

PLACENTA UNTOLD:

Nature's Miracle Life Force -

**The
Therapeutic
Science &
Healing in
Regenerative
Medicine**



**Prof. Dr. Mike K.S. Chan
Prof. Dr. Michelle B.F. Wong**

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*Nature's Miracle Life Force -
The Therapeutic Science &
Healing in Regenerative Medicine*



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Biological Regenerative Medicine

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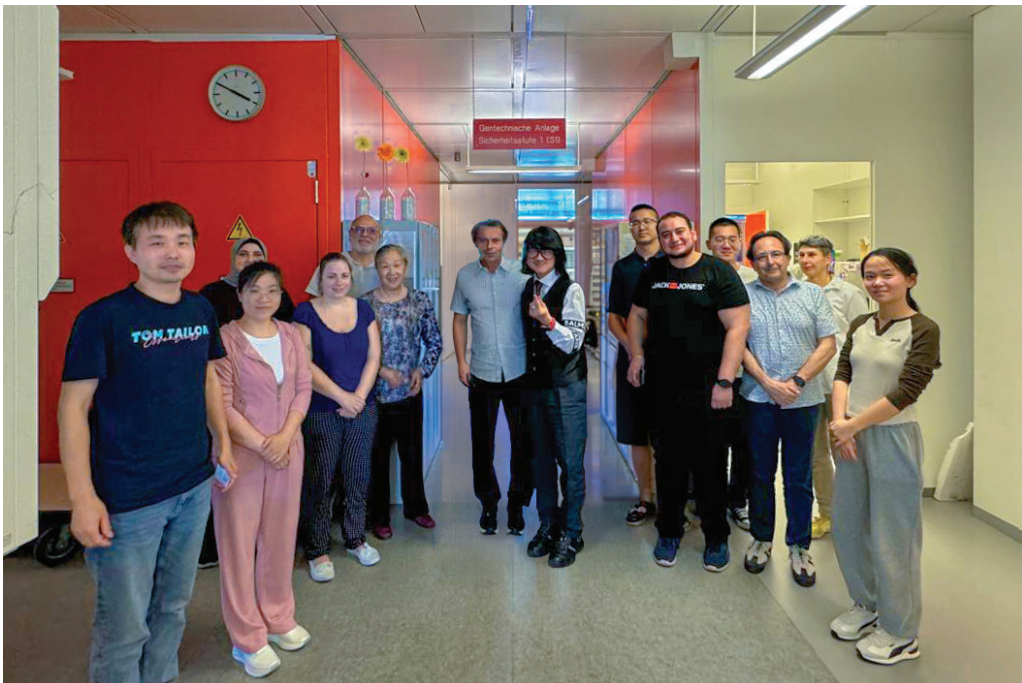
*The Scientific and Research Team of Baden Research
& Testing Lab and EW Sanorell*



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European Wellness collaboration with Heidelberg University in stem cell, peptide, and exosome research.



Prof. Dr. Mike Chan, Chairman and Chief Scientist of European Wellness Biomedical Group, together with the Heidelberg research team headed by Prof. Dr. Thomas Skutella, MD, and his scientific team.

***“What I am striving after is not only to give more years to life,
but especially to give more life to years.”***

**—Prof. Dr. Paul Niehans (1882-1971)
Swiss Physician, pioneer of cellular therapy**

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AUTHOR / CONTRIBUTORS AFFILIATIONS

Prof. Dr. Mike K.S. Chan

- *Chief Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Chief Researcher, EW Sanorell – Germany & Asia Pac*
- *Chairman of the Board, European Wellness Academy, Europe*
- *President; Founder & Chairman, European Wellness Biomedical Group (EWBG), Germany*
- *Scientific Committee Head; Director/Board Member, European Society of Preventive, Regenerative and Anti-Aging Medicine (ESAAM), Europe*
- *Professor, American Academy of Stem Cell Physicians (AASCP), Miami-USA*
- *Professor, Biohacking International Advanced Group (BHIAG), Spain*
- *Professor, Lincoln University College, USA*
- *Chairman of MMJ (Multi-Dimensional Holistic Medical Team Japan), Japan's Academia for Holistic Biological & Regenerative Medicine, Tokyo*

