

ICEBERG FLOE  
ENRICHED WITH HYDROGEN  
FROM **ICELANDIC GLACIERS**  
TO ALLEVIATE "HANGOVERS"

~~HANGOVER~~  
2

PACKED ICE 250 grams

**ICE SERVICE**  
ice & services





PACKED ICE 250 g

# HANGOVER

## MARKET DEMAND

A hangover is a collection of unpleasant physical and psychological symptoms that occur after excessive alcohol consumption. Common symptoms include headaches, nausea, fatigue, dehydration, and sensitivity to light or sound.

### **The amount of alcohol required to cause a hangover:**

The amount of alcohol that causes a hangover varies among individuals. Some people may experience hangover symptoms after just 1-2 drinks, while others can consume larger amounts without subsequent issues. The severity of a hangover generally increases with the amount of alcohol consumed.

### **The percentage of the population suffering from a hangover:**

Approximately 23% of people do not experience a hangover regardless of the amount of alcohol consumed.

This means that about 77% of the population may experience hangover symptoms after excessive alcohol consumption.





- **HEADACHE**
- **NAUSEA**
- **FATIGUE**

THERE ARE A VARIETY OF SOLUTIONS

... BUT ONLY TO ALLEVIATE  
THE AFTEREFFECTS.





GPS 64° 23' 59.99" N, 16° 47' 59.99" W



# ICEBERG FLOE ENRICHED WITH HYDROGEN FROM ICELANDIC GLACIERS

IS – ÍSMOLAR – AÐGAÐIR MEÐ VETNIFRAMLEITT  
ÚR 100 % DRYKKJARVATNI. STYRKUR UPPLEYSTS VETNIS FYRIR  
FRYSTINGU: 1,2–1,6 MG/L (PPM). GEYMIÐ VIÐ AÐ MINNSTA KOSTI -12  
°C. EFTIR ÞÍÐINGU MÁ EKKI FRYSTA AFTUR – FARGIÐ EFTIR ÞÍÐINGU  
MÁ EKKI FRYSTA AFTUR – FARGIÐ VÖRUNNI Í SLÍKU TILVIKI. ÞESSI  
VARA KEMUR EKKI Í STAÐ FJÖLBREYTTTRAR FÆÐU. RÁÐLAGÐUR  
DAGSKAMMTUR: 1.200 G.

SK – ĽAD MRAZENÝ – OBOHATENÝ VODÍKOM  
ZLOŽENIE: PITNÁ VODA 100%. VODÍK, KONCENTRÁCIA  
ROZPUSTENÉHO VODÍKA PRED ZMRAZENÍM 1,2–1,6 MG/L (PPM).  
POUŽITIE: URČENÝ PRE PRIAMY KONTAKT S POTRAVINAMI.  
SKLADUJTE PRI TEPLOTE -12 °C A NIŽŠEJ. PO ROZMRAZENÍ ZNOVA  
NEZAMRAZOVAŤ, VÝROBOK ZLIKVIDUJTE. VÝROBOK NIE JE  
NÁHRADOU PESTREJ STRAVY. ODPORÚČANÁ DENNÁ DÁVKA JE 1200 G  
DENNE.

CZ – LED MRAZENÝ – OBOHACENÝ VODÍKEM  
SLOŽENÍ: PITNÁ VODA 100 %. VODÍK, KONCENTRACE ROZPUŠTĚNÉHO  
VODÍKU PŘED ZAMRAZENÍM 1,2–1,6 MG/L (PPM). POUŽITÍ: URČEN PRO  
PŘÍMÝ KONTAKT S POTRAVINAMI. SKLADUJTE PŘI TEPLOTĚ -12 °C A  
NIŽŠÍ. PO ROZMRAZENÍ ZNOVU NEZAMRAZOVAŤ, VÝROBEK VÝROBEK  
ZLIKVIDUJTE. NENÍ NÁHRADOU PESTRÉ STRAVY. DOPORUČENÁ  
DENNÍ DÁVKA JE 1200 G DENNĚ.

EN – ICE – ENRICHED WITH HYDROGEN  
INGREDIENTS: DRINKING WATER 100%. HYDROGEN, CONCENTRATION  
OF DISSOLVED HYDROGEN BEFORE FREEZING: 1.2–1.6 MG/L (PPM).  
USE: INTENDED FOR DIRECT CONTACT WITH FOOD. STORE AT -12 °C  
AND BELOW. AFTER DEFROST, DO NOT FREEZE AGAIN, DISPOSE THE  
PRODUCT. THIS PRODUCT IS NOT A SUBSTITUTE FOR A VARIED DIET.  
THE RECOMMENDED DAILY INTAKE IS 1200 G PER DAY.

