

# **Impact of Dynamin II Domains on the Function of Dynamin II in Vesicle Formation at the Trans-Golgi-Network**

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*For my wife, Zhenju*

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**Abbreviations:**

AP-1, AP-2, AP3	adaptor protein complex 1, 2 or 3
Arf	ADP-ribosylation factor
CBB	coomassie brilliant blue
CD	circular dichroism
CCD	coil-coil domain
COP I, COP II	coatamer protein I or II
DMEM	Dulbecco's Modified Eagle Medium
DTE	dithioerythrol
DTT	dithiothreitol
EB	ethidium bromide
EDTA	ethylene diaminetetraacetic acid
EGTA	ethyleneglycol bis(2-aminoethyl-ether) tetraacetic acid
EEA1	early endosome associated protein 1
EGFP	Enhanced green fluorescent protein
ER	endoplasmic reticulum
ERGIC	ER-Golgi intermediate compartment
FCS	fetal calf serum
GAP	GTPase activating protein
GDP	guanosine diphosphate
GED:	GTPase effector domain
GEFs	guanine nucleotide exchange factors
GFP	green fluorescent protein
Grb2	Growth factor receptor-bound protein 2
GTP	guanosine triphosphate
GST	glutathione S-transferase
hCgB	human chromogranin B
HEPES	N-2-hydroxyethylpiperazine-N'-2-ethanesulfonic acid
HPLC	high-pressure liquid chromatography
his-s-PHD	N-terminally (His) <sub>6</sub> and S-peptide tagged PHD of dynamin II
his-s-PRD	N-terminally (His) <sub>6</sub> and S-peptide tagged PRD of dynamin II
his-s-PCP	N-terminally (His) <sub>6</sub> and S-peptide tagged PCP of dynamin II
HSPG	heparan sulfate proteoglycan
IOV	inside-out-vesicle
IP	inositol phosphates
IPTG	isopropyl $\beta$ -D-thiogalactopyranoside
LAMP-1	lysosome associated membrane protein 1
LB	Luria-Bertani medium
M6P	mannose-6-phosphate
M6PR	mannose-6-phosphate receptor
ME	$\beta$ -mercaptoethanol
MT	microtubule
NBB	native binding buffer
NMR	nuclear magnetic resonance
PCR	polymerase chain reaction
PCP	C-terminal half of dynamin II consisting of PHD, GED and PRD
PCP-his	C-terminally (His) <sub>6</sub> -tagged PCP of dynamin II
PHD	pleckstrin-homology domain

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PHD-his	C-terminally (His) <sub>6</sub> -tagged PHD of dynamin II
pI	isoelectric point
PI3K	phosphatidylinositol 3 kinase (PtdIns-3 kinase)
PI(3)P	phosphatidylinositol 3-phosphate
PI(4)P	phosphatidylinositol 4-phosphate
PI(3,4,5)P <sub>3</sub>	phosphatidylinositol 3,4,5-trisphosphate
PI(4,5)P <sub>2</sub>	phosphatidylinositol 4,5-bisphosphate
pIgR	polymeric immunoglobulin G receptor
PIT	protease inhibitor tablet
PKC	protein kinase C
PLC	phospholipase C
PLD	phospholipase D
PNS	postnuclear supernatant
PRD	proline-rich domain
PRD-his	C-terminally (His) <sub>6</sub> -tagged PRD of dynamin II
PtIns	phosphatidylinositol
SDS-PAGE	sodium dodecyl sulfate-polyacrylamide gel electrophoresis
SH3	Src homology domain 3
Tfn	transferrin
TfnR	transferrin receptor
TGN	trans-Golgi-network
Tris	tris(hydroxymethyl)aminomethane
SNAP-25	synaptosomal-associated protein of 25 kD
SNARE	soluble N-ethylmaleimide-sensitive factor attachment protein receptor
VAMP	vesicle-associated membrane protein
VSVG	vesicular stomatitis virus G protein