1. Scanner (Manufacturer and Model):

[ ]  Siemens

Model:

[ ]  Philips

Model:

[ ]  GE

Model:

[ ]  Other, specify:

Model:

1. Field strength:

[ ]  1.5 T [ ]  3.0 T [ ]  7.0 T [ ]  Other, specify:

1. Scanner software version:
2. Raw data format saved and available: [ ]  Yes [ ]  No
3. Study done during an acute metabolic crisis? [ ]  Yes [ ]  No
4. Single-voxel spectroscopy (SVS) – (Voxel 1):
	1. [ ]  Yes [ ]  No
	2. [ ]  PRESS [ ]  STEAM [ ]  (s)LASER [ ]  Other, specify:
	3. Repetition time (TR) ms:
	4. Echo time (TE) ms:
	5. Number of averages:
	6. Shimming procedure: [ ]  Active [ ]  Global [ ]  Interactive [ ]  Local [ ]  3D [ ]  Other, specify:
	7. Was a similar corresponding water unsuppressed spectrum acquired? [ ]  Yes [ ]  No
	8. Voxel size (mm x mm x mm):
	9. Voxel location: [ ]  Basal ganglia [ ]  Occipitoparietal gray matter [ ]  Parietal white matter

[ ]  Frontal white matter [ ]  Other, specify:

* 1. Voxel over area with signal abnormality: [ ]  Yes [ ]  No
	2. Voxel over area with reduced (restricted) diffusion: [ ]  Yes [ ]  No
	3. If intermediate TE (130-150ms) at 3Tesla, was an adiabatic excitation pulse (e.g., LASER, semi-LASER) used? [ ]  Yes [ ]  No
	4. Visual spectral quality assessment: [ ]  Adequate [ ]  Inadequate quality
1. Single-voxel spectroscopy (SVS) – (Voxel 2, if applicable):
	1. [ ]  Yes [ ]  No
	2. [ ]  PRESS [ ]  STEAM [ ]  (s)LASER [ ]  Other, specify:
	3. Repetition time (TR) ms:
	4. Echo time (TE) ms:
	5. Number of averages:
	6. Shimming procedure: [ ]  Active [ ]  Global [ ]  Interactive [ ]  Local [ ]  3D [ ]  Other, specify:
	7. Was a similar corresponding water unsuppressed spectrum acquired? [ ]  Yes [ ]  No
	8. Voxel size (mm x mm x mm):
	9. Voxel location: [ ]  Basal ganglia [ ]  Occipitoparietal gray matter [ ]  Parietal white matter

[ ]  Frontal white matter [ ]  Other, specify:

* 1. Same voxel location as voxel number one? [ ]  Yes [ ]  No
	2. Voxel over area with signal abnormality: [ ]  Yes [ ]  No
	3. Voxel over area with reduced (restricted) diffusion: [ ]  Yes [ ]  No
	4. If intermediate TE (130-150ms) at 3Tesla, was an adiabatic excitation pulse (e.g., LASER, semi-LASER) used? [ ]  Yes [ ]  No
	5. Visual spectral quality assessment: [ ]  Adequate [ ]  Inadequate quality
1. Multivoxel spectroscopy:
	1. [ ]  Yes [ ]  No
	2. [ ]  2D-CSI [ ]  3D-CSI
	3. [ ]  PRESS [ ]  STEAM [ ]  (s)LASER [ ]  Other, specify:
	4. Repetition time (TR) ms:
	5. Echo time (TE) ms:
	6. Number of averages:
	7. Shimming procedure: [ ]  Active [ ]  Global [ ]  Interactive [ ]  Local [ ]  3D [ ]  Other, specify:
	8. Was a similar corresponding water unsuppressed spectrum acquired? [ ]  Yes [ ]  No
	9. Slab/slice thickness (mm):
	10. Slab/slice level: [ ]  Basal ganglia [ ]  Other, specify:
	11. Voxel over area with signal abnormality: [ ]  Yes [ ]  No
	12. Voxel over area with reduced (restricted) diffusion: [ ]  Yes [ ]  No
	13. If intermediate TE (130-150ms) at 3Tesla, was an adiabatic excitation pulse (e.g., LASER, semi-LASER) used? [ ]  Yes [ ]  No
	14. Visual spectral quality assessment: [ ]  Adequate [ ]  Inadequate quality
2. Was absolute metabolite quantification procedure performed: [ ]  Yes [ ]  No
	1. Quantification tool (software):

**Table 1: MRS Metabolites**

| Metabolite | Levels (for age) |
| --- | --- |
| NAA | [ ]  Normal [ ]  Elevated [ ]  Decreased |
| Choline | [ ]  Normal [ ]  Elevated [ ]  Decreased  |
| Creatine | [ ]  Normal [ ]  Elevated [ ]  Decreased  |
| Lipid/lactate(short TE) | [ ]  Normal [ ]  Elevated (mild) [ ]  Elevated (marked) |
| Lactate(intermediate/long TE) | [ ]  Normal [ ]  Elevated (mild) [ ]  Elevated (marked) |
| Myo-inositol(short TE) | [ ]  Normal [ ]  Elevated  |
| Other, specify: | Level: |

Recorder Signature: Date:

## General Instructions

This CRF contains data that would be collected when an imaging study is performed to visualize both function and anatomy in the brain.

The Imaging Guidance for CDE Use documentincludes information on processing, quality control, and result analysis.

Important note: None of the data elements included on this CRF Module are classified as Core (i.e., strongly recommended for all mitochondrial disease clinical studies to collect). All data elements are classified as Supplemental – Highly Recommended (i.e., essential information for specified conditions, study types, or designs) and should be collected if imaging studies are performed.

Please see the Data Dictionary for element classifications.

## Specific Instructions

Please see the Data Dictionary for definitions for each of the data elements included in this CRF Module.

* Date – Date/time should be recorded to the level of granularity known (e.g., year, year and month, complete date plus hours and minutes, etc.) and in an unambiguous format acceptable to the study database like DD-MMM-YYYY. When date/time data are prepared for aggregation or sharing, they should be converted to the format specified by [ISO 8601](https://www.iso.org/iso-8601-date-and-time-format.html); YYYY-MM-DD T:hh:mm:ss.