

## Data Sheet

### ***Cas9 Expressing Jurkat cell pool***

**Catalog #: 78070**

#### **Description**

Cas9 (*Streptococcus pyogenes* CRISPR associated protein 9) is an endonuclease enzyme that, when recruited to a specific DNA sequence by the sgRNA (single guide RNA), introduces a double stranded break into the DNA. This double stranded break is repaired in mammalian cells either through Non-Homologous End Joining or Homologous Recombination. Non-Homologous End Joining often results in the deletion or insertion of several base pairs at the cut site, which, when resulting in a frameshift, causes the functional inactivation of the targeted gene. Cas9 expressing Jurkat cell pool can be transduced or electroporated with sgRNA targeting a gene of interest to quickly generate knock-out cell pools or cell lines.

#### **Application**

1. Quickly generating knock-out cell pools or cell lines in Jurkat cells.
2. Implementing sgRNA screens in Cas9 expressing Jurkat cells.

#### **Format**

Each vial contains  $\sim 2 \times 10^6$  cells in 1 ml of FBS with 10% DMSO.

#### **Storage**

Immediately upon receipt, store in liquid nitrogen.

#### **Culture conditions**

**Thaw Medium 2 (BPS Bioscience, #60184):** RPMI 1640 medium supplemented with 10% FBS, 1% Penicillin/Streptomycin

**Growth Medium 2K (BPS Bioscience, #78078):** RPMI 1640 medium supplemented with 10% FBS, 1% Penicillin/Streptomycin plus 0.25  $\mu\text{g/ml}$  of Puromycin to ensure recombinant expression.

Cells should be grown at 37°C with 5% CO<sub>2</sub> using Growth Medium 2K to ensure recombinant expression is maintained.

It is recommended to quickly thaw the frozen cells from liquid nitrogen in a 37°C water-bath, and then transfer the entire contents of the vial to a tube containing 10 ml of Thaw Medium 2 (**no Puromycin**). Then spin the cells down, remove the supernatant, and resuspend the cells in 5 ml of pre-warmed Thaw Medium 2 (**no Puromycin**). Transfer the resuspended cells to a T25 flask and incubate at 37°C in a 5% CO<sub>2</sub> incubator. After 24 hours of culture, add an additional 3-4 ml of Thaw Medium 2 (**no Puromycin**). At first passage, switch to Growth Medium 2K (contains Puromycin). Cells should be split before they reach  $2 \times 10^6$  cells/ml.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [support@bpsbioscience.com](mailto:support@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)

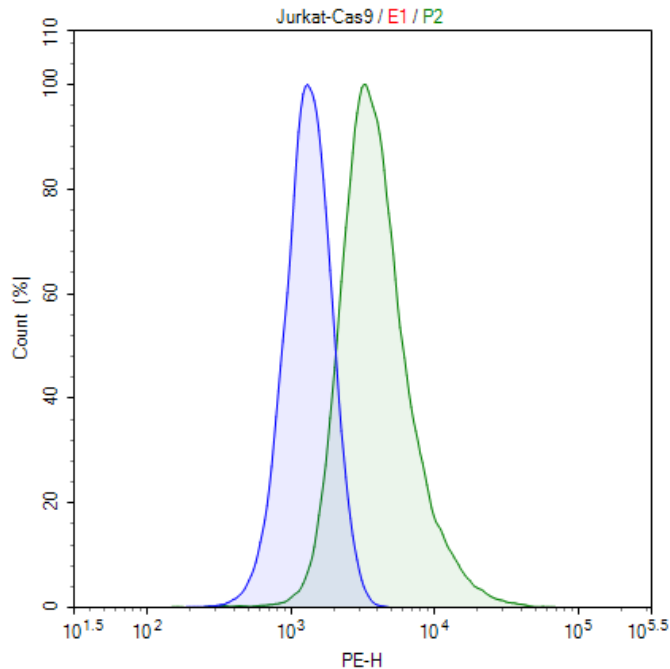
**Cryopreservation:** When cells reach 90% confluency, spin cells, and remove medium from the pellet. Resuspend the cells in freezing medium (10% DMSO in FBS). Freeze cells using a reduced rate freezing box (-0.5°C to -1°C per minute) down to -80°C, then move cells to liquid nitrogen for long term storage. Cells have been demonstrated to be stable for at least 15 passages; BPS recommends preparing frozen stocks so cells are not used beyond passage 20.

### Mycoplasma Testing

This cell pool has been screened using the MycoAlert™ Mycoplasma Detection Kit (Lonza, #LT07-118) to confirm the absence of Mycoplasma contamination. MycoAlert Assay Control Set (Lonza, #LT07-518) was used as a positive control.

### Validation

Expression of Cas9 was confirmed by flow cytometry.



**Figure 1. Expression of Cas9 in a Jurkat cell pool.**

Flow cytometry analysis of intracellular expression of Cas9 in a Jurkat cell pool. The cell pool was stained with PE anti-FLAG antibody (BioLegend, #637309) and analyzed by FACS. Parental Jurkat cells are shown in blue, and the Cas9-expressing Jurkat cell pool is shown in green.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [support@bpsbioscience.com](mailto:support@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)



6405 Mira Mesa Blvd Ste 100  
San Diego, CA 92121  
Tel: 1.858.202.1401  
Fax: 1.858.481.8694  
Email: support@bpsbioscience.com

### Vector and Sequence

*Streptococcus pyogenes* Cas9, including a C-terminal FLAG tag, was transduced via lentivirus (BPS Bioscience, #78066).

MDKKYSIGLDIGTNSVGWAVITDEYKVPSSKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLK  
RTARRRYTRRKNRICYLQEIFSNEMAKVDDSSFFHRLEESFLVEEDKKHERHPHFGNIVDEVAYH  
EKYPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVDFLFIQLVQTYNQL  
FEENPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNLFGNLIASLGLTPNFKSNFDLAED  
AKLQLSKD TYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDE  
HHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVK  
LNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGPLARG  
NSRFAWMTRKSEETITPWNFEEVVDKGASQSFIERMTNFDKNLPNEKVLPKHSLLEYEFTVY  
NELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDR  
FNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK  
RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSLTFKEDIQKAQVSGQ  
GDSLHEHIANLAGSPAIKKGIQTVKVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER  
MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQ  
SFLKDDSIDNKVLRSDKNRGSNDNVPSEEVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGG  
LSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFY  
KVREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFF  
YSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNVKKTEVQTG  
GFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVAKVEKGKSKLKS VKELLGITI  
MERSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYV  
NFLYLASHYEKLGKSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH  
DKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLG  
GDKRPAATKKAGQAKKKKDYKDDDDK

### Related Products

<b>Product</b>	<b>Cat. #</b>	<b>Size</b>
Cas9 Expressing Raji cell pool	78071	2 vials
Cas9 Expressing MDA-MB-231 cell pool	78069	2 vials
Cas9 Expressing A549 cell pool	78072	2 vials
Cas9 Expressing HCT116 cell pool	78073	2 vials
Cas9 Lentivirus (puromycin selection)	78066	500 µl x 2
Cas9, His-tag ( <i>S. pyogenes</i> )	100206-1	50 µg

### Notes

*The CRISPR/CAS9 technology is covered under numerous patents, including U.S. Patent Nos. 8,697,359 and 8,771,945, as well as corresponding foreign patents applications, and patent rights.*

### License Disclosure

Visit [bpsbioscience.com/license](http://bpsbioscience.com/license) for the label license and other key information about this product.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [support@bpsbioscience.com](mailto:support@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)