

Press kit

# el sentido del cacao



«The sense of cocoa:  
In search of  
the missing  
taste»

# «The sense of cocoa: in search of the missing taste»

Everyone knows the terms to refer to people that cannot see or hear, but how do you refer to people that cannot taste?

Almost one in every five people -millions around the world- suffer from taste alterations. Frustration, social isolation and depression are some of the most common symptomatic consequences experienced by this group. And nobody knows about it.

In the framework of BBVA's 'Creating Opportunities', El Celler de Can Roca and the financial entity have approached this problem by means of a pioneering research project based on one of the most evocative products within world gastronomy: cocoa.





# Taste alterations: a problem that affects almost one in every five people

There are various studies that place 17% of the population as having a permanent taste alteration, 15% with a partial one, and 2% with a complete taste alteration. **17% of the world population equates to more than 1.27 billion people.**

There are different types of taste alterations (depending on the origin of the problem; in the taste buds, or in the nasal system), and they have different origins (from respiratory infections, polyps, traumatic brain injury and even the use of drugs, vitamin deficiencies or due to having received chemotherapy), **but they all have one thing in common: they are conditions that are not very well known both within the scientific**

**community and the general public.**

On the one hand, with regard to their diagnosis and treatment, experts note that most people that suffer with these have been seen by or treated by somebody specialised in these conditions. Or, at least, they spend various months searching for a reliable diagnosis.

On the other hand, the lack of social awareness causes those that suffer from these conditions to experience a feeling of isolation, disorientation and misunderstanding that affects their relationships with others.

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***The main problem with taste disorders is that there is not a social awareness about how debilitating they are and how they completely change the quality of life of the people that suffer from them.***

Doctor Jesús Porta, Head of Neurology  
Department at the Hospital Clínico San Carlos

OLFACAT Study



# The challenge: is it possible to get taste back?

The brain never perceives things as a whole, but rather it adds up all the different stimuli perceived and it reconstructs them as the same element, the same concept.

Based on this, the BBVA teams and chef Jordi Roca proposed an initial hypothesis: **would it be possible to recover the flavour of chocolate**

**for people with taste alterations by means of the stimulation of other senses and memories associated with cocoa?**





# The sense of cocoa: in pursuit of a lost taste

‘El sentido del cacao’ (the sense of cocoa) is a documentary journey undertaken by BBVA together with Jordi Roca to create the opportunity of getting back, by means of cocoa, the memory of the feeling of taste for those that have lost it and generating, in parallel, social awareness about a condition that millions of people suffer from world-over.

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*This project, launched by BBVA and El Celler de Can Roca, came about due to shared values which strengthen the financial institution's aim of creating opportunities: responsibility, innovation, commitment, leadership and the will to succeed*

Óscar Moya, Global Branded Content & Sponsorship Director





## Jordi Roca: expert in senses, expert in cocoa

Named as the world's best pastry chef in 2014 by The World's 50 Best, Jordi Roca has stood out throughout his career due to the interpretations of the exchanges of senses in his desserts. Often, to come up with his dishes, he follows an unprecedented process in the kitchen: capturing the volatile soul of a product and adapting it to an edible reality.

Based on this experience, Jordi Roca and his team have faced up to a challenge that has never before been faced in the field of gastronomy: **designing a dessert based on all the senses, except for taste.**



# Cocoa: a polychromatic ingredient that brings back memories

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*We all have happy memories associated to chocolate; it is our direct route to happiness and emotional well-being.*

Jordi Roca

**When we eat, it is not just about taste.** We also enjoy food with touch, smell, sound and, above all, with **memories.**

In the project proposal, there was the need to identify a **global product** that everyone had tried once. But, it also had to be an “individualized” ingredient that could be associated with personal emotions and experiences.


On the one hand, the use of **cocoa as the main axis of this journey is to do with this evocative nature, associated with personal and social enjoyment:** a childhood birthday cake, a family hot chocolate night, an ounce of cocoa at the end of the day, etc.

