simple structure and header information. To make the data usable for the BrainLAB system the user must verify the data properties (modality, type, orientation) during the data import
- See the iPlan Cranial User Guide for more details

For additional information please contact BrainLAB Support.