

Dissertation zur Erlangung des Grades einer
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**Investigations of the Role of
Metabotropic Glutamate
Receptor Subtypes in Synaptic
Plasticity and Pathology in vivo**

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List of Abbreviations

AA Arachidonic acid

AC Adenylyl cyclase

ACPD 1-Aminocyclopentane-1,3-dicarboxylic acid

ABS Artola, Böcher and Singer

AMPA α -Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid

Anisomycin (2R,3S,4S)-2-(4-Methoxybenzyl)-3,4-pyrrolidinediol
-3-acetate
2-[(4-Methoxyphenyl)methyl]-3,4-pyrrolidinediol
3-acetate

ANOVA Analysis of variance

AP Anterior-posterior

AP4 L-(+)-2-Amino-4-phosphonobutyric acid

AP5 D-(-)-2-Amino-5-phosphonopentanoic acid

BAPTA-AM 1,2-Bis(2-aminophenoxy)ethane-N,N,N',N'
-tetraacetic acid tetrakis(acetoxymethylester)

BCM Bienenstock, Cooper and Munro

CA Cornu ammonis

CaMKII Ca^{2+} /Calmodulin-dependent kinase II

cAMP cyclic adenosine monophosphate

cGMP cyclic guanosine mono-phosphate

chemical LTD Long-term depression induced by agonist application

CHPG (RS)-2-Chloro-5-hydroxyphenylglycine

CREB cAMP-responsive element binding protein

DAG Diacylglycerol

DHPG (RS)-3,5-Dihydroxyphenylglycine

EEG Electroencephalogram

fEPSP field excitatory postsynaptic potential

GABA Gamma amino butyric acid

HFT High frequency tetanization

I/O Input/Output

IP₃ Inositol-1,4,5-trisphosphate

IPI Interpulse interval

IPSPs Inhibitory postsynaptic potentials

LFS Low frequency stimulation

LTD Long-term depression

LTP Long-term potentiation

LY367385 (S)-(+)- α -Amino-4-carboxy-2-methylbenzene-acetic acid

MAP Mitogen activated protein

MAPK Mitogen activated protein kinase

mGlu(s) metabotropic glutamate receptor(s)

ML Medio-Lateral

MPEP 2-Methyl 6-(phenylethynyl) pyridinehydrochloride

NMDA N-methyl-D-aspartate

NO Nitric oxide

PI Phosphoinositide

PKA Protein kinase A

PKC Protein kinase C

PKG Protein kinase G

PLC Phospholipase C

PLD Phospholipase D

PP1/2 Protein phosphatase 1/2

PPD Paired pulse depression

PPF Paired pulse facilitation

PS Population spike

STP Short-term potentiation

VDCC Voltage dependent calcium channels

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