

LIST OF ABBREVIATIONS

α_7 nAChR	α_7 nicotine acetylcholine receptor
α -HOMeNNAL	4-(hydroxymethylnitrosamino)-1-(3-pyridyl)-1-butanone
α -HOMeNNK	4-(hydroxymethylnitrosamino)-1-(3-pyridyl)-1-butanone
α -HOMethyleneNNAL	4-(methylnitrosamino)-1-(3-pyridyl)-1-(4-hydroxy)butanol
α -HOMethyleneNNK	4-(methylnitrosamino)-1-(3-pyridyl)-1-(4-hydroxy)butanone
4-HPO	4-hydroxy-1-phenyl-1-octanone
4-NQO	4-nitroquinoline <i>N</i> -oxide
6-HONNK	4-(methylnitrosamino)-1-[3-(6-hydroxypyridyl)]-1-butanone
8-OHdGuo	8-hydroxydeoxyguanosine
AFRO	WHO Regional Office for Africa
AGT	<i>O</i> ⁶ -alkylguanine–DNA alkyltransferase
Akt	serine/threonine kinase
ALDH	aldehyde dehydrogenase
AMMN	acetoxymethylmethylnitrosamine
APC	adenomatous polyposis coli
Apo	apolipoprotein
AUC	area under the curve
BHA	butylated hydroxyanisole
BOP	<i>N</i> -nitrosobis(2-oxypropyl)amine
BrdU	bromodeoxyuridine
CDC	Centers for Disease Control and Prevention
CI	confidence interval
^{cot}	cotinine
COX	cyclooxygenase
CPS	American Cancer Society cohort
CS	cigarette smoke
Cyd	cytidine
CYP	cytochrome-P450
DAPK	death-associated protein kinase
DBP	diastolic blood pressure
dCyd	deoxycytidine

dGuo	deoxyguanosine
DMSO	dimethyl sulfoxide
dR	deoxyribose
dThd	deoxythymidine
EFTA	European Free Trade Association
EMRO	WHO Regional Office for the Eastern Mediterranean
EURO	WHO Regional Office for Europe
FA	filtered air
FCTC	Framework Convention on Tobacco Control
FMD	flow-mediated dilation
FTC	Federal Trade Commission
GED	General Educational Development
GSH	glutathione
GST	glutathione <i>S</i> -transferase
Guo	guanosine
GYTS	Global Youth Tobacco Survey
Hb	haemoglobin
HCFA	Health Care Financing Administration
HCPC	hamster cheek pouch carcinoma
HDL	high-density lipoprotein
HF	high fat
HONNN	hydroxy-NNN
HPB	4-hydroxy-1-(3-pyridyl)-1-butanone
HR	heart rate
HSV	herpes simplex virus
ICP	infected cell protein
IL	interleukin
ISO	International Standardization Organization
<i>iso</i> -NNAC	4-(methylnitrosamino)-4-(3-pyridyl)butyric acid
<i>iso</i> -NNAL	4-(methylnitrosamino)-4-(3-pyridyl)-1-butanol
K_m	Michaelis constant
LD ₅₀	dose that causes 50% lethality
LDL	low-density lipoprotein
LF	low fat
MCC	mutated colon cancer
MDPH	Massachusetts Department of Public Health
MedGuo	methyldeoxyguanosine
MedThd	methyldeoxythymidine
Me-DZH	methanediazohydroxide
MeGua	methylguanine
MGMT	<i>O</i> ⁶ -methylguanine–DNA methyltransferase
MNBA	4-(methylnitrosamino)butyric acid

MNPA	3-(methylnitrosamino)propionic acid
MNPhPA	2-(methylnitrosamino)-3-phenyl propionic acid
MNTCA	<i>N</i> -nitroso-2-methylthiazolidine-4-carboxylic acid
MONICA	Monitoring of Trends and Determinants in Cardiovascular Disease Project
NA	not available
NAB	<i>N'</i> -nitrosoanabasine
NAB- <i>N</i> -Gluc	NAB- <i>N</i> -glucuronide
NADPH	nicotinamide adenine dinucleotide phosphate
NAT	<i>N'</i> -nitrosoanatabine
NAT- <i>N</i> -Gluc	NAT- <i>N</i> -glucuronide
NAzCA	<i>N</i> -nitrosoazatidine-4-carboxylic acid
ND	not detected
NDEA	<i>N</i> -nitrosodiethylamine
NDELA	<i>N</i> -nitrosodiethanolamine
NDMA	<i>N</i> -nitrosodimethylamine
NE	not evaluated
NHANES	National Health and Nutrition Examination Survey
NHEFS	NHANES I Epidemiological Follow-up Study
NHIS	National Health Interview Study
NHPRO	<i>N</i> -nitrosohydroxyproline
^{nic}	nicotine
NMOR	<i>N</i> -nitrosomorpholine
NNA	4-(methylnitrosamino)-1-(3-pyridyl)-1-butanal
NNAL	4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol
NNAL-Gluc	NNAL-glucuronides
NNAL- <i>N</i> -Gluc	4-(methylnitrosamino)-1-(3-pyridyl)- <i>N</i> -β-D-glucopyranuronosyl)-1-butanonium inner salt
NNAL- <i>O</i> -Gluc	4-(methylnitrosamino)-1-(3-pyridyl)-1-(<i>O</i> -β-D-glucopyranuronosyl)butane
NNK	4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone
(NNK)ADP ⁺	(NNK)adenosine dinucleotide phosphate
(NNK)ADPH	(NNK)adenosine dinucleotide phosphate (reduced form)
NNKOAc	4-(acetoxymethylnitrosamino)-1-(3-pyridyl)-1-butanone
NNN	<i>N'</i> -nitrosornicotine
NNN- <i>N</i> -Gluc	NNN- <i>N</i> -glucuronide
NPIC	<i>N</i> -nitrosopipicolinic acid
NPIP	<i>N</i> -nitrosopiperidine
NPRO	<i>N</i> -nitrosoproline
NPYR	<i>N</i> -nitrosopyrrolidine
NR	not reported
NSAR	<i>N</i> -nitrososarcosine

NTCA	<i>N</i> -nitrosothiazolidine-4-carboxylic acid
OGTT	oral glucose tolerance test
OSMF	oral submucosal fibrosis
PAH	polycyclic aromatic hydrocarbon
PEITC	phenylisothiocyanate
PG	prostaglandin
PHB-DZH	4-hydroxy-4-(3-pyridyl)-1-butanediazohydroxide
pKa	dissociation constant
POB-DZH	4-oxo-4-(3-pyridyl)-1-butanediazohydroxide
PREP	potential reduced exposure product
RDD	random-digit dialling
ROS	reactive oxygen species
SAR	Special Administrative Region
SBP	systolic blood pressure
SD	standard deviation
SE	standard error
SEARO	WHO Regional Office for South-East Asia
Sf9	<i>Spodoptera frugiperda</i> cells
Thd	thymidine
THF	tetrahydrofuran
TPA	12- <i>O</i> -tetradecanoylphorbol-13-acetate
TSNA	tobacco-specific <i>N</i> -nitrosamines
UAE	United Arab Emirates
UDP	Uridine diphosphate
UGT	UDP-glucuronyltransferase
VLDL	very low-density lipoprotein
V _{max}	Maximum velocity of an enzymatic reaction