**CRITICAL VALUES**

- **Genome/Assembly**
  - clado: mammal
  - genome: human
  - assembly: hg19

- **Chromosomes and Coordinates**
  - Chromosome: chr16
  - from: 23597600
  - to: 23597933

- **Primer Size**
  - Primer_MIN_SIZE: 18
  - Primer_OPT_SIZE: 20
  - Primer_MAX_SIZE: 27

- **Primer Tm**
  - Primer_MIN_TM: 58.0
  - Primer_OPT_TM: 60.0
  - Primer_MAX_TM: 63.0

- **Temp File Locations**
  - File: temp/example.txt
  - TempFile: temp2/leaf.html

**Desired PCR Product Size Range**
- Primer PRODUCT_SIZE RANGE: 100-300

**Primer mispriming library location**
- Primer_MISPRIMING_LIBRARY:

**Other Values**
These are all Primer3 parameters and are infrequently adjusted. See Primer3 documentation for details.

- PRIMER_PICK_INTERNAL_Oligo: 0
- PRIMER_SEQUENCE_ID: exampleID
- PRIMER_NUM_RETURN: 5
- PRIMER_MAX_MISPRIMING: 12.0
- PRIMER_MAX_TEMPLATE_MISPRIMING: 12.0
- PRIMER_SELF_ANY: 8.0
- PRIMER_MAX_END_STABILITY: 9.0
- PRIMER_PAIR_MAX_MISPRIMING: 24.0
- PRIMER_PAIR_MAX_TEMPLATE_MISPRIMING: 24.0
- PRIMER_SELF_END: 3.0
- PRIMER_LOWERCASE_MASKING: 0
- PRIMER_NUM_NS_ACCEPTED: 1
- PRIMER_LIB_AMBIGUITY_CODES_CONSENSUS: 0
- PRIMER_FILE_FLAG: 1
- PRIMER_EXPAN_FLAG: 1

---

User must have R, primer3_core, Ghostscript, and ImageMagick properly downloaded, installed, and configured on the system.

**primer3_core can be downloaded from:**
http://sourceforge.net/projects/primer3/files

**Ghostscript can be downloaded from:**
http://sourceforge.net/projects/ghostscript/files

**ImageMagick can be downloaded from:**
http://sourceforge.net/projects/imagemagick/files

**TO CHANGE UCSC TRACKS DISPLAYED ON OUTPUT**

The webpage output from UCSC genome browser may be altered by changing parameters in the URL expression within the UCSCImage actor. Only 1 URL needs to be changed, the URL2 slot does not need alteration.

See UCSC genome browser documentation (online at browser) for methods.