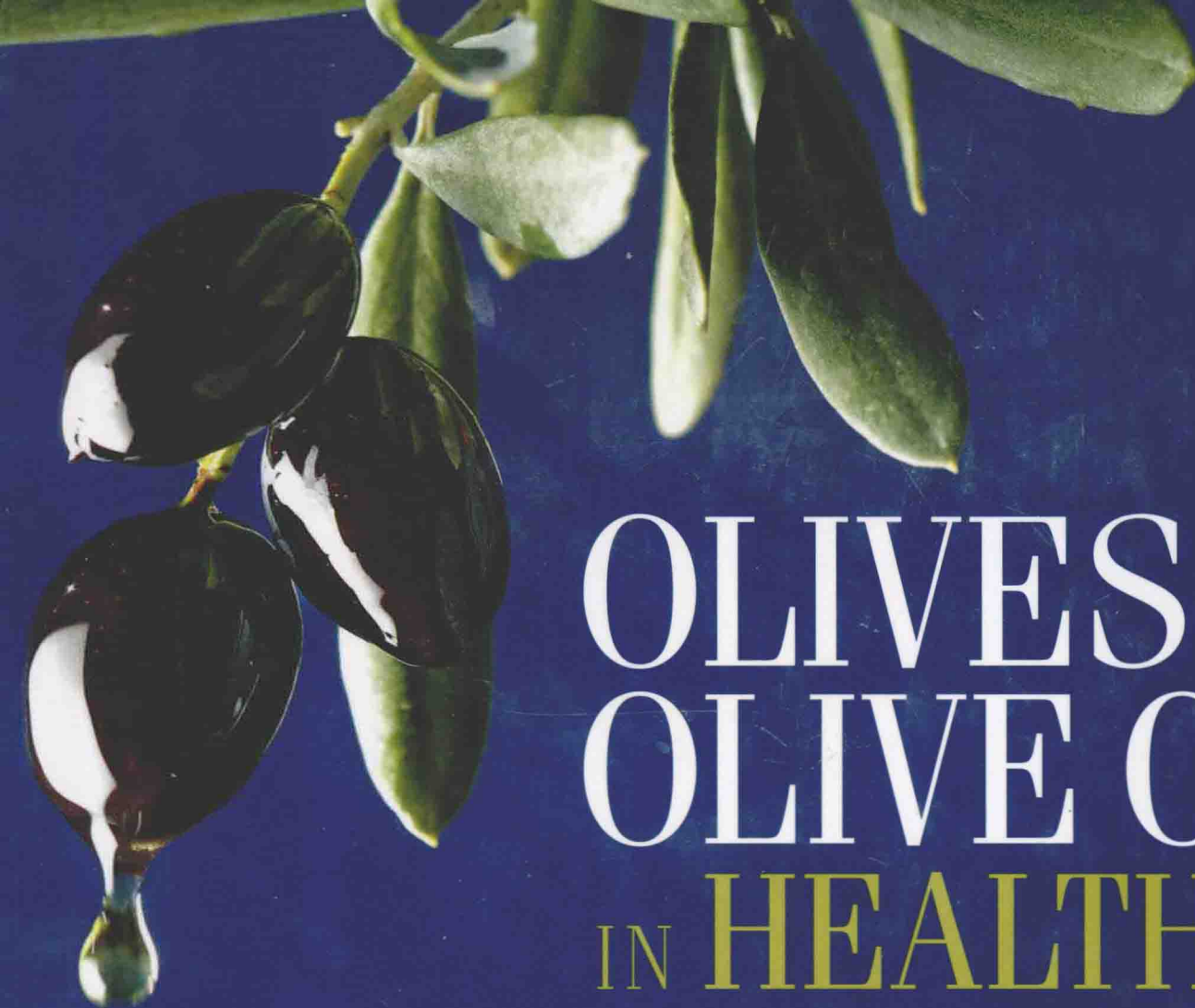




OLIVES^{AND} OLIVE OIL IN HEALTH AND DISEASE PREVENTION

EDITED BY

Victor R. Preedy
Ronald Ross Watson



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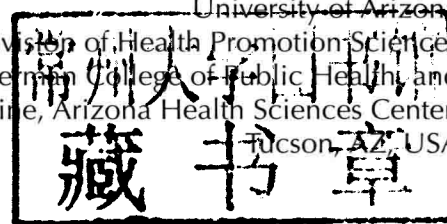
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Olives and Olive Oil in Health and Disease Prevention

The olive tree has been nurtured and cultivated for well over 7000 years. In ancient times olive oil was used in sacred ceremonies and rituals: from birth to death. Olive oil has also long been associated with health promoting properties as well as used in culinary preparations and the diet in general.

It is now apparent that the nutritional and health promoting benefits of olives and olive oil may have their foundation in scientific fact. There is an increasing body of evidence to suggest that usage of olive oil not only improves cardiovascular function but has therapeutic potential in a variety of conditions as well. Other properties include antioxidant activity and effects on macrophages and apoptosis as well as numerous cellular and pathophysiological processes. Novel compounds have been isolated and characterized. However, contamination occasionally occurs, potentially causing harm. Thus, a vast amount of scientific material and a comprehensive understanding of olives and olive oils is essential.