AT / DE – EISWÜRFEL – MIT WASSERSTOFF ANGEREICHERT  
HERGESTELLT AUS 100 % TRINKWASSER. KONZENTRATION DES  
GELÖSTEN WASSERSTOFFS VOR DEM EINFRIEREN: 1,2–1,6 MG/L  
(PPM). BEI MINDESTENS -12 °C LAGERN. NACH DEM AUFTAUEN NICHT  
ERNEUT EINFRIEREN – IN DIESEM FALL BITTE ENTSORGEN. DIESES  
PRODUKT IST KEIN ERSATZ FÜR EINE ABWECHSLUNGSREICHE  
ERNÄHRUNG. EMPFOHLENE TAGESMENGE: 1.200 G.

HU – JÉG – HIDRÓGÉNNEL DÚSÍTOTT  
SZÜRT IVÓVÍZBŐL KÉSZÜLT, MÉLYFAGYASZTOTT TERMÉK. HIDRÓGÉN,  
A FELOLDOTT HIDRÓGÉN KONCENTRÁCIÓJA FAGYASZTÁS ELŐTT:  
1,2–1,6 MG/L (PPM). TÁROLÁS -12 °C ALATTI HŐMÉRSÉKLETEN.  
FELENGEDÉS UTÁN NE FAGYASSZA ÚJRA. A TERMÉKET DOBJA KI. A  
TERMÉK NEM HELYETTESÍTI A VÁLTOZATOS ÉTRENDET. AJÁNLOTT  
NAPI ADAG: 1200 G NAPONTA.



NOT  
HANGOVER



ARCTIC ICE



PET

250 GRAM



HMOTNOSŤ / HMOТNOST / GEWICHT / TEŽINA / WEIGHT:

MINIMÁLNA TRVANLIVOSŤ / MINIMÁLNI TRVANLIVOST / MINDESTENS HALTBAR BIS / NAJBOLJE UPOTRIJEBITI / BEST BEFORE: 09.09.2026

VYROBENÉ PRE / VYROBENÉ PRO / HERGESTELLT FÜR / KÉSZÜLT SZÁMÁRA / MADE FOR :  
VERATTI GMBH, BAUERNMARKT 24, 1010 WIEN, ÖSTERREICH



# Hydrogen intake relieves alcohol consumption and hangover symptoms in healthy adults: a randomized and placebo-controlled crossover study

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### ABSTRACT

**Background:** Alcohol-induced hangover represents a significant, yet underresearched, global health and a large socioeconomic burden.

**Objective:** The aim of this study was to investigate the effects of hydrogen on relieving drinking and hangover symptoms in 20 healthy volunteers.

**Methods:** In this pilot, randomized, double-blinded, placebo-controlled, matched, crossover interventional trial, participants were matched into pairs and randomly assigned. Study group 1 inhaled placebo air for 1 h, followed by drinking 100 mL liquor (40% alcohol) within 10 min, and then pure water. Study group 2 inhaled a mixture of hydrogen and oxygen gas for 1 h, followed by drinking 100 mL liquor within 10 min, and then hydrogen dissolved in water. On a second intervention day (crossover)  $\geq 1$  wk later, study-group subjects were switched to the opposite order. Blood alcohol concentration (BrAC), hangover severity, and cognitive scores were assessed.

**Results:** The BrACs within the hydrogen group were significantly lower than those within the placebo group after 30 min, 60 min, and 90 min ( $P < 0.05$ ). The hydrogen group reported having fewer hangover symptoms compared with the placebo group (placebo: 77% of symptoms absent, 19.7% of mild symptoms, 2.7% of moderate symptoms, 0.7% of severe symptoms; hydrogen: 88.6% of symptoms absent, 10% of mild symptoms, 1.3% of moderate symptoms, 0% of severe symptoms,  $P < 0.001$ ). Hydrogen treatment improved cognitive testing scores ( $P < 0.05$ ), including attention and executive functions. Furthermore, consumption of hydrogen was negatively ( $\beta = -13.095$ ; 95% CI:  $-17.726, -8.365$ ;  $P < 0.001$ ) and female sex was positively ( $\beta = 22.811$ ; 95% CI:  $16.226, 29.397$ ;  $P = 0.000$ ) correlated with increased BrACs. Likewise, the consumption of hydrogen was negatively ( $\beta = 0.035$ ; 95% CI:  $0.007, 0.168$ ;  $P < 0.000$ ) while female sex was positively ( $\beta = 28.878$ ; 95% CI:  $5.961, 136.596$ ;  $P = 0.004$ ) correlated with the severity of hangover symptoms.

