McGill Platform for Cellular Perturbation (MPCP)

**Mission:** Support functional investigations of mammalian genomes with complementary means of genetic perturbation.

**Management:**
- **Director:** Sid Huang, PhD
- **Manager:** Azadeh Arabzadeh, PhD
- **Lab helper:** Mark Liao

**Service:** Rapid & low-cost access to genome-wide plasmid libraries (arrayed & sequence-verified bacterial glycerol stocks).

- **shRNA:** MISSION® Human & Mouse lentiviral shRNA libraries (TRC1, 1.5 and 2)
- **cDNA:** MISSION® TRC3 Human lentiviral ORF collection
  - MGC premier human lentiviral ORF
  - ORFeome Collaboration collection, ORFeome v8.1 Libraries
  - MGC premier mouse ORFeome Collaboration Library
- **CRISPR:** TransEDIT-dual lentiviral CRISPR library, Human
McGill Platform for Cellular Perturbation Services

Service Request

Placing the request online

Please use the following links for your clone search and service order: shRNA, CRISPR, or ORF. These are McGill campus-restricted websites. To access off-campus, please connect through VPN.

shRNA
Mission TRC complete
Human & mouse genome-wide

sgRNA
Human genome-wide

ORF
Human genome-wide collections
Mouse - small collection

ORF libraries available:
- Human ORFs in lentiviral expression vectors
  - pLX317 (puromycin resistance marker)
  - pLX304 (blasticidin resistance marker)
- Human ORFs in Entry (Gateway cloning compatible) vectors
- Mouse ORFs in Entry (Gateway cloning compatible) vectors

All libraries were generated by members of the ORFeome Collaboration. (http://www.orfeomecollaboration.org)

Please note that the clones were sequence-verified, but they are not necessarily perfect matches to the transcript's sequence. Please verify each clone's sequence before ordering.

Sequences are available either on the Broad Institute's website or on NCBI.

Broad Institute: (http://portals.broadinstitute.org/gpp/public/clone/search)

Human CRISPR knockout library in pCLIP-Dual-SFFV-ZsGreen vector:
- 2 sgRNAs/vector targeting the same gene
- Bacterial selection: Carbenicillin (or ampicillin) and zeocin resistance
- Mammalian selection: Puromycin resistance and ZsGreen expression
- Includes 25-bp barcode for pooled applications

Negative control vectors available:
- 13 scrambled gRNA controls (search for *scrambled*"
- gRNA targeting Luciferase (search for "luciferase"

Cas9 nuclease vectors available:
- Choice of 3 different promoters for Cas9 expression: EFS, hCMV, TRE3G
- Mammalian selection: either Blasticidin resistance or TRFP expression
- Bacterial selection: ampicillin
- Order TET3G vector separately to use with TRE3G promoter vectors
- Search for "Cas9" or "TET3G" to find those vectors

Note 1: you can use * (asterisk character) to match one or more characters in gene symbol.
Note 2: you can use + to perform several searches at the same time (eq: BRSK2 + AAK1)
Note 3: Please refer the SigmaAldrich (add link below) for additional information including knockdown validation.