

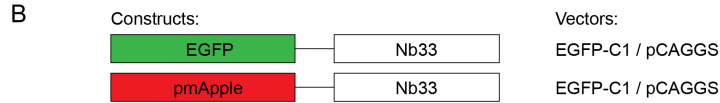
A

Nb33	1	MAQVQLVESGGGLVLRPGGSRRLSCVDSERTSYPMGWFRAPGKEREFVASITWSGIDPTY	
Nb39	1	MAQVQLVESGGGLVLRPGGSLRLSCVDSERTSYPMGWFRAPGKEREFVASITWSGIDPTY	
Nb41	1	MAQVQLVESGGGLVLRPGGSLRLSCVDSERTSYPMGWFRAPGKEREFVASITWSGIDPTY	
Nb44	1	MAQVQLVESGGGLVLRPGGSLRLSCVDSERTSYPMGWFRAPGKEREFVASITWSGIDPTY	
consensus	1	MAQVQLVESGGGLVLRPGGSLRLSCVDSERTSYPMGWFRAPGKEREFVASITWSGIDPTY	↑↑↑

Nb33	61	ADSVADRFTISRDVANNTLYLQMNLSLKHEDTAVYYCAARAPVQSSSPYDYDWGQGTQV	
Nb39	61	ADSVADRFTISRDVANNTLYLQMNLSLKHEDTAVYYCAARAPVQSSSPYDYDWGQGTQV	
Nb41	61	ADSVADRFTISRDVANNTLYLQMNLSLKHEDTAVYYCAARAPVQSSSPYDYDWGQGTQV	
Nb44	61	ADSVADRFTISRDVANNTLYLQMNLSLKHEDTAVYYCAARAPVQSSSPYDYDWGQGTQV	
consensus	61	ADSVADRFTISRDVANNTLYLQMNLSLKHEDTAVYYCAARAPVQSSSPYDYDWGQGTQV	↑↑

Nb33	121	TVSSA	
Nb39	121	TVSSA	
Nb41	121	TVSSA	
Nb44	121	TVSSA	
consensus	121	TVSSA	

→ Mapped interaction sites with μOR:
I56, P58, T59, T69, S71, V102



C

Mu-OR	1	MDSSAGPGNISDCSDPLAPASCSPAP-GSWINLSHVDGNQSDPCGPNRIQLGESHSLCFQ	
Delta-OR	1	MDL-----VPSARAELOSPLVNLSDAFPSAFPSSACANAGSGPCARS---	

Mu-OR	60	TCSPSIVTALITIMALYSIVCVVGLFENFLVMIVIVRYTKIKTATNIYIFNLALADALATS	
Delta-OR	43	--ASSIALALAIATALYSAVCAVGLLGNVLMVIGIVRYTKIKTATNIYIFNLALADALATS	

Mu-OR	120	TLPFQSVNYLMGTWPFENLCKAVLSIDYNNMETSIFTLTMSVDRYIAVCHPVKALDFR	↓ ↓ ↓
Delta-OR	101	TLPFQSAKYLMGTWPFENLCKAVLSIDYNNMETSIFTLTMSVDRYIAVCHPVKALDFR	

