

List of Abbreviations

$\alpha 4\beta 2$	alpha 4 beta 2-nicotinic acetylcholine receptor subtype	AP	acetyl propionyl
$\alpha 7$	alpha 7 nicotinic acetylcholine receptor subtype	APA	American Psychiatric Association
$\alpha 6$	alpha 6 nicotinic acetylcholine receptor subtype	APV	advanced personal vaporizers
μg	microgram	arc	activity-regulated cytoskeleton-associated protein
5AP tLTP protocol	5 action potential timing-dependent long-term potentiation protocol	ATF	U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives
5-CSRTT	5-choice serial reaction time task	A-V	atrial-ventricular
5-HIAA	5-hydroxyindole acetic acid, the primary metabolite of serotonin	AVA	American Vaping Association
5-HT_{1AR}	serotonin (5-hydroxytryptamine) receptor 1A	BART	Balloon Analogue Risk Task
5-HT_{2A/C}	serotonin (5-hydroxytryptamine) receptor 2 A/C	BCAP/CAP	Committees of Advertising Practice (UK)
86Rb+ efflux assay	measure of nicotinic acetylcholine receptor function via rubidium-86 ion efflux [125-I] α -Btx binding measurement of binding at $\alpha 7$ nAChRs using the antagonist alpha-bungarotoxin	BLA	basolateral amygdala
[¹²⁵I]α-CtxMII binding	measurement of binding at $\alpha 6$ nAChRs using the antagonist alpha-conotoxin MII	BNST	bed nucleus of the stria terminalis
[¹²⁵I]A-85380 binding	measurement of binding at $\alpha 4\beta 2$ nAChRs using the agonist A-85380	BOP	Bureau of Prisons
A1	primary auditory cortex	BP	blood pressure
AAP	American Academy of Pediatrics	CAD	cinnamaldehyde
ACR	American Association of Cancer Research	CAM	cell-adhesion molecule
AARC	American Association for Respiratory Care	cAMP-PKA	cyclic AMP-protein kinase A, signaling cascade
ACP	American College of Physicians	CARDIA	Coronary Artery Risk Development in Young Adults
ACS	American Cancer Society	CASAA	Consumer Advocates for Smoke-free Alternatives Association
ADHD	attention deficit hyperactivity disorder	CCTA	Contraband Cigarette Trafficking Act
ADI	acceptable daily intake	CDC	Centers for Disease Control and Prevention
AEMSA	American E-Liquid Manufacturing Standards Association	CDER	Center for Drug Evaluation and Research
AHA	American Heart Association	C-DISC-IV	Diagnostic Interview for Children–Version 4
AMPA	α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid	cFos	protooncogene and immediate early gene used as a marker of neuronal activity
AMPAR	AMPA receptor	CFR	Code of Federal Regulations
ANHCS	Annenberg National Health Communication Survey	CI	confidence interval
ANR	Americans for Nonsmokers' Rights	CMS	Centers for Medicare & Medicaid Services
AOR	adjusted odds ratio	CO₂	carbon dioxide
		COMDTINST	Commandant Instruction
		CPP	conditioned place preference
		CPu	caudate putamen
		CREB	cAMP response element-binding protein
		CRF	corticotropin-releasing factor

CRP	C-reactive protein	FDA	U.S. Food and Drug Administration
CSI	Child Symptom Inventory	FEF	forced expiratory flow
CTA	conditioned taste aversion	FeNO	exhaled nitric oxide
CTP	Center for Tobacco Products	FEV₁	forced expiratory volume in 1 second
D1R	dopamine D1 receptor	fMRI	functional magnetic resonance imaging
DA	diacetyl	FR	fixed ratio
DA	dopamine	FST	forced swim test
DAT1	dopamine regulation genotype	FTC	U.S. Federal Trade Commission
DEHP	diethylhexyl phthalate	FVC	forced vital capacity
DEP	diethyl phthalate	FY	fiscal year
DHS	U.S. Department of Homeland Security	G20	gestational day 20 (and similar)
DISC-YC	Diagnostic Interview Schedule for Children-Parent Scale-Young Child	g	gram
DoD	U.S. Department of Defense	GABA	gamma-aminobutyric acid
DOPAC	3,4-dihydroxyphenylacetic acid, metabolite of dopamine	GABAergic	any cell, especially any neuron, that releases GABA
DOT	U.S. Department of Transportation	GPCR	G-protein-coupled-receptor
DSM-III	Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition	GSA	General Services Administration
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition	GTP	guanosine triphosphate
EC	electronic cigarette	GTPase	large family of hydrolase enzymes that can bind and hydrolyze GTP
ECIG Inc.	Electronic Cigarette Industry Group, Inc.	HONC	Hooked on Nicotine Checklist
ECIG Ltd.	Electronic Cigarettes International Group, Ltd.	HPLC-ECD	high-performance liquid chromatography electrochemical detection
ED	U.S. Department of Education	HUD	U.S. Department of Housing and Urban Development
ENDS	electronic nicotine delivery systems	HVA	homovanillic acid
ENNDS	electronic non-nicotine delivery systems	IARC	International Agency for Research on Cancer
EOP	Executive Office of the President	ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th revision
EPA	U.S. Environmental Protection Agency	ICE	Bureau of Immigration and Customs Enforcement
ERS	European Respiratory Society	ICR mice	Institute for Cancer Research strain of mice
EPSC	excitatory postsynaptic current	ICSS	intracranial self-stimulation
EPSDT	Early and Periodic Screening, Diagnosis and Treatment	IOM	Institute of Medicine
EPSP	excitatory postsynaptic potential	i.p.	intraperitoneal
ESD	electronic smoking device	IQ	intelligence quotient
EU	European Union	IRC	Internal Revenue Code
F1	first filial generation (and similar)	i.v.	intravenous
FAA	Federal Aviation Administration	kg	kilogram
FCC	Federal Communications Commission	KO	knockout
FCLAA	Federal Cigarette Labeling and Advertising Act	L	liter
FCTC	Framework Convention on Tobacco Control	L&M	Liggett & Myers
FD&C Act	Federal Food, Drug, and Cosmetic Act	LC-MS/MS	liquid chromatography-tandem mass spectrometry

