The roles of dystrophin and dystrobrevin : in synaptic signaling in drosophila

Potikanond, S.

Abbreviations

ACh	Acetylcholine
AChR	Acetylcholine receptor
Akt	Protein kinase B
Ala	inhibitory CaMKII peptide
BMP	Bone morphogenetic protein
Ca^{2+}	Calcium ion
CaMKII	Ca^{2}+/calmodulin-dependent protein kinase II
Cdc42 (CDC42)	Cell division cycle 42 gene (Rho-GTP binding protein)
cGMP	Cyclic guanosine monophosphate
CNS	Central nervous system
cv-c (CV-C)	Crossveinless-C gene (protein)
DGC	Dystrophin-associated glycoprotein complex
Dg (DG)	Dystroglycan gene (protein)
Dyb (DYB)	Dystrobrevin gene (protein)
Dys (DYS)	Dysstrophin gene (protein)
DMD	Duchenne muscular dystrophy
EJP	Excitatory or Evoked Junctional Potential
mEJP	miniature excitatory or evoked Junctional Potential
EPSP	Excitatory postsynaptic potential
EAG	Electroantennogram
ERG	Electroretinogram
FasII	Fasciclin2
Freq	Frequency
GABA	γ-Aminobutyric acid
GluRIIA	Glutamate receptor type 2A
GluRIIB	Glutamate receptor type 2B
Grb2	Growth factor receptor-bound protein 2
HRP	Horse rashdish peroxidase
ILM	Inner limiting membrane
InR	Insulin receptor
IPSC	Inhibitory postsynaptic current
IPSP	Inhibitory postsynaptic potential
LTD	Long-term depression
LTP	Long-term potentiation
MAPK	Mitogen-activated protein kinase
mEPSP	Miniature EPSP
mIPSC	Miniature IPSC
mIPSP	Miniature IPSP
MuSK	Muscle-specific kinase
NMJ	Neuromuscular junction
NO	Nitric oxide
NOS	Nitric oxide synthase
OPL	Outer plexiform layer
PI3K	Phosphoinositide 3-kinases
PKA	Protein kinase A
PKA-R	Regulatory subunit of PKA
PKC	Protein kinase C
PKG	Protein kinase G

POMT1/2	Protein O-mannosyltransferase 1 or 2
PPF	Paired-pulse facilitation
Rho-GAP	Rho-GTPase activating protein
Rho-GEF	Rho-GTPase exchange factor
RNAi	RNA interference
QC	Quantal content or neurotransmitter release
STD	Short-term depression
STP	Short-term potentiation
UGC	Utrophin-associated glycoprotein complex
utrn	Utrophin
VNC	Ventral nerve cord

Curriculum Vitae

Saranyapin (Pui) Potikanond was born on the 12th of February 1976 at Khonkean, Thailand. She completed her secondary school education at Regina Coeli College and Montfort College in 1994. In 2000 she obtained a medical degree from the Chiang Mai University, Chiang Mai, Thailand. From 2000 to 2003, she spent 3 years as intern and teacher assistant in the Obstetrics-Gynecology Department at the Lampang Hospital in Thailand. In 2003-2005, she worked as a lecturer in the Pharmacology Department, Faculty of Medicine, of the Chiang Mai University, Thailand. From September 2005- June 2007, she pursued and received a Master's Degree in the Pharmaceutical and Medical Research Program at the Free University of Brussels (VUB), Belgium. October 2007, she became a Ph. D. student in the Department of Molecular Cell Biology at the Leiden University Medical Center, Leiden, The Netherlands. After receiving her degree, she will return to Thailand and continue her academic career as a lecturer and researcher at the Pharmacology Department, Faculty of Medicine, Chiang Mai University, Thailand.

List of Publications

Pilgram G.S.K.[*], **Potikanond S.**[*], Baines R.A., Fradkin L.G. and Noordermeer J.N. The Roles of the Dystrophin-Associated Glycoprotein Complex at the Synapse. Molecular Neurobiology. February 2010; 41(1): 1–21.
*These authors contributed equally to this work.

Pilgram G.S.K., **Potikanond S.,** van der Plas, M.C., Fradkin, L.G. and Noordermeer, J.N. RhoGAP *crossveinless-c* Interacts with Dystrophin and is Required for Synaptic Homeostasis at the *Drosophila* Neuromuscular Junction. The Journal of Neuroscience, 12 January 2011, 31(2): 492-500.

Potikanond S., Pilgram G.S.K., de Jong A.W.M, Fradkin L.G. and Noordermeer, J.N.A Postsynaptic Dystrophin Glycoprotein Complex/Rho-GTPase Pathway acting through CaMKII Controls the Homeostatic Endpoint at the *Drosophila* Neuromuscular Junction (submitted to PLoS Biology).

Potikanond S., Hing, H., Tabone, C., Lantz, K., de Belle, J.S., Qiu, Y-T. Smid, H.M., Pilgram G.S.K., de Jong, A.W.M., Fradkin, L.G. and Noordermeer, J. N. The Dp186 Dystrophin Isoform is Required for Wild Type Synaptic Gain in the *Drosophila* Olfactory Circuit (submitted to PNAS)**.**

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