

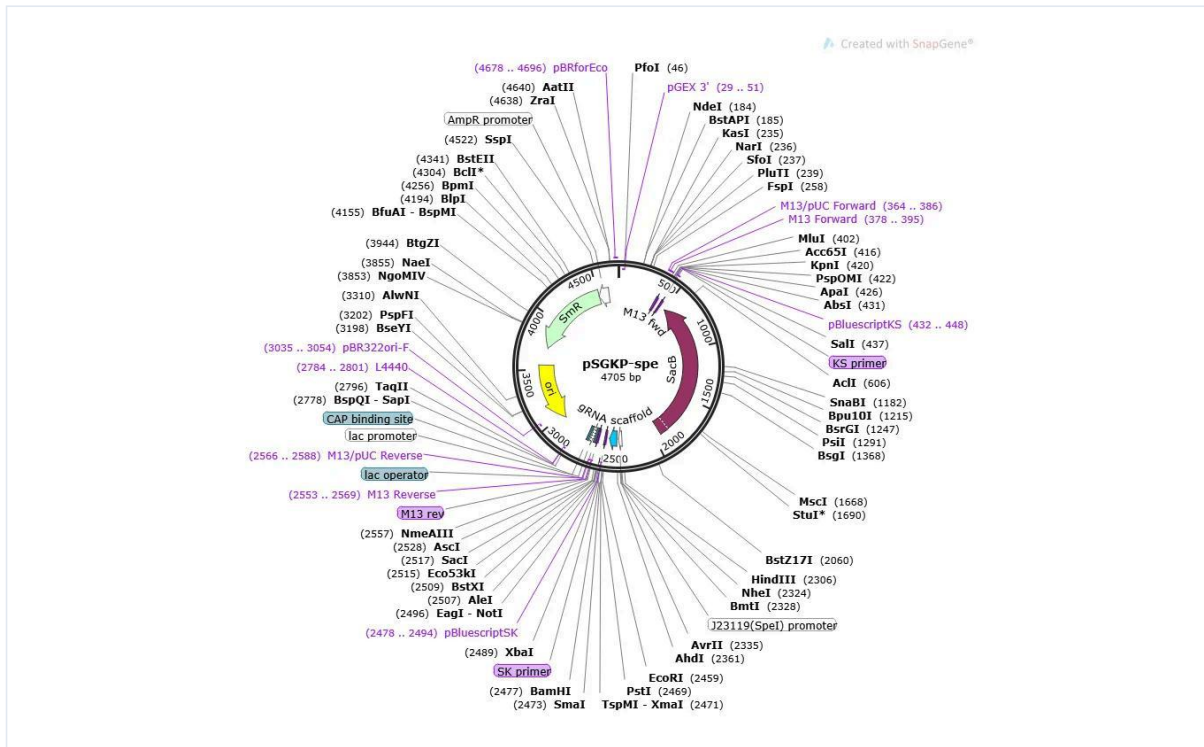
# pSGKP-spe Plasmid

SPECIFICATION MANUAL — CATALOG NO. PVTY01216 (ALIAS NO.117234)

## PRODUCT TECHNICAL PROFILE

|                        |                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------|
| Catalog Number         | PVTY01216                                                                                    |
| Product Name           | pSGKP-spe Plasmid                                                                            |
| Alias / Clone ID       | No.117234                                                                                    |
| Vector Type            | CRISPR Gene Knockout Empty Vector                                                            |
| Fragment Type          | CRISPR                                                                                       |
| Promoter               | J23119 (constitutive bacterial promoter)                                                     |
| Prokaryotic Resistance | Spectinomycin (Spe)                                                                          |
| Replicon               | pUC (high-copy number)                                                                       |
| Copy Number            | High (~500-700 copies/cell)                                                                  |
| Host Organism          | Escherichia coli DH5α                                                                        |
| Culture Temperature    | 37°Celsius                                                                                   |
| Plasmid Size           | ~4,705 bp                                                                                    |
| Form                   | Lyophilized powder / 2µg per vial                                                            |
| Applications           | Gene knockout, genome engineering, CRISPR-Cas9 mediated gene disruption in bacterial systems |
| Species Origin         | Empty vector backbone (no species-specific insert)                                           |