On the other hand, its polychromatic composition makes it a plastic product with the great **potential to be personalised.** Thus, the huge amount of details provided by cocoa (amount of fat, level of roasting, cocoa percentage, texture, etc.) means that different areas of the brain can be individually activated.

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*When things depend on enjoyment and not on need, they become different for everyone. By presenting an experience of this type, qualitative, we needed a product that was malleable and could be individualized. And, out of all the products we have, cocoa is that which can be most individualised.*

Doctor Jesús Porta, Head of Neurology Department at the Hospital Clínico San Carlos





# The project:



'El sentido del cacao' is the first experience designed so that a group of people with taste alternations recover the memory of taste by means of chocolate.

The project is based on pioneering research, settling on key aspects

of neuroscience and sensory management, and it has developed a first attempt at non-invasive sensory stimulation based on memories to recover a "lost" sense.



# Research: based on evidence

To undertake this process, BBVA and Jordi Roca relied on the collaboration of a multidisciplinary group made up of four experts specialised in complementary areas (neurogastronomy, sensoriality,

olfactory and taste rehabilitation and nutrition, etc.) who created a comprehensive line of research and a precise methodology.







**1. Dr. Jesús Porta-Etessam** (project leader) is a Doctor of Medicine with a degree in medicine and surgery. He is the general director of the Fundación del Cerebro and the Head of the Neurology Department at the Hospital Clínico San Carlos.



**2. Dr. Josep de Haro**, Doctor of Medicine and Otorhinolaryngology Surgery. He is specialised in the guidance of medical conditions by means of sensory education. He is currently the Clinical Head of the Otorhinolaryngology Service (OTR) at Badalona Serveis Assistencials (BSA).





**3.** **Dr. Laura López-Mascaraque** is a scientific researcher at CSIC. She is president and co-founder of the Spanish Olfactory Network and president of the Spanish Neuroscience Society's (Sociedad Española de Neurociencia, SENC) Women in Neuroscience Committee.



**4.** **Jordina Casademunt** has a Diploma in Human Dietetics and Nutrition. She actively collaborates with the (IOB Institute of Oncology) where she provides oncology patients with nutritional advice.

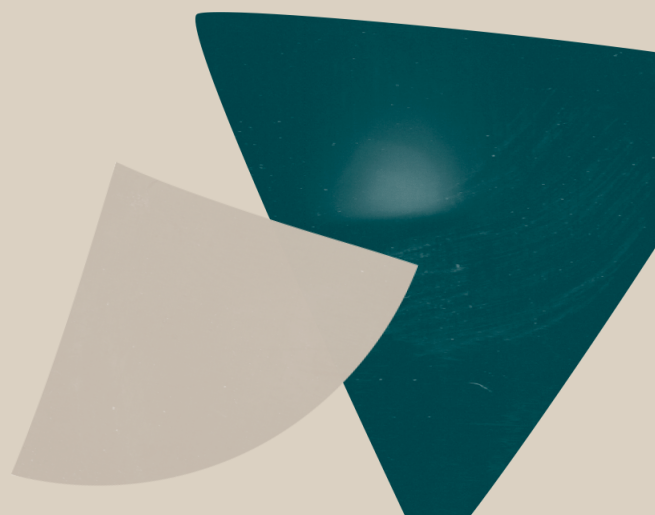


## The participants: the faces and soul of the taste alternations

The whole research process has been possible thanks to the invaluable collaboration from people and groups of patients that have set out on this journey.

All of these, with different taste conditions (dysgeusia, anosmia, cacosmia, etc.) due to different reasons (cancer, infections, trauma, etc.) have been the key so that the 'El Sentido del Cacao' team could understand the effects and consequences of these affections to the fullest extent.

Organisms such as the Oncology Institute of Barcelona (IOB) and the Hospital Clínico San Carlos in Madrid have actively participated in the identification and selection of participating patients: firstly by means of a preliminary clinical study and then by undertaking various psychological tests.