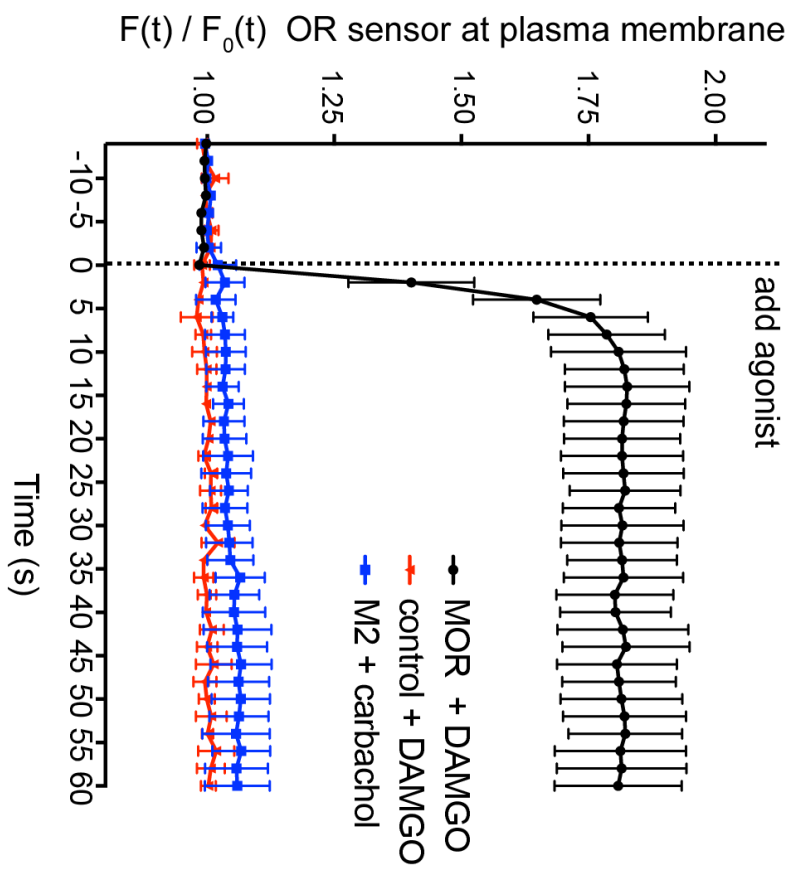
Mu-OR	180	TBRNAKIVNVCNMLSSAIGLPMFMATIKYRQGSIDETLTFSHPIWYWFNLIKICVETLF	
Delta-OR	161	TEAKAKLINICITWLASGVGPIVMVAVQPRDGAIVCMLOFPSWYWFNLIKICVETLF	

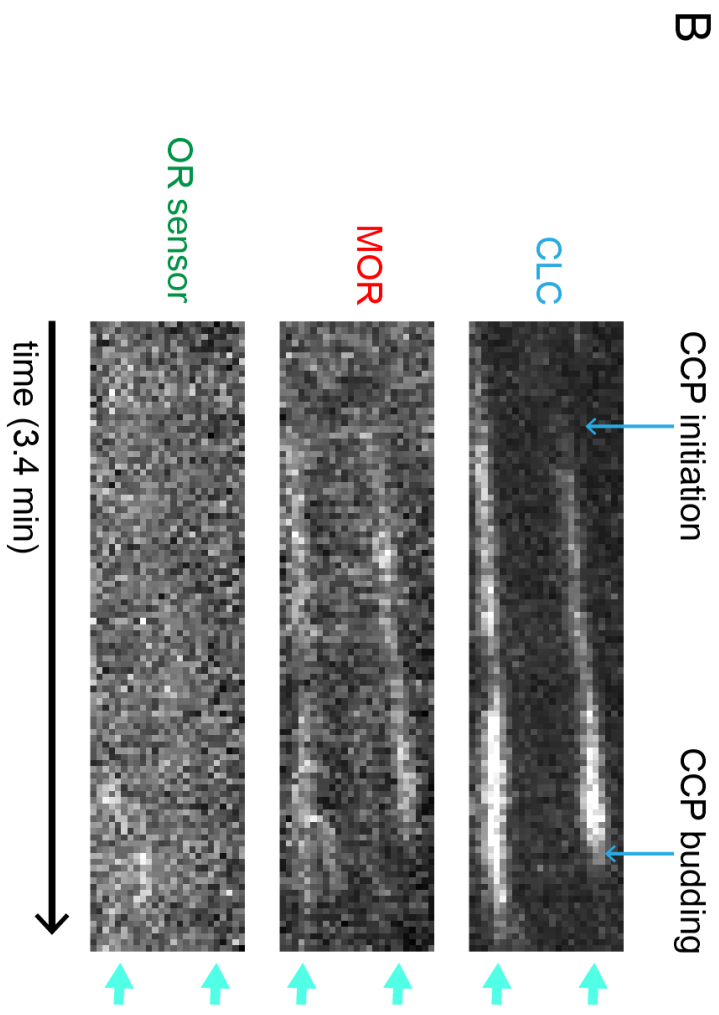
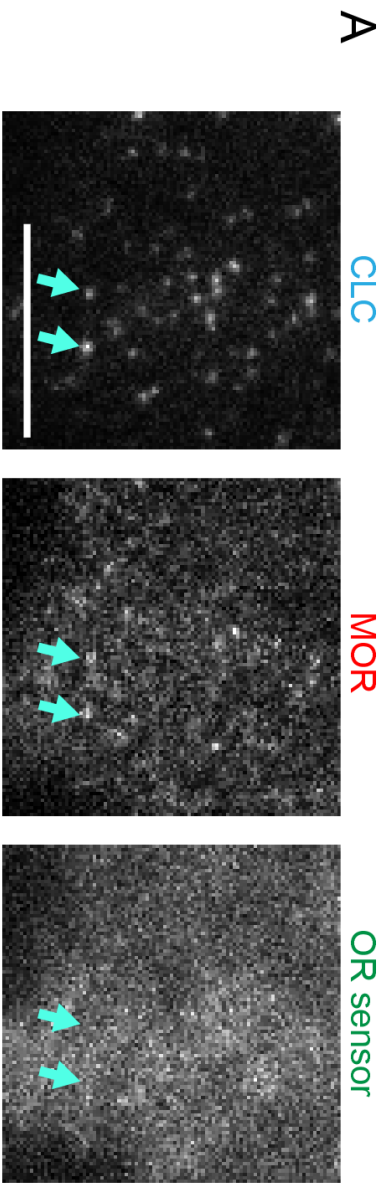
Mu-OR	240	AFVYVPLIITVCYGLMLLRLSVRMLSGSKEKDRSLRRITRMVLVVVCAEVWCWAPIHIY	↓
Delta-OR	221	AFVYVPLIITVCYGLMLLRLSVRMLSGSKEKDRSLRRITRMVLVVVCAEVWCWAPIHIY	