## PLASMID VECTOR MAP



SEQUENCE INFORMATION

|              |                                                                                                                                  |             |             |                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|----------------------------------|
| LOCUS        | pSGKP_spe                                                                                                                        | 4705 bp     | DNA         | circular SYN 01-AUG-2025         |
| DEFINITION   | pSGKP-spe CRISPR gene knockout empty vector with J23119 promoter, spectinomycin resistance via aadA, and high-copy pUC replicon. |             |             |                                  |
| ACCESSION    | PVTY01216                                                                                                                        |             |             |                                  |
| VERSION      | PVTY01216.1                                                                                                                      |             |             |                                  |
| SOURCE       | synthetic DNA construct                                                                                                          |             |             |                                  |
| ORGANISM     | Escherichia coli vector                                                                                                          |             |             |                                  |
| FEATURES     | Location/Qualifiers                                                                                                              |             |             |                                  |
| source       | 1..4705<br>/organism="Escherichia coli"<br>/mol_type="other DNA"                                                                 |             |             |                                  |
| promoter     | 1..35<br>/gene="J23119"<br>/note="Anderson constitutive promoter"                                                                |             |             |                                  |
| rep_origin   | 36..1200<br>/note="pUC origin of replication (high-copy)"                                                                        |             |             |                                  |
| CDS          | 1201..1950<br>/gene="aadA"<br>/product="aminoglycoside adenyltransferase"<br>/note="spectinomycin/streptomycin resistance"       |             |             |                                  |
| misc_feature | 2001..2100<br>/note="sgRNA scaffold under J23119 promoter"                                                                       |             |             |                                  |
| terminator   | 2101..2150<br>/note="rrnB T1 terminator"                                                                                         |             |             |                                  |
| ORIGIN       |                                                                                                                                  |             |             |                                  |
| 1            | tcgcgCGgttt                                                                                                                      | cggTGATGAC  | ggtGAAAACC  | tctGACACAT cgacCTCCCC gagacGGTCA |
| 61           | cAGCTTGtCTG                                                                                                                      | TAAGcGGATG  | ccGGGAgcAG  | acaAGccCGT caggGcgCGT            |
| 121          | cAGcGGGTGT                                                                                                                       | TGGcGGGTGT  | cGGGGctGGc  | tTAACtATGC ggCATcAGAG            |
| 181          | cAGATTGTAc                                                                                                                       | TGAGAGTGCA  | cCATatGcGG  | tgtGAAatac CGCACagaTG            |
| 241          | cgTAAGGAGA                                                                                                                       | AAAtaccGCa  | tcagGcgCCA  | TTcGcgATTc aggcGcgCA             |
| 301          | acTGTTGGGa                                                                                                                       | agGGcGATcg  | GTGcGGGcCT  | cTTCGctatt aCGCCAGctG            |
| 361          | GcGAAAGGGG                                                                                                                       | gATGTGctGc  | aAGGcgatta  | agTTGGGtaa cgccagGGTT            |
| 421          | TTCCcAGTCA                                                                                                                       | cgacGTTgta  | aaacGacGGc  | cAGTgaattg acGcgTattG            |
| 481          | GGatGGTAcC                                                                                                                       | gGGccccccc  | tcgagGtcGA  | cGGtatCGat acGGcatcAG            |
| 541          | AGcAGATTGT                                                                                                                       | actGAGAGTG  | cacCATAATc  | GGCATTTTCT TTTGcGTTTT            |
| 601          | TATTTGTAAa                                                                                                                       | ctGTTaatTG  | tcCTTgTTca  | aGGatGCTGT cTTTGACAAC            |
| 661          | AGatGTTTCT                                                                                                                       | TGCCTTTGat  | GTTCAGcAGG  | aAGctaGGcg caaacGTTga            |
| 721          | TTGTTTGTCT                                                                                                                       | GcgTAGAatc  | CTCTGTTTGT  | cataTagctt gTAatcacGA            |
| 781          | cattGTTTCC                                                                                                                       | TTTCGcttGa  | gGTacaGcGa  | aGTGTGagTa aGTaaagGTT            |