# Research Timeline

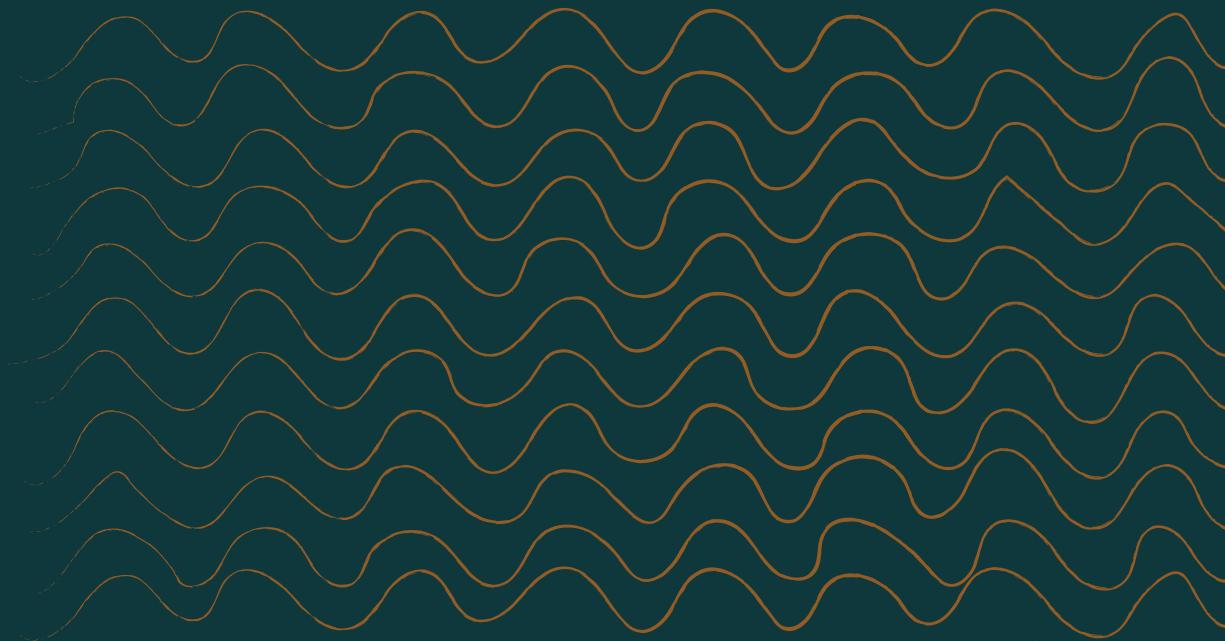
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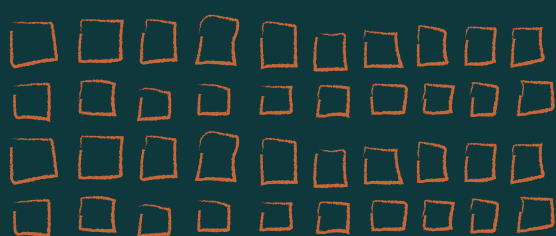
The BBVA team and El Celler de Can Roca launch a qualitative research study to design a multi-sensory experience that will enable each participant to taste “their” ideal chocolate again.

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*This project's challenge is really ambitious. Starting from the premise of a completely different methodology, a unique study in the world. The use of technology and the study of neuroscience has enabled us to create an ad hoc model that has never been carried out in history.*

Doctor Jesús Porta, Head of Neurology  
Department at the Hospital Clínico San Carlos





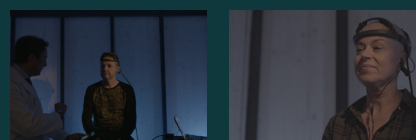
**State of the art preliminary study and tests:** Establishment of the project's methodology, identification of criteria to 'recover' the sense of cocoa in patients and the establishment of work hypotheses.

1.



## PHASE 1: PRELIMINAR STUDY

## PHASE 2: TESTS WITH PATIENTS



### A - Psychological and sensory testing

#### A.1. Psychological testing:

- Psychological tests.
- Analysis of sensibility to chart the sensory profile.
- Personality study to chart behavioural trends and anticipate the patient's responses to external stimuli.