Olives and Olive Oil in Health and Disease Prevention is divided into 3 main sections:

1. *General aspects of olives and olive oil*
2. *Nutritional, pharmacological and metabolic properties of olives and olive oil*
3. *Specific components of olive oil and their effects on tissue and body systems.*

The book includes a diverse range of topic areas such as varieties and variations, ripening, crushing, extraction, sensory qualities, authenticity and the chemometric classification of cultivars. Geographical characterizations, quality, and the chemical composition of olive oil including the major and minor lipid constituents are also described.

Uniquely there are specific sections of the biomedical properties of specific compounds from olives and includes coverage of tyrosol, hydroxytyrosol, 3,4-dihydroxyphenyl acetic acid, oleuropein, and other compounds. The effects of individual components or groups of bioactive compounds are described in terms of cell lines, organs or whole populations.

Contributors are authors of international and national standing, leaders in the field. Emerging fields of science and important discoveries relating to olive products are also incorporated in the book. This represents a comprehensive source of material related to olives and their constituents. **Olives and Olive Oil in Health and Disease Prevention** will be essential reading for nutritionists, pharmacologists, health care professionals, research scientists, cancer workers, pathologists, molecular or cellular biochemists, general practitioners as well as those interested in olives or olive oil or the olive industry in general.

Professors Victor R. Preedy and Ronald Ross Watson

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γ :	Gamma	5MC:	5-Methylchrysene
ω -3:	is the third carbon atom from the methyl chain end of fatty acid	5-NS:	5-doxyl-stearic acid
		7 α -nACh receptor:	7 α nicotinic acetylcholine receptor
		7,8-DiMeIQx:	2-Amino-3,7,8-trimethyl-imidazo (4,5-f)-quinoxaline
μ m:	micrometer	8-iso-PGF _{2α} :	8-isoprostaglandinF _{2α}
[Ca ²⁺] _c :	cytosolic Ca ²⁺ concentrations	8-OHdG:	8-hydroxy-deoxyguanosine
[O] ⁺ :	Monoleoylglycerol Fragment	A:	araquidate
[OO] ⁺ :	Dioleoylglycerol Fragment	A:	Aspergillus
<r>:	steady-state fluorescence anisotropy	A:	arachidoyl
Δ Abs:	change in absorbance	A:	Arrhenius pre-exponential factor
μ g:	micrograms	aa:	amino acid
μ M:	Micromolar	AA:	arachidonic acid
1,2-DG:	1,2-diacylglycerol	AAPH:	2,2'-azobis(2-amidinopropane) hydrochloride
1,3-DG:	1,3-diacylglycerol	AAS:	atomic absorption spectrometry
10-H-OI Agl:	10-hydroxy-oleuropein aglycon	AAT:	alcohol acyl transferase
¹³ C NMR:	carbon-13 nuclear magnetic resonance	ABTS:	2,2'-azino-bis-3-ethylbenzothiazoline-6-sulphonic acid
16-NS:	16-doxyl-stearic acid	Ac Pin:	(+)-1-acetoxypinoresinol
¹ H HR-MAS NMR:	¹ H (Proton) High Resolution Magic Angle Spinning Nuclear Magnetic Resonance	Ac:	acetyl
¹ H HR-MAS:	¹ H (Proton) High Resolution Magic Angle Spinning	Ac ₂ O:	acetic anhydride
¹ H NMR:	proton nuclear magnetic resonance	ACAT:	cholesterol acyltransferase
2-DE:	two-dimensional gel electrophoresis	ACC:	acetyl-CoA carboxylase
3,4 DHPEA-EDA:	(3,4-dihydroxyphenylethyl 4-formyl-3-formylmethyl-4-hexenoate)	ACE:	angiotensin-converting enzyme
3,4-DHPEA:	3,4-dihydroxyphenethyl alcohol	Ach:	acetylcholine
3,4-DHPEA-AC:	4-(acetoxylethyl)-1,2-dihydroxybenzene	CAN:	acetonitrile
3,4-DHPEA-EA:	isomer of oleuropein aglycon	ACP:	acenaphthene
3,4-DHPEA-EDA:	2-(3,4-dihydroxyphenyl)ethyl ester of elenolic acid di-aldehyde	ACS:	acute coronary syndrome
		ACTH:	adrenocorticotropin
3,5-DB-4-HBA:	3,5-di-t-butyl-4-hydroxybenzyl alcohol	ACY:	acenaphthylene
3-D:	three dimensional structure	A _D :	absolute protein-degradation rate
4,8-DiMeIQx:	2-amino-3,4,8-trimethyl-imidazo(4,5-f)-quinoxaline	AD:	atopic dermatitis
5-ASA:	5-aminosalicylic acid	ADH:	alcohol dehydrogenase
5-HMF:	5-hydroxy-2-methylfurfural	ADI:	acceptable daily intake
		ADP:	adenosine diphosphate
		AES:	atomic emission spectrometry
		AFB ₁ :	aflatoxin B ₁
		AFLP:	amplified fragment length polymorphism
		AFs:	aflatoxins
		A _G :	absolute protein-accumulation rate
		AI:	articular index
		ALA:	alpha-linolenic acid
		ALARA:	as low as reasonably achievable
		ALT:	alanine aminotransferase