LH	lateral hypothalamus	NYS	New York State Follow-Up
M&As	mergers, formations of partnerships, and acquisitions	NYTS	National Youth Tobacco Survey
m²	square meter	O₂	oxygen
m³	cubic meter	ODD	oppositional defiant disorder
MAOA	monoamine oxidase A	OMB	Office of Management and Budget
MAPK	mitogen-activated protein kinase	OPM	Office of Personnel Management
MCH	melanin-concentrating hormone	OR	odds ratio
mFTQ	modified Fagerström Tolerance Questionnaire	OSH	Office on Smoking and Health
mg	milligram	OSHA	U.S. Department of Labor, Occupational Safety and Health Administration
mGluR2	metabotropic glutamate receptor 2	P3 (and similar)	postnatal day number
mL	milliliter	PACT	Prevent All Cigarette Trafficking Act
mPFC	medial prefrontal cortex	PAH	polycyclic aromatic hydrocarbon
mRNA	messenger ribonucleic acid	PATH	Population Assessment of Tobacco and Health
MSN	medium spiny neuron	PDAY	Pathological Determinants of Atherosclerosis in Youth
MTF	Monitoring the Future	PFC	prefrontal cortex
NAB	N-nitrosoanabasine	PHS	Public Health Service
N₂	nitrogen	PIH	Public and Indian Housing
NAc	nucleus accumbens	PVN	paraventricular nucleus of the thalamus
NACDA	National Advisory Council on Drug Abuse	PG	propylene glycol
nAChR	nicotinic acetylcholine receptor	PM	particulate matter
NAc-shell	nucleus accumbens shell	PM_{2.5}	fine particulate matter
NAT	N-nitrosoanatabine	PNE	prenatal nicotine exposure
NATS	National Adult Tobacco Survey	p.o.	per os (by mouth)
NCI	National Cancer Institute	Postn	periostin, osteoblast-specific factor
NDAA	National Defense Authorization Act	PR	progressive ratio
NDSS	Nicotine Dependence Syndrome Scale	PREP	potential reduced-exposure product
NE	norepinephrine	PVN	paraventricular nucleus of the thalamus
ng	nanogram	qRT-PCR	quantitative real-time polymerase chain reaction
NGFI-B	nerve growth factor-induced gene-B	RCRA	Resource Conservation and Recovery Act
NHANES III	Third National Health and Nutrition Examination Survey	SAC	saccharin
NHSDA	National Household Survey on Drug Abuse	SAMHSA	Substance Abuse and Mental Health Services Administration
NIH	National Institutes of Health	s.c.	subcutaneous
NMDAR	N-methyl-D-aspartate receptor	SCAN	Screening test for Auditory Processing Disorders
NIDA	National Institute on Drug Abuse	SD	standard deviation
NIOSH	National Institute for Occupational Safety	SE	standard error
NJYTS	New Jersey Youth Tobacco Survey	sec	seconds
NLSY	National Longitudinal Survey of Youth	SEC	Securities and Exchange Commission
nm	nanometer	SES	socioeconomic status
NNN	N-nitrosornicotine		
NNK	4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone		
NRT	nicotine replacement therapy		

SFATA	Smoke Free Alternatives Trade Association	USDA	U.S. Department of Agriculture
SIDS	sudden infant death syndrome	USDHEW	U.S. Department of Health, Education, and Welfare
SMC	serial multiple choice	USDHHS	U.S. Department of Health and Human Services
SNAP	Special Supplemental Nutrition Program	USP	U.S. Pharmacopeia
SNP	single-nucleotide polymorphism	USTR	U.S. Trade Representative
SRITA	Stanford Research into the Impact of Tobacco Advertising	V	voltage
STOP	Smuggled Tobacco Prevention Act	VA	U.S. Department of Veterans Affairs
TCR	trigemino-cardiac reflex	VG	vegetable glycerin
TEOAEs	transient evoked otoacoustic emissions	VOC	volatile organic compound
TH	tyrosine hydroxylase	VTA	ventral tegmental area
THC	tetrahydrocannabinol	WHO	World Health Organization
TSNA	tobacco-specific nitrosamine	WIC	Women, Infants, and Children
TTB	U.S. Department of Treasury, Alcohol and Tobacco Tax and Trade Bureau	Wnt	Wingless-Type MMTV Integration Site Family, member 1, intracellular signaling factors
TVECA	Tobacco Vapor Electronic Cigarette Association	WT	wild type
UK	United Kingdom	w/v	weight/volume
U.S.C.	U.S. Code	YRBSS	Youth Risk Behavior Surveillance System

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