#### A. 2. Sensory testing

- These tests act as a means of understanding the degree of patients' affection and distortion in their sense of flavour, both in terms of taste and smell.
- Likewise, sound and visual stimuli tests were undertaken.

### B - Chocolate understanding testing

Eight different tests that enable for a reconstruction of the ideal chocolate memory for each patient based on the other senses. Through the use of technology such as eye tracking or the measuring of biological data, variables were calculated such as the form, texture, colours and percentages of the composition of the cocoa in an individual way.







3.

### Analysis of results:

Extraction of the conclusions of the research and coming to agreement.

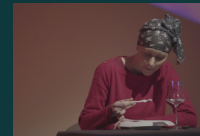


5.

### Experience and tasting:

Execution of the final experience and the participating patients' tasting of the personalised dish.

## PHASE 3: PRESENTATION TO JORDI ROCA, CREATION PROCESS AND EXECUTION OF THE EXPERIENCE



2.

### Identification of patients and methods:

Clinical study in patients and selection of participants.

4.

**Interpretation:** Interpretation of the results, presentation to Jordi Roca and his team and the design of an individualised experience associated with a cocoa based dish for each participant.

### C - Personal memory and history testing

The aim of these tests is to delve deeper into the patients' past and present relationship with chocolate.

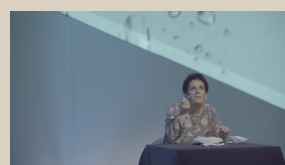
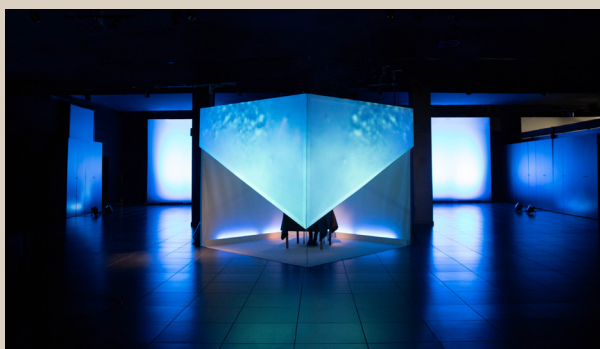
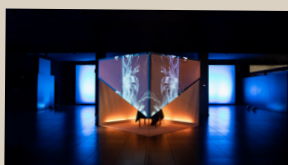
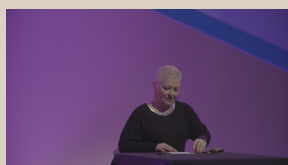
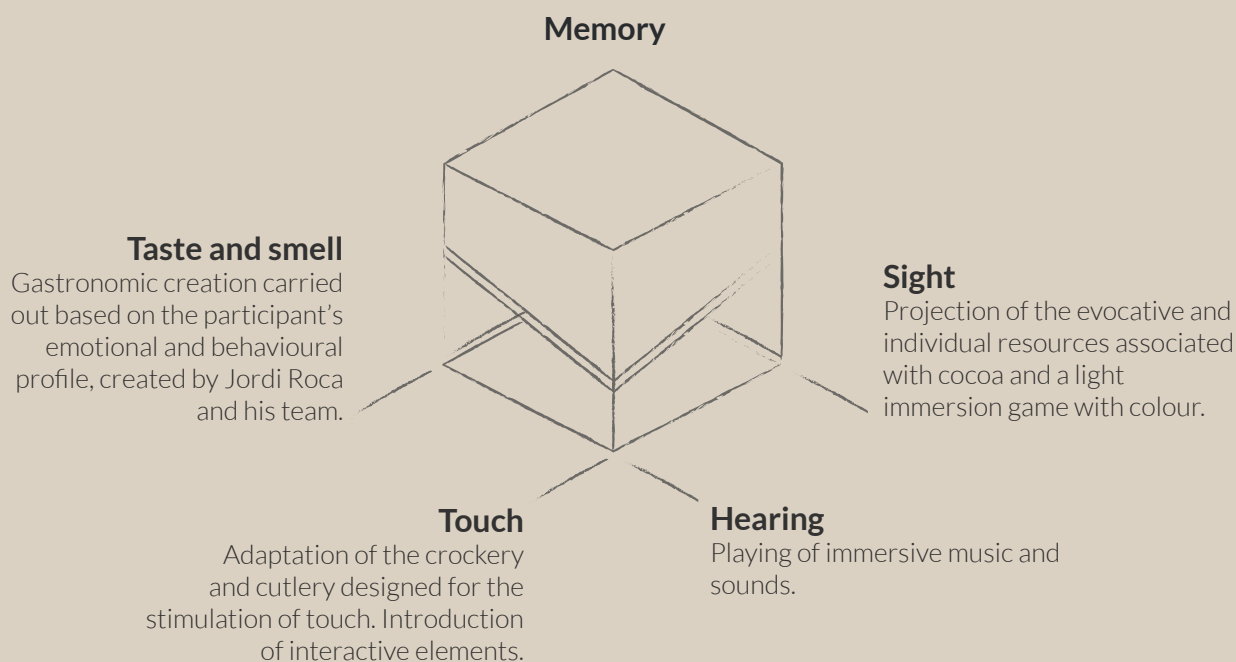