**Conclusions:** Hydrogen decreases BrACs and relieves the symptoms of hangovers. This trial was registered at the China Clinical Trial Registry (<http://www.chictr.org.cn/showproj.aspx?proj=58189>) as ChiCTR1900099905. Am J Clin Nutr 2022;116:1208–1218.

**Keywords:** hydrogen, alcohol, hangover, breath alcohol concentration, sex difference, attention, executive function

### Introduction

Alcohol is one of the most commonly used substances for entertainment purposes in the world and 1 in 3 people consumes alcohol. According to the Global Alcohol and Health Report published by the WHO (2018), per capita alcohol consumption worldwide of people age 15 y and over increased from 5.7 L in 2000 to 6.4 L in 2016 (1). Alcohol consumption has both adverse and beneficial effects (2–6). The health effects of drinking depend on the quantity and pattern of alcohol consumption. Excessive alcohol consumption adversely affects human health (7, 8). Acute heavy drinking can cause hangover symptoms because of acetaldehyde (9), including fatigue,

Supported by the National Natural Science Foundation of China (no. 81873017, 81873022) and Young Talents Scholar Program of Shandong Province (no. 201905040). Shanghai Aocelphos Co., Ltd., provided the hydrogen-oxygen separator and placebo air separator. Shanghai Nanobubble Technology Co., Ltd., provided the hydrogen nanobubble generator. Kangwang Disability supplied the liquor.

**Author disclosures:** The authors report no conflicts of interest. Supplemental Methods, Supplemental Figures 1 and 2, and Supplemental Table 1 are available from the "Supplementary data" link in the online posting of the article and from the same link in the online table of contents at <http://ajcn.npub.com>.

Y.G., Y.L., and G.S. contributed equally. Address correspondence to G.S. (e-mail: [ghsong@sdmu.edu.cn](mailto:ghsong@sdmu.edu.cn)). Abbreviations used: ADH, alcohol dehydrogenase; ALR, aldehyde; ALDH, acetaldehyde dehydrogenase; ALT, alanine aminotransferase; AST, aspartate aminotransferase; BP, blood pressure; BrAC, breath alcohol concentration; BSC, bicyclic red-oxonol sensor; GLO, glutathione; VTS, Vienna Psychologist Test Battery.

Received July 19, 2022. Accepted for publication September 14, 2022. First published online September 16, 2022. doi: <https://doi.org/10.1093/ajcn/116/5/1208>.

This research has shown that molecular hydrogen has strong antioxidant properties, which protect cells from damage caused by alcohol and accelerate the body's recovery after alcohol consumption.