Prof. Dr. Michelle B.F. Wong

- *Chief Researcher, Baden Research & Testing Lab – Germany & Asia Pac*

- *Chief Researcher, EW Sanorell – Germany & Asia Pac*
- *Co-Founder, Technical Advisor, Chief Researcher, European Wellness Academy, FCTI Research Group & Stellar Biomolecular Research*

Yvonne Chia

- *Senior Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Senior Researcher, EW Sanorell – Germany & Asia Pac*

Dr. Pan Shing Yi

- *Senior Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Senior Researcher, EW Sanorell – Germany & Asia Pac*

Prof. Dr. Thomas Skutella

- *Head of Department of Neuroanatomy, Heidelberg University, Germany*

Jakub Slivka

- *Researcher, Medical Faculty, Heidelberg University, Germany*

Kent Kong Kian Keong

- *Deputy of CRC Duchess of Kent Hospital, Clinical Research Centre (CRC), Malaysia Ministry of Health*

Mr. Lai Chung Ket

- *Head, Malaysia National Wound Care Committee, Head of Surgical Department, Head of Endoscopy Unit, Head of Wound Care, Duchess of Kent Hospital*

Dr. Yen Chia How

- *Deputy of CRC HQEII, Clinical Research Centre (CRC), Malaysia Ministry of Health*

Dr. Yew Chee Wei

- *Senior Lecturer, Biotechnology Research Institute, Universiti Malaysia Sabah*

Dr. Marina Trombetta Lima

- *Assistant Professor, University of Groningen, Netherlands*

Dr. Lem Fui Fui

- *Senior Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Senior Researcher, EW Sanorell – Germany & Asia Pac*

Prof. Dr. Roni Lara Moya

- *Professor, European University, School of Medicine, Madrid, Spain*

Cassandra Chee Sheau Mei

- *Scientist, Universiti Malaysia Sarawak, Malaysia*

Dr. Melissa Lim Siaw Han

- *Senior Lecturer, Universiti Malaysia Sarawak, Malaysia*

Prof. Dr. Edmund Sim Ui Hang

- *Professor, Universiti Malaysia Sarawak, Malaysia*

Dr. Ching Xin Jie

- *Senior Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Senior Researcher, EW Sanorell – Germany & Asia Pac*

Grazele Jenarun

- *Assistant Secretary, Medical Research Ethics Committee Universiti Malaya Medical Centre (UMMC), Malaysia*

Dr. Phang Kean Chang

- *Deputy Head, Medical Research Ethics Committee Universiti Malaya Medical Centre (UMMC), Malaysia*

Dr. Latifah Suali

- *Senior Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Senior Researcher, EW Sanorell – Germany & Asia Pac*

Yee Hui Rong

- *Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Researcher, EW Sanorell – Germany & Asia Pac*

Yenny Kenisi

- *Researcher, Baden Research & Testing Lab – Germany & Asia Pac*
- *Researcher, EW Sanorell – Germany & Asia Pac*

LIST OF REVIEWERS

Assoc. Prof. Dr. Mohd Fauzi Bin Mh Busra,

*Head of Department of Tissue Engineering & Regenerative Medicine (DTERM),
Universiti Kebangsaan Malaysia, Malaysia*

Dr. Charles Gnanaraj,

*Senior Lecturer,
Faculty of Pharmacy and Health Sciences,
Royal College of Medicine Perak, Universiti Kuala Lumpur, Malaysia*

Dr. Glen GK Alvin,

*Consultant,
European Wellness Academy, EU, Malaysia*

Dr. Tan Sik Loo,

*Senior Lecturer, Department of Orthopaedic Surgery,
Faculty of Medicine, Universiti Malaya, Malaysia*