Mu-OR	300	VIKKALITIPETT-FQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFRFCIPTSSTI	↓
Delta-OR	281	VIKWTLVDINRRDELVVAALFLCIALGYANSSCLNPVLYAFLDENFKRCFRQLCRTPCGRQ	

Mu-OR	359	EQNSARIRQNRREHPSTANTVDRTNHQLENLEAETAPLE	
Delta-OR	341	EPGSLRRPRQATTRERVTAETESGPGGGAAA-----	

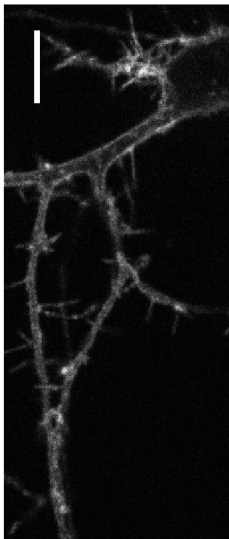
→ Mapped interaction sites with Nb39:
P172, L176, R179, E270, N342





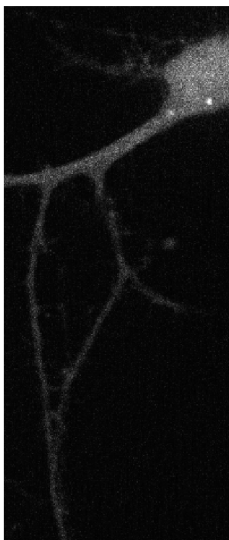
A

before agonist

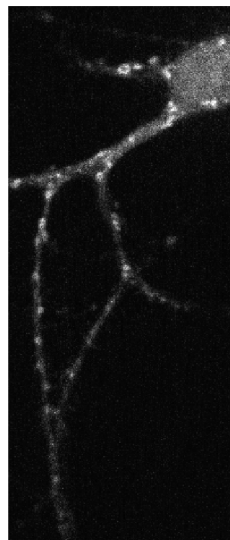
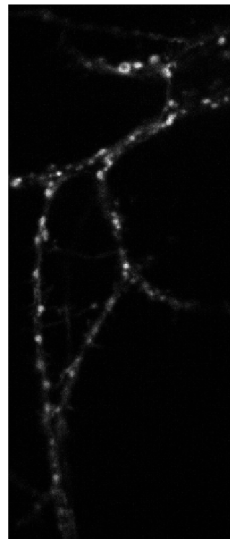