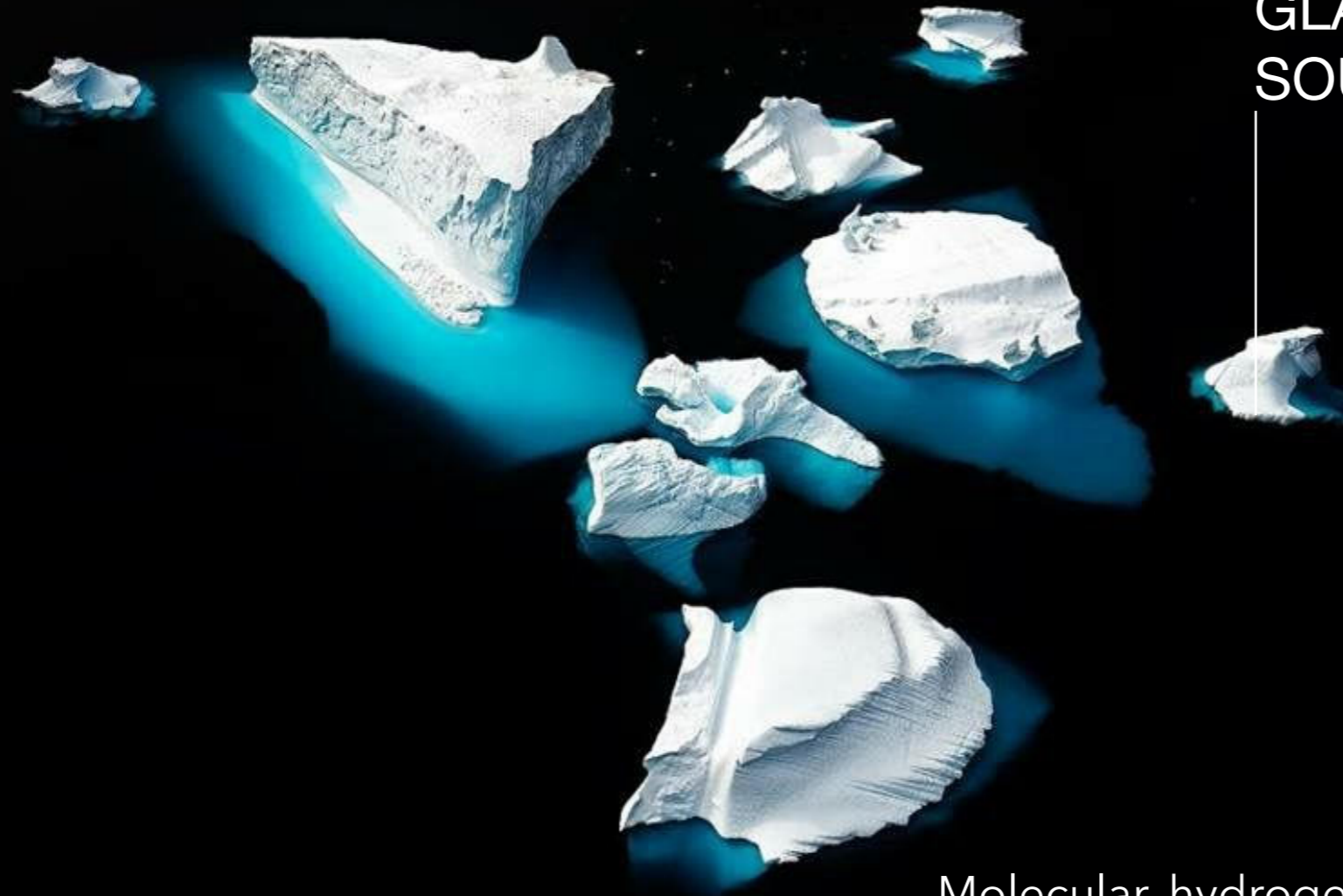
WE OFFER **PREVENTION**  
IN EVERY CUBE OF ICE ALREADY  
IN THE DRINK!





HYDROGEN-INFUSED  
ICE CUBES FROM ICELANDIC GLACIERS  
SUITABLE FOR ANY DRINK

## GLACIER SOURCE OF PURE HYDROGEN



Molecular hydrogen (H<sub>2</sub>) represents a revolutionary step in the field of health and nutrition. This colorless, odorless, highly effective gas acts as a selective antioxidant, protecting cells from free radicals, supporting the body's regeneration, and boosting energy metabolism.

Hydrogen water is a modern innovation that allows water and ice to be enriched with molecular hydrogen. Using **patented technology**, we produce hydrogen from a unique raw material – glacial water from glaciers over 200,000 years old, sourced from locations in the polar circle. This unique approach makes industrial use of this natural raw material in the food sector possible for the first time.





PEM - HYDROGEN PRODUCTION TECHNOLOGY



**Hydrogen**

PEM  
HYDROGEN  
PRODUCTION  
TECHNOLOGY



FROM 200,000-YEAR-OLD ICE,  
THROUGH MULTIPLE IONIZATION PROCESSES,  
WE OBTAIN SUPER-PURE WATER.

