

**Table S3. Reported responses of biosensor targets, related to Figure 2**

Target	Biosensor/Assay	Stimulation	Cells	Ref
AMPK	ABKAR	Ionomycin	hippocampal neuron	Sample et al., 2015
ERK	EKAR, nucEKAR	PDBu	HEK293	Jimenez-Vargas et al., 2018
p38	Phospho-p38 immunoblot	Ionomycin	Neutrophil	Elzi et al., 2001
JNK	Phospho-JNK immunoblot	Ionomycin	Jurkat	Chen and Tan, 1998
RhoA	<sup>35</sup> S-Met labeling, Immunoblot	Ionomycin	intestinal epithelial cells	Rao et al., 2001
PKC	<sup>32</sup> P-labeling	Ionomycin	T cell	Chatila et al., 1989
p38	Phospho-p38 immunoblot	PDBu	cardiomyocytes, endometrial cells	Guzeloglu et al., 2004; Meus et al., 2017

**Table S4. Additional red FPs for barcoding, related to Figure 4**

Fluorophore	Source	Peak bin	Reference
iRFP702	Addgene #45456	15 (100%)	(Shcherbakova and Verkhusha, 2013)
iRFP682	Addgene #45459	14 (100%)	(Shcherbakova and Verkhusha, 2013)
iRFP670	Addgene #45466	13 (78%), 12 (22%)	(Shcherbakova and Verkhusha, 2013)
mCardinal	Addgene #54590	10 (100%)	(Chu et al., 2014)
mNeptune2	Addgene #54836	9 (98%), 8 (2%)	gift from Michael Davidson
mNeptune2.5	Addgene #51310	9 (87%/22%)	(Chu et al., 2014)
mPlum	Addgene #54839	10 (20%), 9 (80%)	(Kremers et al., 2009)
RDSmCherry1	Addgene #89987	7 (100%)	(Shen et al., 2017)
mCherry	Addgene #39319	6 (100%)	(Micutkova et al., 2012)
LSS-mKate2	Addgene #31869	Too dim	(Piatkevich et al., 2010)
mStrawberry	Addgene #54644	5 (6%), 4 (94%)	(Shaner et al., 2004)
TagRFP	Addgene #99271	3 (100%)	gift from Philipp Keller

Distribution of the peak emissions for different fluorophores. Eight fluorophores with completely separable bin numbers are shown in red.