DOR

pmApple-OR sensor

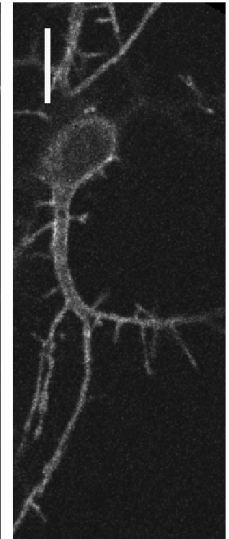


DADLE
(15 min)



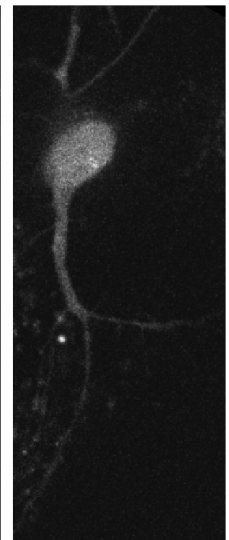
B

before agonist

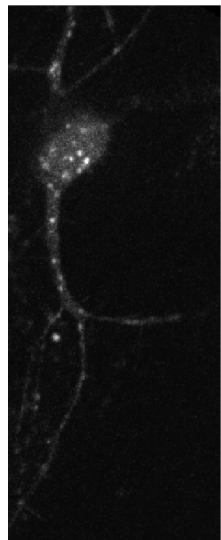
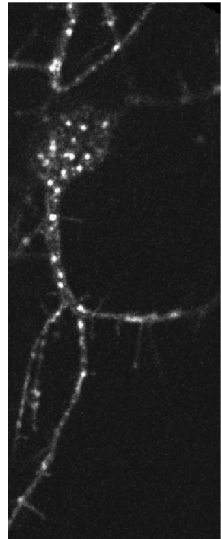


DOR

pmApple-OR sensor

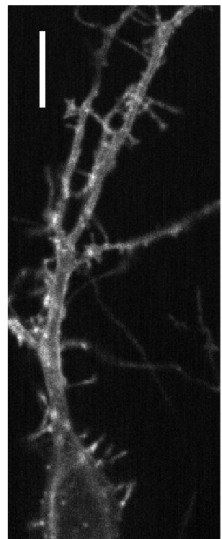


DPDPE
(15 min)



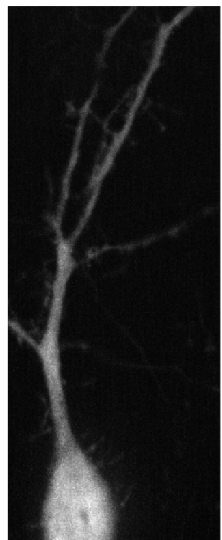
C

before agonist

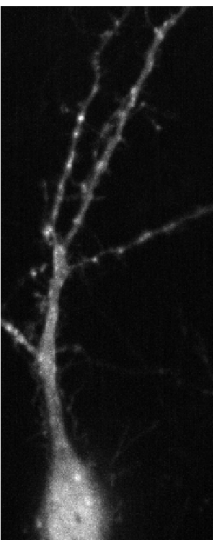
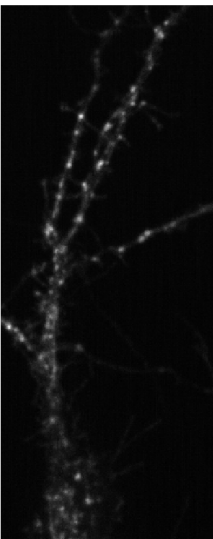