# The final experience: a journey through the senses

After the qualitative research process, BBVA's and Jordi Roca's teams developed a dynamic experience with the capability of adapting to each patient.

As such, a multi-sensory, interactive and immersive space was designed

which was able to personally stimulate each participant. On the one hand, activating their senses based on the results obtained in the testing and, on the other, reviving their memories associated to chocolate.



# The documentary: visibility of an affection suffered by millions of people around the world

The 'El Sentido del Cacao' project has been made into a documentary with the aim of giving visibility to a problem that affects millions of people around the world.

El sentido del cacao: un sabor perdido, narrates the research process and created challenge carried out by the BBVA teams and Jordi Roca. As such, it shows the development of the project from the launching of the initial challenge

up to the undertaking of the final experience, where the participants could recover the taste of chocolate.

At the same time, the documentary short gives a face and voice to taste disorders, discovering the testimonies of people that suffer with these alterations and that discuss how this affection impacts their daily lives.





# BBVA and the Celler de Can Roca: an Alliance Based on Values


The BBVA-El Celler de Can Roca alliance was born in 2013 based on values which are shared by both entities: responsibility, innovation, commitment, totality, the pursuit of excellence and the will to succeed.

This common ground, aligned with the financial entity's aim of **creating opportunities**, are the foundations of a joint project where **gastronomy, education** and the **social pillar** have an essential role.

This shared vision has caused both partners to set out on an exciting adventure which has taken them, among other achievements, to:

- Undertake three international tours in 2014, 2015 and 2016, with 39,000 km covered and 16 countries visited.
- Undertake a national tour in 2017 and 2018, going around Spain on a tour around the different autonomous regions.
- Launch the BBVA Grants programme, through which young people around the world have trained as stagiaires in the kitchens at El Celler de Can Roca.
- Activate various educational actions based on El Celler's business model, with attendance from more than 9,500 entrepreneurs and university students.

Initiatives such as these, including 'El Sentido del Cacao', document that the alliance between BBVA and El Celler de Can Roca is underpinned by the strong conviction that cuisine and gastronomy are a driving force to change the world.







## El Celler de Can Roca

El Celler is a freestyle restaurant with freedom of cuisine, dedicated to creative avant-guard, without giving up the memory of the family's past generations, dedicated to providing people with food. It was founded in Girona by brothers Joan and Josep Roca at the end of August in 1986. In 1998 the youngest brother, Jordi, joined the kitchen at El Celler.

El Celler de Can Roca's commitment to cuisine and being at the forefront as well as its link to academicism, has developed into a defence of the permanent dialogue with producers and with scientists, to complete dialogue.





DISCOVER  
el sentido  
del cacao

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**BBVA** Creating Opportunities

  
EL CELLER DE CAN ROCA  
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 **Hospital Universitario  
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SaludMadrid

 **INSTITUTO  
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 **Badalona  
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