EUROPEAN STANDARDS ISO 3696

PURITY GRADE 1

CONDUCTIVITY (MS/CM) AT 25°C ≤ 0.1

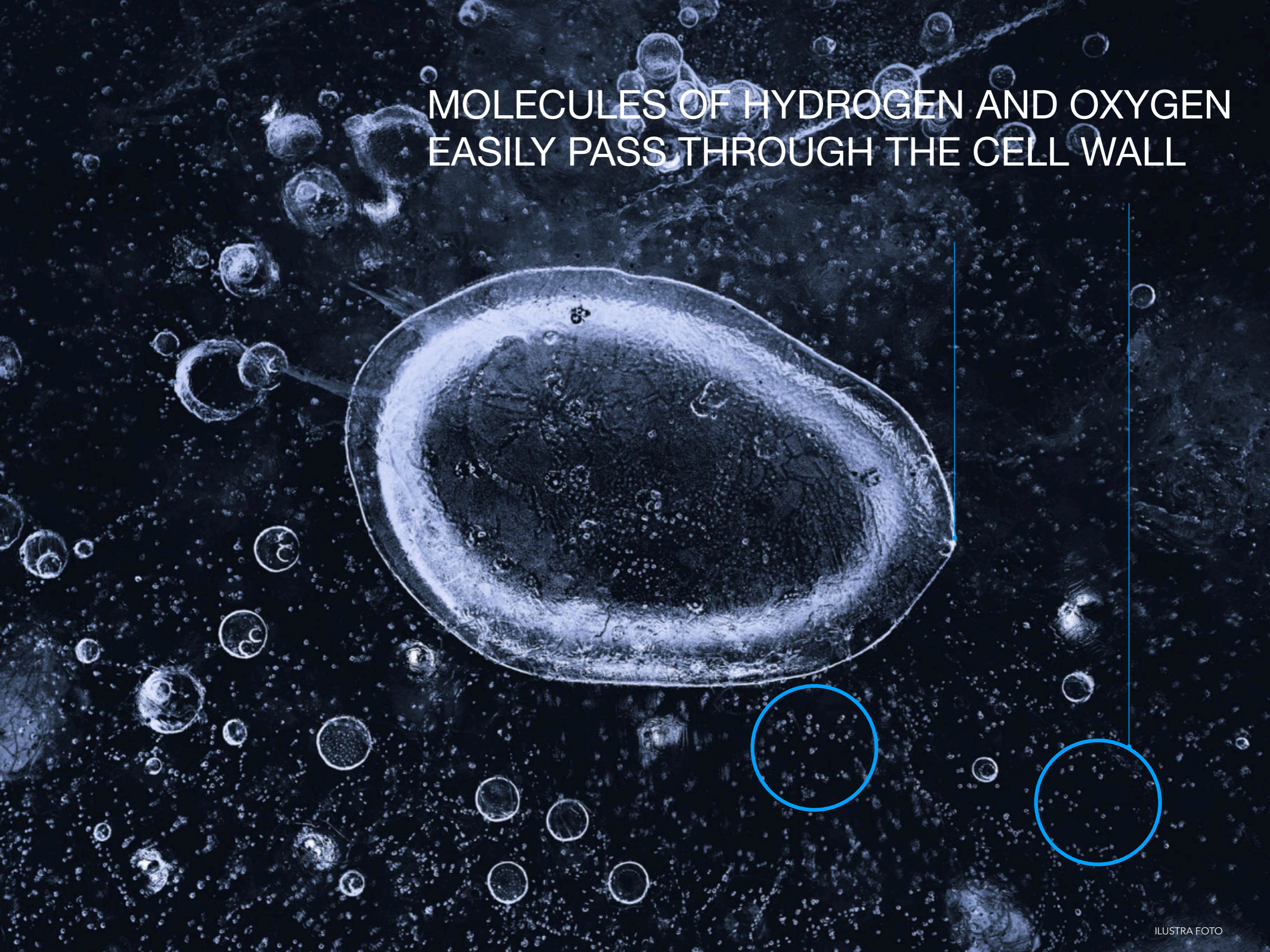
RESISTIVITY (MΩ·CM) AT 25°C ≥ 10

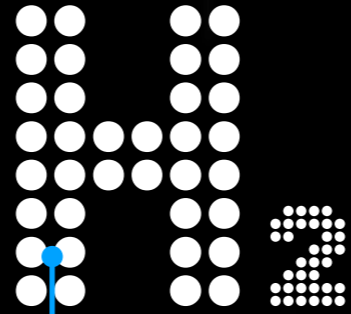


THE WATER IS ENRICHED WITH HYDROGEN FROM GLACIERS.  
FROM WHICH CRYSTAL-CLEAR ICE IS PRODUCED.