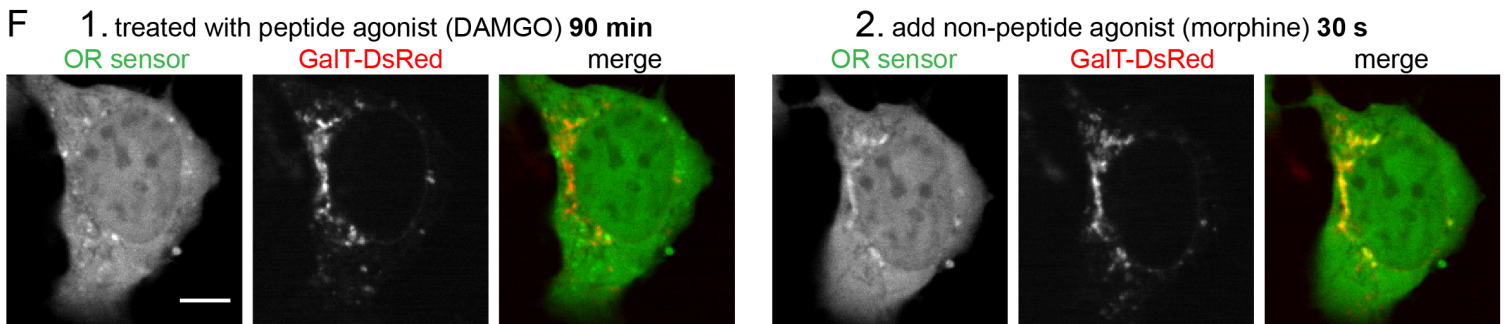
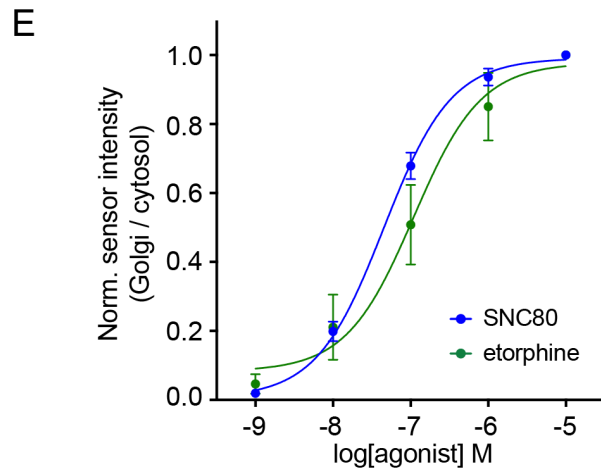
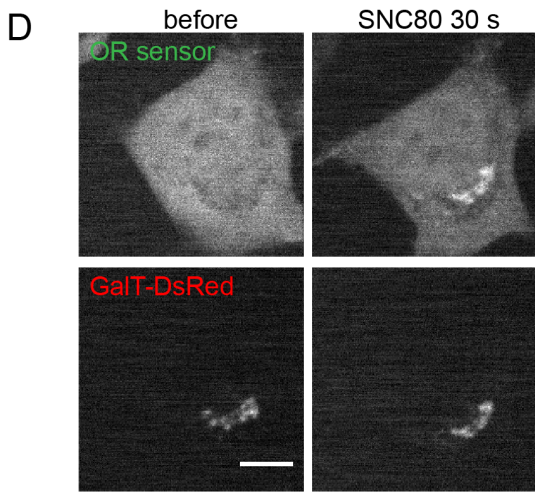
