

Materials List for:

Live Imaging of Nicotine Induced Calcium Signaling and Neurotransmitter Release Along Ventral Hippocampal Axons

Chongbo Zhong¹, David A. Talmage², Lorna W. Role¹

¹Department of Neurobiology and Behavior, Stony Brook University

²Department of Pharmacological Science, Stony Brook University

Correspondence to: Chongbo Zhong at chongbo.zhong@stonybrook.edu

URL: <https://www.jove.com/video/52730>

DOI: [doi:10.3791/52730](https://doi.org/10.3791/52730)

Materials

Name	Company	Catalog Number	Comments
1. Culture Media (50 ml)			
Neurobasal	GIBCO	10888022	48 ml
B-27 Supplements	GIBCO	0080085-SA	1 ml
Penicillin-Streptomycin	GIBCO	10908-010	0.5 ml
GlutaMAX Supplement	GIBCO	35050-061	0.5 ml
Brain-derived neurotrophic factor (BDNF)	GIBCO	15140-122	20 ng/ml
2. washing media (HBSS, 100 ml)			
HBSS, no calcium, no magnesium, no phenol red	GIBCO	14175-095	99 ml
HEPES (1M)	GIBCO	15630-130	1 ml
3. HEPES buffered saline (HBS) pH=7.3			
NaCl	Sigma	S9888	135 mM
KCl	Sigma	P9333	5 mM
MgCl ₂	Sigma	M8266	1 mM
CaCl ₂ ,	Sigma	C1016	2 mM
HEPES	Sigma	H3375	10 mM
Glucose	Sigma	G0350500	10 mM
4. HBS Cocktail for live imaging pH=7.3			
NaCl	Sigma	S9888	135 mM
KCl	Sigma	P9333	5 mM
MgCl ₂	Sigma	M8266	1 mM
CaCl ₂ ,	Sigma	C1016	2 mM
HEPES	Sigma	H3375	10 mM
Glucose	Sigma	G0350500	10 mM
tetrodotoxin	Tocris	1078	2 μM
bicuculline	Tocris	131	10 μM
D-AP-5	Tocris	105	50 μM
CNQX	Tocris	1045	20 μM
LY341495	Tocris	1209	10 μM
5. Calcium-free HBS pH=7.3			
NaCl	Sigma	S9888	135 mM
KCl	Sigma	P9333	5 mM
MgCl ₂	Sigma	M8266	1 mM

HEPES	Sigma	H3375	10 mM
Glucose	Sigma	G0350500	10 mM
6. 56 mM Potassium ACSF pH=7.4			
NaCl	Sigma	S9888	119 mM
KCl	Sigma	P9333	56 mM
MgSO4.7H	Sigma	M1880	1.3 mM
CaCl2	Sigma	C1016	2.5 mM
NaH2PO4	Sigma	S8282	1 mM
NaHCO3	Sigma	S5761	26.2 mM
Glucose	Sigma	G0350500	10 mM