Dr. Julia Mantaj,

*Assistant Professor,
Pharmaceutical Science, London South Bank University, UK*

ChM. Ts. Dr. Yong Yoong Soon,

R & D Quality Assurance Manager/ Adjunct Professor

Osmosis Nutrition Sdn Bhd/Faculty of Applied Sciences, UCSI University, Malaysia

Dr. Mohammad Firdaus bin Abdul Aziz,

Senior Lecturer and Deputy Dean of Research and Innovation

Faculty of Law, Universiti Malaya, Malaysia

Teong Win Zee,

Pharmacist, Clinical Research Centre,

Hospital Queen Elizabeth, Malaysia Ministry of Health, Malaysia

Soon, P.E.,

Product Specialist,

European Wellness Biomedical Group, Malaysia

CHAPTER 1

INTRODUCTION

*Prof. Dr. Mike K.S. Chan,
Prof. Dr. Michelle B.F. Wong,
Yvonne Chia*

1.0 Introduction

The placenta, a transient organ expelled at birth, is a remarkably complex structure crucial for fetal development in mammals. While often treated as an afterthought in the past, the placenta is now recognized for its intricate mechanisms and diverse roles in fetal development and maternal health. The placenta, the first organ to form during gestation, establishes the critical maternal-fetal circulatory interface necessary for supporting the developing embryo's bioenergetic needs. Serving as the vital link between mother and fetus, it facilitates the exchange of nutrients, gases, and waste products. Its functions extend far beyond simple exchange, encompassing endocrine regulation, immune modulation, and even intercellular signalling through the release of extracellular vesicles.

This chapter will explore the placenta's historical use, development and structure, as well as diverse functional roles.

1.1 The Placenta's Past: A Look at Its Historical Uses

The placenta's historical uses are remarkably diverse, spanning both the animal kingdom and human cultures. Placentophagy, the consumption of the placenta, is a widely observed behaviour in mammals, potentially serving crucial survival functions such as replenishing vital nutrients and hormones lost during parturition, and masking birth scents from predators to enhance offspring safety^{[1],[2]}.

In humans, while less prevalent, placentophagy has been practiced across various cultures, often linked to benefits related to postpartum recovery, including increased energy, enhanced lactation, and positive mood regulation^{[1],[2]}. Traditional medical systems have long integrated the placenta into their practices; notably, Traditional Chinese Medicine (TCM) employs dried placenta, Zi He Che (紫河車), as documented in classical texts like the 16th-century Compendium of Materia Medica, Bencao Gangmu (本草綱目)^[3]. Similarly, Ayurvedic medicine in India utilizes the placenta in postpartum remedies aimed at promoting healing and lactation.

Notably, placental consumption is not limited to postpartum females, as TCM also prescribes it for a broader range of conditions, including chronic cough and male sexual dysfunction, demonstrating its versatile therapeutic applications^[1]. Indigenous groups in Argentina and the Kol people of central India also utilize placental preparations, such as powdered dried umbilical cords, for treating sick children and improving reproductive function, highlighting its cultural significance^[2].

In contemporary Western societies, placenta encapsulation has gained popularity since the 1970s, mirroring traditional claims of postpartum benefits observed in various cultures^[1]. Reported benefits of placentophagy, though based on limited research, include increased breast milk protein and lactose, infant weight gain, improved milk production, and potential use in hypogalactia^[2].

Beyond direct consumption, placental extracts are incorporated into various commercial products, including cosmetics and supplements, marketed for their purported content of growth factors, hormones, and other bioactive substances believed to confer potential health benefits. These extracts can also be administered via injection, providing anti-inflammatory effects in conditions like polyarthritis or regenerative effects on nerve lesions, demonstrating their diverse therapeutic potential^[2].

Thank you!