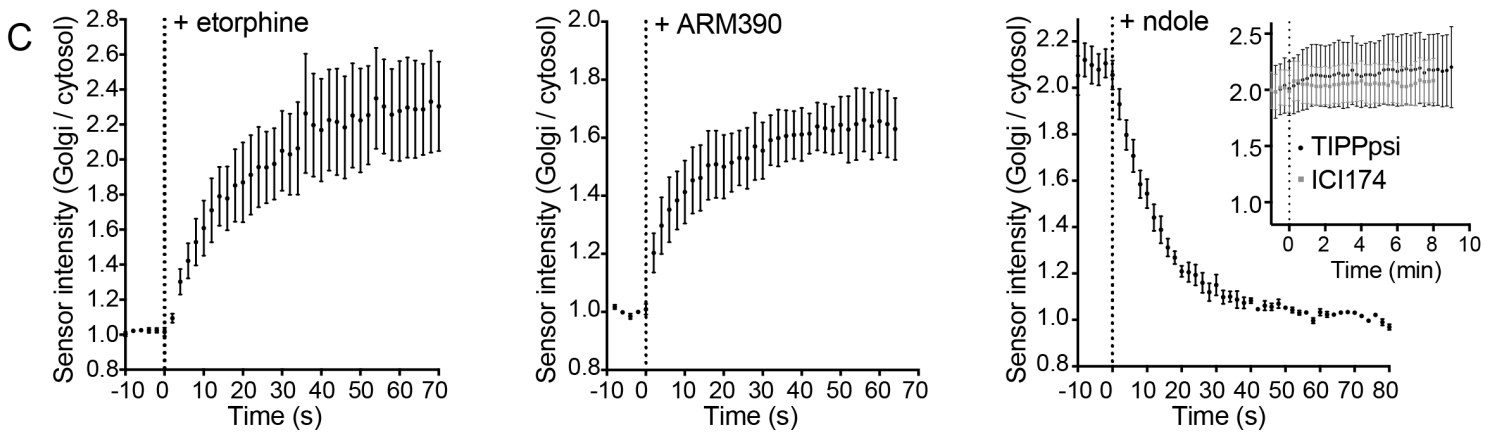
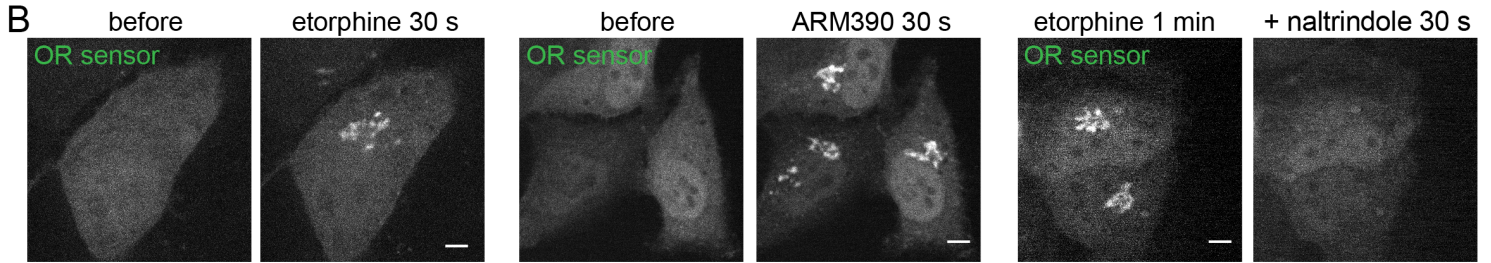
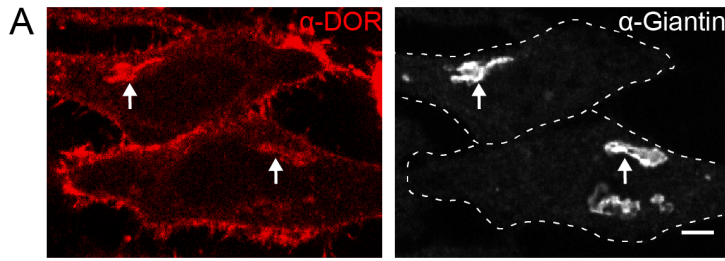
DOR