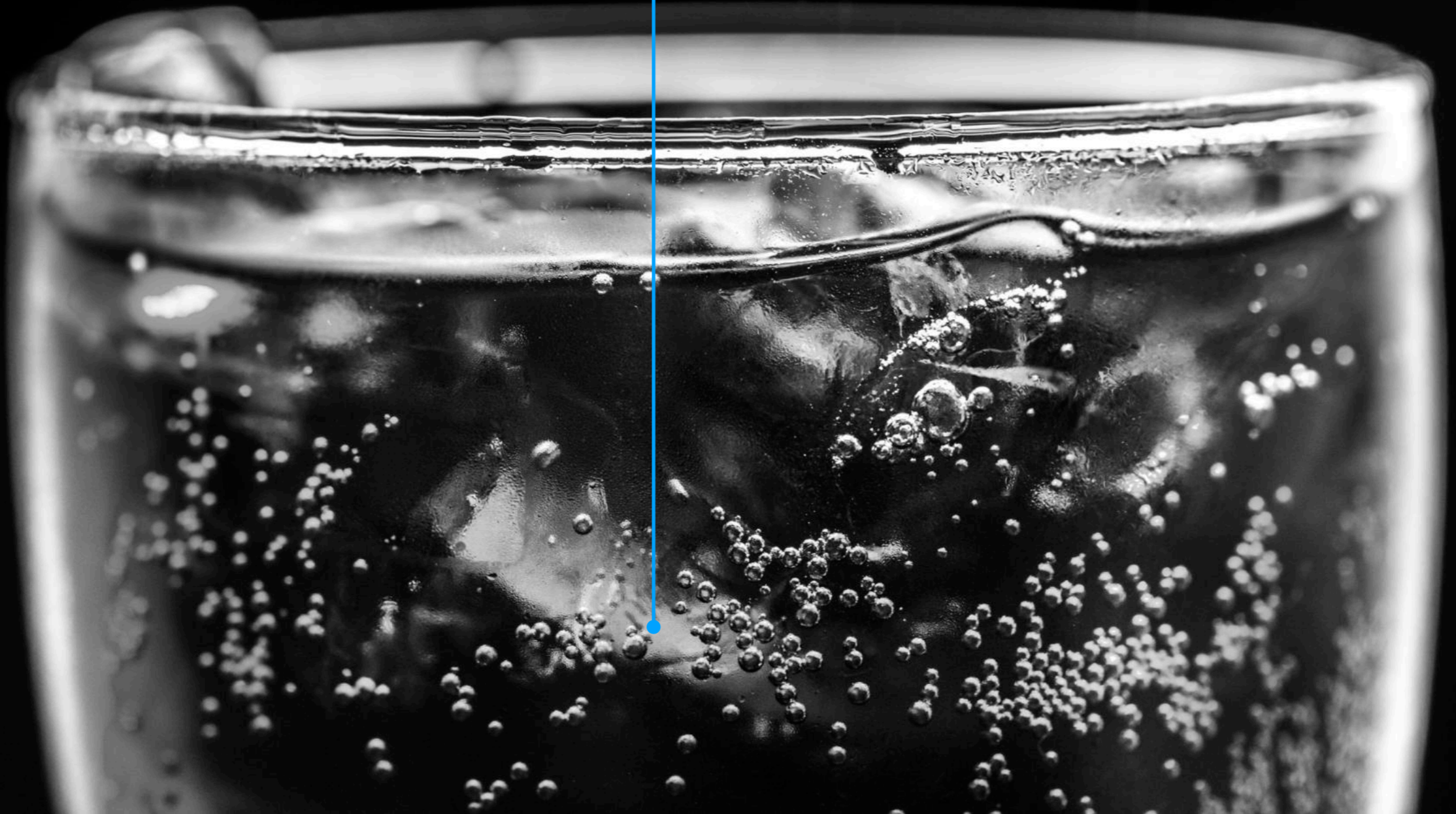
MOLECULES OF HYDROGEN AND OXYGEN  
EASILY PASS THROUGH THE CELL WALL





~~HANGOVER~~ ICE

2







HYDROGEN-ENRICHED ICE FROM ICELANDIC GLACIERS.

NATURALLY IN THE LAST GLASS BEFORE LEAVING...

SUITABLE FOR ANY DRINK.



TASTELESS AND ODORLESS  
THE PURITY OF ARCTIC GLACIERS.

EASY, DISCREET  
APPLICATION TO THE DRINK.



THE GUARDIAN ANGEL OF YOUR FUN



# ICE SERVICE®

ice & services



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