**Sampattavanich et al., Cell Systems (2018)**

**Source code and example plots for the article "Encoding growth factor identity in the temporal dynamics of a transcription factor under combinatorial regulation" by Sampattavanich et al.**

Each piece of source code is provided in a folder containing matlab scripts and all related functions. The main function to generate related figures are highlighted in **bold** in the following table. Readme file can also be seen in the accompanied PDF file, also showing example plots. CellProfiler project files (.cpproj) are also provided for users who are interested to see our pipelines for image segmentation.

To run this code, users must download related source files and put these in the \rawdata folder placed at the top-most level of this git repository folder.

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| **Figures** | **Related files** |
| Fig.1B | **Fig1B/`createParentalVSReporter.m` (Main script)**  Rawdata/parentalVSReporter/\\*.\\* (**download**) |
| Fig.S1B and S1C | **FigS1BC/`comparedataat15min.m` (Main script)**  Rawdata/parentalVSReporter/\\*.\\* (**download**) |
| Fig.1C and S1G | **Fig1C/`fig1CS1G.m` (Main script)**  Rawdata/western/\\*.\\* (**download**) |
| Fig.S1E | **FigS1E/`pulsing\_vs\_iqr.py` (Main script)**  Rawdata/Workspaces/`130722\_SCdyn.csv` (**download**)  Rawdata/Workspaces/`130722\_Pav.csv` (**download**) |
| Fig.1D and 2A&B | **Fig1D-2AB/`fig1D.m` (Main script)**  **Fig1D-2AB/`fig2A.m` (Main script)**  **Fig1D-2AB/`fig2B.m` (Main script)**  Rawdata/Workspaces/`site\_x.mat` for x = 4, 17, 37, 44, 57, 64(**download**)  Rawdata/Workspaces/`harm\_basis\_130722\_corrected\_retracked\_all\_cleaned\_late.mat` (**download**)  Rawdata/Workspaces/`fourier\_signals\_corrected\_cleaned\_newBTC2.mat` (**download**) |
| Fig.3 and S2 | **Fig3-S2/`fig3A.m` (Main script)**  **Fig3-S2/`fig3B.m` (Main script)**  **Fig3-S2/`fig3C.m` (Main script)**  **Fig3-S2/`fig3D.m` (Main script)**  **Fig3-S2/`figS2A.m` (Main script)**  **Fig3-S2/`figS2B.m` (Main script)**  **Fig3-S2/`figS2C.m` (Main script)**  Rawdata/Workspaces/`site\_x\_130722\_corrected\_retracked\_all\_cleaned.mat` for x = 17, 57, 64(**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_newBTC.mat` (**download**)  Rawdata/Workspaces/`harm\_basis\_fPCA\_5basis\_noFGF\_newBTC\_rot.mat` (**download**)  Rawdata/Workspaces/`harm\_basis\_50\_to\_600.mat` (**download**)  Rawdata/Workspaces/`harm\_basis\_130722\_corrected\_retracked\_all\_cleaned\_late.mat` (**download**)  Rawdata/Workspaces/`site\_4\_130722\_corrected\_retracked\_all\_paper\_cleaned.mat` (**download**)  Rawdata/Workspaces/`130722\_SCfeat.csv` (**download**) |
| Fig.4, S3 and S5A&B | **Fig4-S3-S5AB/`fig4AB.m` (Main script)**  **Fig4-S3-S5AB/`fig4CDS3DS5AB.m` (Main script)**  **Fig4-S3-S5AB/`figS3A.m` (Main script)**  **Fig4-S3-S5AB/`figS3B.m` (Main script)**  **Fig4-S3-S5AB/`figS3C\_lower.m` (Main script)**  **Fig4-S3-S5AB/`figS3C\_upper.m` (Main script)**  Rawdata/Workspaces/` site\_x\_130722\_corrected\_retracked\_all\_cleaned.mat` for x = 17, 57, 64(**download**)  Rawdata/Workspaces/`harm\_basis\_fPCA\_5basis\_noFGF\_newBTC\_rot.mat` (**download**)  Rawdata/Workspaces/` harm\_basis\_130722\_corrected\_retracked\_all\_cleaned\_late\_newBTC.mat` (**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_newBTC.mat` (**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_AKTi.mat` (**download**)  Rawdata/Workspaces/`scores\_puls\_corrected\_retracked\_all\_cleaned\_newBTC.mat` (**download**)  Rawdata/Workspaces/`scores\_puls\_corrected\_retracked\_all\_cleaned\_newBTC\_ATKi.mat` (**download**) |
| Fig.5A and S4B&D | **Fig5A-S4BD/`fig5AS4BD.m` (Main script)**  Rawdata/Workspaces/`site\_x\_04-15-2014\_all\_paper\_cleaned.mat` for x = 1,3,5,7,9,11,14,16,18,20,22,24,25,27,29,31,33,35,38,40,42,44,46,48,49,51,53,55,57,59 (**download**)  Rawdata/Workspaces/`scores\_04-15\_new.mat` (**download**) |
| Fig.5B and S4C | **Fig5B-S4C/`fig5BS4C.m` (Main script)**  Rawdata/Workspaces/`site\_x\_130722\_corrected\_retracked\_all\_paper\_cleaned.mat` for x = 1,2,4,37,39,40,41,42,44,61,62,64 (**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_AKTi.mat` (**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_MEKi.mat` (**download**)  Rawdata/Workspaces/`scores\_early\_5basis\_noFGF\_newBTC.mat` (**download**)  Rawdata/Workspaces/`scores\_puls\_corrected\_retracked\_all\_cleaned\_newBTC.mat` (**download**)  Rawdata/Workspaces/`scores\_puls\_corrected\_retracked\_all\_cleaned\_newBTC\_ATKi.mat` (**download**)  Rawdata/Workspaces/`scores\_puls\_corrected\_retracked\_all\_cleaned\_newBTC\_MEKi.mat` (**download**) |
| Fig.5C | **Fig5C /`fig5C.m` (Main script)**  Rawdata/Workspaces/`dists\_04182014.mat` (**download**) |
| Fig.5D | **Fig5D/`fig5D.m` (Main script)**  Rawdata/Workspaces/`c\_signal\_03302014.mat` (**download**)  Rawdata/Workspaces/`dists\_04182014.mat` (**download**)  Rawdata/Workspaces/`scores\_04182014.mat` (**download**) |
| Fig.6B | **Fig6B/`plot\_exampleEKAREVvsF3aN400.m` (Main script)**  **Fig6B/`calculate\_correlation.m` (Main script)**  Rawdata/dualsensors/\\*.\\* (**download**) |
| Fig.6C | **Fig6C/`fig6C.m` (Main script)**  Rawdata/Workspaces/`140215\_SCdyn\_rev1.csv` (**download**) |
| Fig.6D | **Fig6D/`fig6D.m` (Main script)**  Rawdata/Workspaces/`scores\_03242014.mat` (**download**) |
| Fig.7B | **Fig7/`analysis\_median\_iqr\_rotation.m` (Main script)**  Rawdata/fixedcell/\\*.\\* (**download**) |
| Fig. 7C, S7A, S7B | **Fig7/`plot\_inhib\_effect.m` (Main script)**  Rawdata/fixedcell/\\*.\\* (**download**) |
| Fig. 7D, S7E, S7F | **Fig7/`run\_sensitivity.m` (Main script)**  Rawdata/fixedcell/\\*.\\* (**download**) |