EGFP-OR sensor

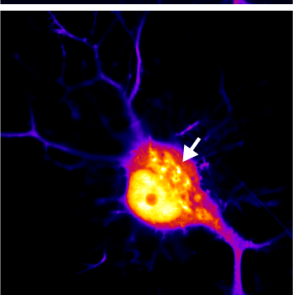
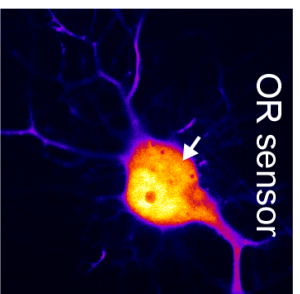
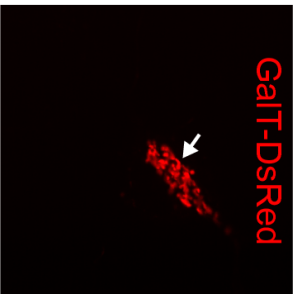
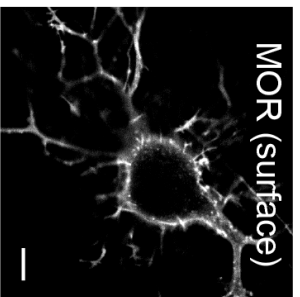


Deiorphin II
(15 min)





A



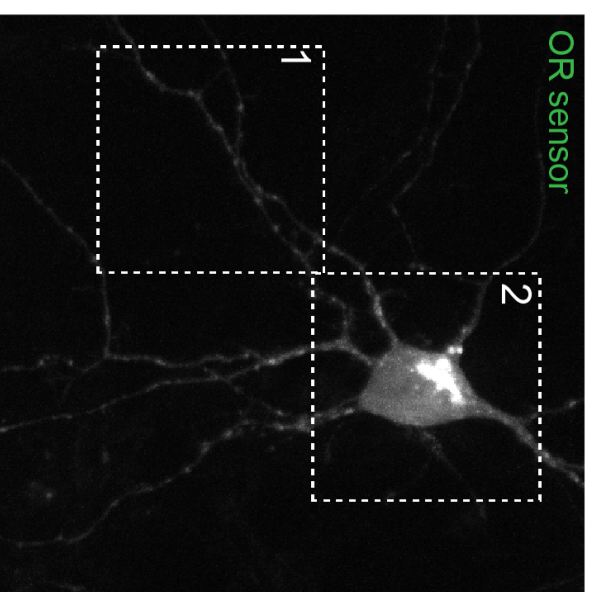
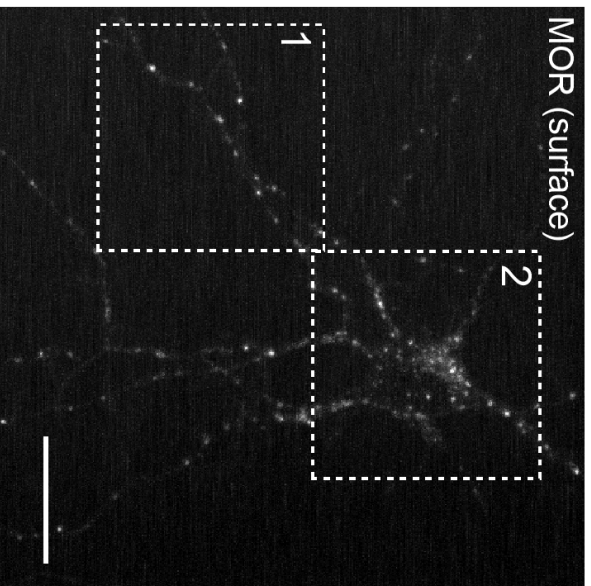
before agonist

+ etorphine 20 s

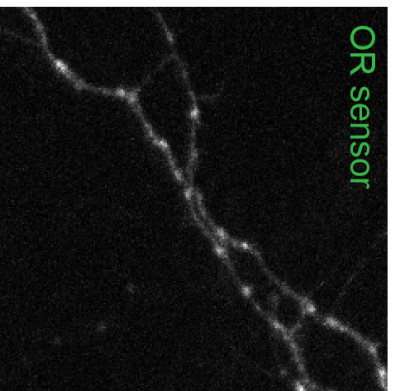
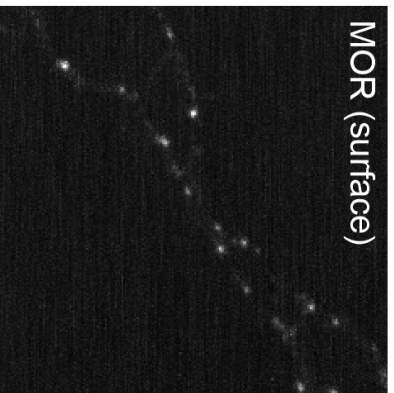


B

+ etorphine 15 min



Region 1



Region 2

