

HA Targeting	Flag	D ₁ Receptor	TM5	Linker 1	cpEGFP	Linker 2	TM6	D ₁ Receptor
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	1	20	40	60
dLight1.3b	MKTIIALSYI	FCLVFADYKD	DDAMRTLNT	SAMDGTGLVV
dLight3.6	MKTIIALSYI	FCLVFADYKD	DDAMRTLNT	SAMDGTGLVV
dLight3.8	MKTIIALSYI	FCLVFADYKD	DDAMRTLNT	SAMDGTGLVV
	80	100	120	
dLight1.3b	TLLGNTLVCA	AVIRFRHLRS	KVTNFFVISL	AVSDLLVAVL
dLight3.6	TLLGNTLVCA	AVIRFRHLRS	KVTNFFVISL	AVSDLLVAVL
dLight3.8	TLLGNTLVCA	AVIRFRHLRS	KVTNFFVISL	AVSDLLVAVL
	140	160	180	
dLight1.3b	NIWVAFDIMC	STASILNLCV	ISVDRYWAIS	SPARYERKMT
dLight3.6	NIWVAFDIMC	STASILNLCV	ISVDRYWAIS	SPARYERKMT
dLight3.8	NIWVAFDIMC	STASILNLCV	ISVDRYWAIS	SPARYERKMT
	200	220	240	
dLight1.3b	IPVQLSWHKA	KPTSPSDGNA	TSLAETIDNC	DSSLSRTYAI
dLight3.6	IPVQLSWHKA	KPTSPSDGNA	TSLAETIDNC	DSSLSRTYAI
dLight3.8	IPVQLSWHKA	KPTSPSDGNA	TSLAETIDNC	DSSLSRTYAI
	260	280	300	
dLight1.3b	IYRIAQKQLS	SLINVYIKAD	KQKNGIKANF	KIRHNIEDGG
dLight3.6	VYRIAQKQLS	SLINVYIKAD	KQKNGIKANF	KIRHNIEDGG
dLight3.8	VYRIAQKQLS	WLINVYIKAD	KQKNGIKANF	KIRHNIEDGG
	320	340	360	
dLight1.3b	PDNHLYSVQS	KLSKDPNEKR	DHMLLEFVT	AAGITLGMDE
dLight3.6	PDNHLYSVQS	KLSKDPNEKR	DHMLLEFVT	AAGITHGMDE
dLight3.8	PDNHLYSVQS	KLSKDPNEKR	DHMLLEFVT	AAGITHGMDE
	380	400	420	
dLight1.3b	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT
dLight3.6	VVPILVELDG	DVNGHKFSVS	GEGEGDATAG	KLTLKFICTT
dLight3.8	VVPILVELDG	DVNGHKFSVS	GEGEGDATAG	KLTLKFICTT
	440	460	480	
dLight1.3b	FSRYPDHMKQ	HDFEKSAMPE	GYIQERTIFF	KDDGNYKTRA
dLight3.6	FSRYPDHMKQ	HDFEKSAMPE	GYIQERTIFF	KDGNYKTRA
dLight3.8	FSRYPDHMKQ	HDFEKSAMPE	GYIQERTIFF	KDGNYKTRA
	500	520	540	
dLight1.3b	KEDGNILGHK	LEYNNHDLK	RETKVLKTLS	VIMGVFVCCW
dLight3.6	KEDGNILGHK	LEYNNHVQLK	RETKVLKTLS	VIMGVFVCCW
dLight3.8	KEDGNILGHK	LEYNNHEQLK	RETKLLKTLS	VIMGVFVCCW
	560	580	600	
dLight1.3b	FCIDSNTFDV	FVWFGWANSS	LNPIIYAFNA	DFRKAFSTLL
dLight3.6	FCIDSNTFDV	FVWFGWANSS	LNPIIYAFNA	DFRKAFSTLL
dLight3.8	FCIDSNTFDV	FVWFGWANSS	LNPIIYAFNA	DFRKAFSTLL
	620	640	660	
dLight1.3b	NGAAMFSSHH	EPRGSISKEC	NLVYLIPHAV	GSEDLLKKEE
dLight3.6	NGAAMFSSHH	EPRGSISKEC	NLVYLIPHAV	GSEDLLKKEE
dLight3.8	NGAAMFSSHH	EPRGSISKEC	NLVYLIPHAV	GSEDLLKKEE
	680			
dLight1.3b	YDTDVSLEK	IQPITQNGQHP	T	
dLight3.6	YDTDVSLEK	IQPITQNGQHP	T	
dLight3.8	YDTDVSLEK	IQPITQNGQHP	T	

Prefrontal Cortex

Nucleus Accumbens

a

dLight1.3b

dLight3.6

dLight3.8

