

## DATASHEET

### aCSF Instant Powder ( $\text{Mg}^{2+}/\text{Ca}^{2+}$ free) (packets)

## Product overview

**Name**  
**Cat No**  
**Biological description**

aCSF Instant Powder ( $\text{Mg}^{2+}/\text{Ca}^{2+}$  free) (packets)  
HB16218

Artificial cerebrospinal fluid (aCSF) is a widely used buffer in electrophysiological experiments to sustain *ex-vivo* brain sections. This kit contains 20 instant powder packets. Simply dissolve the contents of each packet in  $\text{dH}_2\text{O}$  to a final volume of 1L, mix, add the desired concentration of  $\text{Mg}^{2+}$  and  $\text{Ca}^{2+}$  and bubble with carbogen to make 1L of aCSF at physiological pH. Please note: This formulation does not contain any  $\text{Mg}^{2+}$  or  $\text{Ca}^{2+}$  so that this can be specified by the experimenter.

Key features:

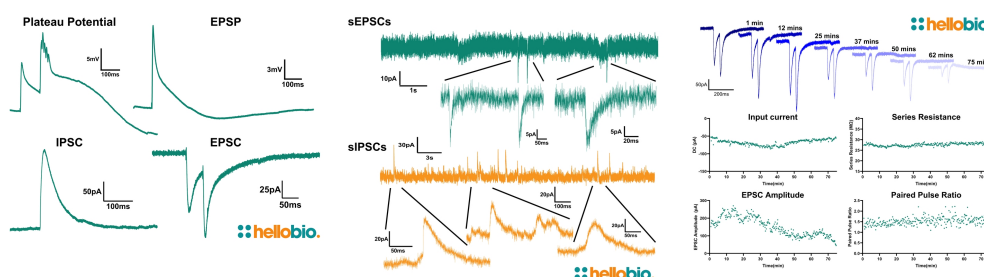
- Save time by using preformulated individual aCSF powder packets - each packet dissolves in seconds
- More reproducible with each pack's highly accurate formulation - less error for better data.
- Extensively validated in a range of patch clamp electrophysiology experiments.
- Does not contain  $\text{Mg}^{2+}$  or  $\text{Ca}^{2+}$  to allow manipulation by the experimenter. For complete aCSF containing  $\text{Mg}^{2+}$  and  $\text{Ca}^{2+}$  please see [HB9200 aCSF Instant Powder \(packets\)](#)

Contains (in mM): NaCl 124. Glucose 10,  $\text{NaHCO}_3$  24, KCl 3,  $\text{NaH}_2\text{PO}_4$  1.25

**Biological action**  
**Description**

Buffer  
Preformulated instant powder packets to make artificial cerebrospinal fluid (aCSF) without  $\text{Mg}^{2+}$  or  $\text{Ca}^{2+}$

## Images



## Solubility & Handling

**Storage instructions**

RT. Dissolve each pack in  $\text{dH}_2\text{O}$  to 1L final volume.

**Handling**

Dissolve the contents of each packet in  $\text{dH}_2\text{O}$ , add the desired quantity of  $\text{Mg}^{2+}$  and  $\text{Ca}^{2+}$  then bring the final volume to 1000ml and bubble with carbogen (10-15 minutes) to make 1L of aCSF at physiological pH. Warm to  $37^\circ\text{C}$  before use.

Storage instructions	RT. Dissolve each pack in dH <sub>2</sub> O to 1L final volume.
	Use immediately once opened.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

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## Chemical Data

Kit contents	Preformulated packets. Each makes 1L of aCSF.
pH after carbogenation	7.2
pH before carbogenation	7.5

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## References

**Reduced expression of the psychiatric risk gene DLG2 (PSD93) impairs hippocampal synaptic integration and plasticity.**  
Griesius S et al (2022) Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology 47  
**PubMedID** [35115661](#)

**The development of synaptic plasticity induction rules and the requirement for postsynaptic spikes in rat hippocampal CA1 pyramidal neurones.**  
Buchanan KA et al (2007) The Journal of physiology 585  
**PubMedID** [17932146](#)

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