

LIST OF NEUROSCIENCE TECHNIQUES TO STUDY BRAIN ACTIVITY IN VIVO

Following the second step, a further refining of the list was generated by passing the file through three distinct Large Language Models, iteratively, in two cycles. The order was the following:

CYCLE 1

1º CHATGPT / 2º DEEPSEEK / 3º GROK

CYCLE 2

1º CHATGPT / 2º DEEPSEEK / 3º GROK

THIRD STEP final procedure:

Review of output, analysis, checking if new added techniques are within constraints and adequate referencing of techniques.

CYCLE 1

LLM-CYCLE-1-CHATGPT

Prompt:

The attached file is a draft list of techniques available for studying brain activity In Vivo (live or anaesthetized animals/humans), which techniques could be added to this list?

Notes:

The attached file is the .pdf file “SECOND STEP”.

LLM-CYCLE-1-DEEPSEEK

Prompt:

Attached are two files: “SECOND STEP.pdf,” my original draft list of in vivo techniques for studying brain activity in live or anaesthetized animals and humans, and “[LLM-CYCLE-1-CHAGPT.pdf](#),” ChatGPT’s previous expansion of that list. You are a neuroscientist with exhaustive knowledge of brain-activity recording methods, from 1950s classics to 2025 frontiers. Your task is to produce a fully updated version of the ChatGPT output - preserving its exact structure, categories, and all existing items unchanged - while adding new, distinct in vivo techniques that appear in neither file. Every technique (original or added) must measure brain activity (electrophysiological, optical, hemodynamic, metabolic, magnetic, etc.) in live or anaesthetized subjects; include historical methods alongside modern ones, but avoid minor variants or sub-tools. Clearly mark every addition with “[NEW]” immediately before the technique name and number. Output only the complete revised list in the same categorized, numbered format as the ChatGPT file, with no extra text, explanations, or markdown beyond the markings.

Notes:

- 1.“Pensamento Profundo” tool enabled
- 2.After the output, the [NEW] tagging was removed for a separate file (**LLM-CYCLE-1-DEEPSEEKv2.pdf**) that would be used to iterate.

LLM-CYCLE-1-GROK

Prompt:

Attached are two files: “SECOND STEP.pdf,” my original draft list of in vivo techniques for studying brain activity in live or anaesthetized animals and humans, and “**LLM-CYCLE-1-DEEPSEEKv2.pdf**,” DEEPSEEK’s previous expansion of that list. You are a neuroscientist with exhaustive knowledge of brain-activity recording methods, from 1950s classics to 2025 frontiers. Your task is to produce a fully updated version of the **DEEPSEEK** output - preserving its exact structure, categories, and all existing items unchanged - while adding new, distinct in vivo techniques that appear in neither file. Every technique (original or added) must measure brain activity (electrophysiological, optical, hemodynamic, metabolic, magnetic, etc.) in live or anaesthetized subjects; include historical methods alongside modern ones, but avoid minor variants or sub-tools. Clearly mark every addition with “[NEW]” immediately before the technique name and number. Output only the complete revised list in the same categorized, numbered format as the **DEEPSEEK** file, with no extra text, explanations, or markdown beyond the markings.

Note:

- 1.“DeepSearch” tool and “Specialist” mode enabled
- 2.After the output, the [NEW] tagging was removed for a separate file (**LLM-CYCLE-1-GROKv2.pdf**) that would be used to iterate.

LLM-CYCLE-2-CHATGPT

Prompt:

Attached are two files: “SECOND STEP.pdf,” my original draft list of in vivo techniques for studying brain activity in live or anaesthetized animals and humans, and “**LLM-CYCLE-1-GROKv2.pdf**,” GROK’s previous expansion of that list. You are a neuroscientist with exhaustive knowledge of brain-activity recording methods, from 1950s classics to 2025 frontiers. Your task is to produce a fully updated version of the **GROK** output - preserving its exact structure, categories, and all existing items unchanged - while adding new, distinct in vivo techniques that appear in neither file. Every technique (original or added) must measure brain activity (electrophysiological, optical, hemodynamic, metabolic, magnetic, etc.) in live or anaesthetized subjects; include historical methods alongside modern ones, but avoid minor variants or sub-tools. Clearly mark every addition with “[NEW]” immediately before the technique name and number. Output only the complete revised list in the same categorized, numbered format as the **GROK** file, with no extra text, explanations, or markdown beyond the markings.

Note:

- 1.After the output, the [NEW] tagging was removed for a separate file

(LLM-CYCLE-2-CHATGPTv2.pdf) that would be used to iterate, and also numbering was corrected. A total of 107 new techniques added to this point.

LLM-CYCLE-2-DEEPSEEK

Prompt:

Attached are two files: "SECOND STEP.pdf," my original draft list of in vivo techniques for studying brain activity in live or anaesthetized animals and humans, and "LLM-CYCLE-2-CHAGPTv2.pdf," ChatGPT's previous expansion of that list. You are a neuroscientist with exhaustive knowledge of brain-activity recording methods, from 1950s classics to 2025 frontiers. Your task is to produce a fully updated version of the ChatGPT output - preserving its exact structure, categories, and all existing items unchanged - while adding new, distinct in vivo techniques that appear in neither file. Every technique (original or added) must measure brain activity (electrophysiological, optical, hemodynamic, metabolic, magnetic, etc.) in live or anaesthetized subjects; include historical methods alongside modern ones, but avoid minor variants or sub-tools. Clearly mark every addition with "[NEW]" immediately before the technique name and number. Output only the complete revised list in the same categorized, numbered format as the ChatGPT file, with no extra text, explanations, or markdown beyond the markings.

Notes:

- 1."Pensamento Profundo" tool enabled
- 2.After the output, the [NEW] tagging was removed for a separate file (LLM-CYCLE-2-DEEPSEEKv2.pdf) that would be used to iterate.

LLM-CYCLE-2-GROK

Prompt:

Attached are two files: "SECOND STEP.pdf," my original draft list of in vivo techniques for studying brain activity in live or anaesthetized animals and humans, and "LLM-CYCLE-2-DEEPSEEKv2.pdf," DEEPSEEK's previous expansion of that list. You are a neuroscientist with exhaustive knowledge of brain-activity recording methods, from 1950s classics to 2025 frontiers. Your task is to produce a fully updated version of the DEEPSEEK output - preserving its exact structure, categories, and all existing items unchanged - while adding new, distinct in vivo techniques that appear in neither file. Every technique (original or added) must measure brain activity (electrophysiological, optical, hemodynamic, metabolic, magnetic, etc.) in live or anaesthetized subjects; include historical methods alongside modern ones, but avoid minor variants or sub-tools. Clearly mark every addition with "[NEW]" immediately before the technique name and number. Output only the complete revised list in the same categorized, numbered format as the DEEPSEEK file, with no extra text, explanations, or markdown beyond the markings.

Note:

- 1."DeepSearch" tool and "Specialist" mode enabled
- 2.After the output, the [NEW] tagging was removed for a separate file (LLM-CYCLE-2-GROKv2.pdf).