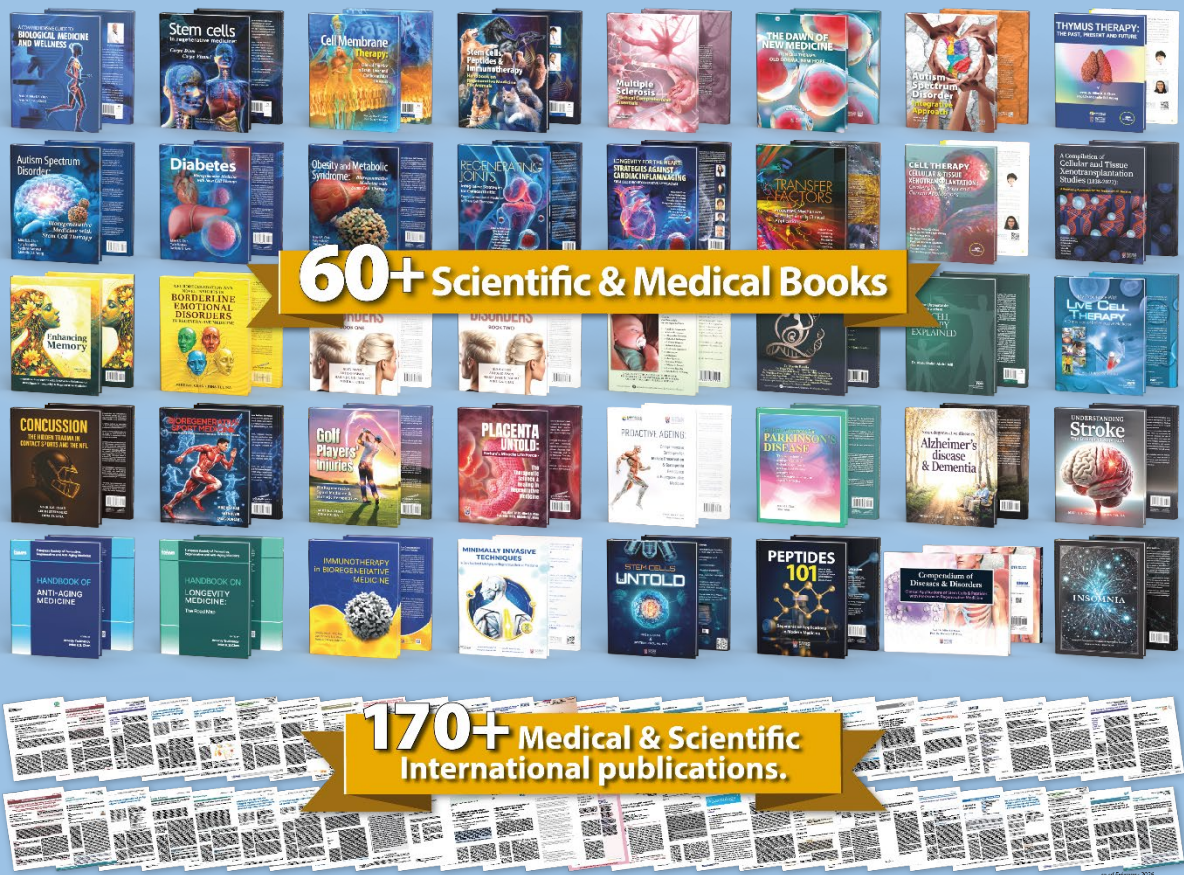
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PLACENTA UNTOLD: Nature's Miracle Life Force – The Therapeutic Science & Healing in Regenerative Medicine

For centuries, the placenta has been regarded as a transient organ—essential for life yet discarded at birth. *Placenta Untold* challenges this perception and reveals the placenta as a biologically sophisticated organ with immense therapeutic potential. This book explores the science behind the placenta's remarkable functions: nutrient exchange, immune modulation, hormonal regulation, and cellular communication and moves beyond pregnancy to examine its applications in regenerative medicine. Drawing from historical traditions, modern biomedical research, and biotechnology, the authors highlight how placenta-derived extracts, stem cells, growth factors, and bioactive molecules are being applied in wound healing, cardiovascular and liver health, neuroprotection, immunomodulation, anti-aging medicine, and veterinary therapeutics. Each chapter connects core placental biology with clinical insight, covering proteomics, pharmacological mechanisms, bioethics, and product development. The book repositions the placenta from “medical waste” to a valuable and ethically acceptable source of regenerative biomaterials.

Who should read this book?

Medical doctors, regenerative medicine practitioners, researchers, biomedical scientists, pharmacologists, aesthetic professionals, and postgraduate life science students will find this book highly relevant. It also serves biotechnology innovators and those involved in stem cell and translational research.

Why read this book?

Readers will gain a strong scientific understanding of placental biology, evidence-based insight into therapeutic applications, awareness of regulatory and ethical considerations, and a forward-looking view of how placental science may shape the future of regenerative and personalized healthcare.



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