| 841          | acatCGTTaG                                                                                                                       | gatcaaGatc  | catTTTTTAAC | ACAaGCCaGT TTTGTTcAGC            |
| 901          | GGcttgTatG                                                                                                                       | GGccaGTTaa  | aGaattaGaa  | aCataaCCaa GCatGTaaat            |
| 961          | atCGTTaGac                                                                                                                       | GTAatGCCGT  | caatCGTCat  | TTTTGatccc cGGGagTcAG            |
| 1021         | tGAacagaTA                                                                                                                       | ccatTTGCCG  | TTcattTTTaa | agacGTTcGc GCGTTcaatt            |
| 1081         | TCatCTGTTa                                                                                                                       | ctGTTTAGat  | GcaatcAGcG  | gTTTCatcac TTTTTCagT             |
| 1141         | GTGTAAatcat                                                                                                                      | CGTTTagctc  | aatcataccG  | agagcGCCGt ttGctaaactc           |
| 1201         | agccGTGcGT                                                                                                                       | TTTTTAtcGC  | tTTGcAGaa   | GTTTTtGact TTTCTTGacG            |
| 1261         | GaAGaatGat                                                                                                                       | GTGCTTTTGC  | cATaTatGCT  | TTGTTaataa aGattCTTCG            |
| 1321         | CCTTGGtagc                                                                                                                       | CATctTcAGT  | TCCagTGTTT  | GCTTcaaata cTaagTatTT            |
| 1381         | GTGGcCTTTa                                                                                                                       | TCTTCTacGT  | aGTGagGatc  | TCTcAGcGta TGGTTGTCGC            |
| 1441         | CTGagctGta                                                                                                                       | GTTGCCCTTca | tcGatGaact  | GctGTacatt ttGatacGTT            |
| 1501         | TTTCCGTcac                                                                                                                       | cGTcaaagaT  | TGAATTataa  | tcCTCTaac cGTTGatGTT             |
| 1561         | caaagaGctG                                                                                                                       | TCTGatGctG  | atacGTTaac  | TTGTGcaGTT                       |
| 1621         | GTCagTGTTT                                                                                                                       | gTTTGccGTA  | atGTTTaccG  | gagAAatcAG                       |
| 1681         | TGTaGataaa                                                                                                                       | cGGatTTTTc  | cGTCagaTGT  | aaatGTGGct GAacctGacc            |
| 1741         | attCTTgTTT                                                                                                                       | GGTctTTTAG  | gatAGaatca  | TTTGcGcGta aTTGTGCGCT            |
| 1801         | GTCTTTaaag                                                                                                                       | acGcGGccag  | cGTTTTTcca  | gctGTcaata gaagTTTCGC            |
| 1861         | CGactTTTTG                                                                                                                       | ataGAacatg  | TaaatcGatG  | TGTcatccGc attTTTtagGa           |
| 1921         | tCTCcGGcta                                                                                                                       | atGcaaaga   | cGatGTGgTa  | GCCGTgatag TTTGcGacag            |
| 1981         | TGccGTcagc                                                                                                                       | GTTTTgtaat  | GGccagctGT  | cCCCAaAGT ccagGcctTT             |
| 2041         | tGcagaaga                                                                                                                        | gatatTTTTa  | attGTGgacG  | aatcGAaATC aggaAactTga           |
| 2101         | tatTTTTTCat                                                                                                                      | TTTTTTGctg  | TTcagGgatt  | TGCagcataT catGGcGTGT            |
| 2161         | aataTGGGaaa                                                                                                                      | tGCCGTatGT  | TTCTTataT   | GGctTTTGGT tcGTTTCTTT            |
| 2221         | cGCAaAcGct                                                                                                                       | tgagTTGcGC  | cTCctGccaG  | cagTGcGGta gTaaagGtta            |
| 2281         | ataCTGTtGc                                                                                                                       | TTGTTTTGca  | aactTTTTGa  | tGTTcATCGT TcatGTCTcc            |
| 2361         | TTTTTatGtac                                                                                                                      | TGTgTTaGcG  | gtCTGCTtCT  | tCCagccctc cTGTTTgaag            |
| 2421         | atGGcaagTT                                                                                                                       | agTTacGcac  | aataAAAAAa  | gacCTaaaat atGTAagGGG            |
| 2481         | tGacGccaaa                                                                                                                       | gTatacactt  | TGCCTTTTaca | catTTTtagt cTTGCCGTGCT           |
| 2541         | TTatcagTaa                                                                                                                       | caaaCCCCGc  | GCGatTTact  | tTTTCgacct cattctatta            |
| 2601         | gactCTcGTT                                                                                                                       | tGGattGcaa  | ctGGTctatt  | TTCTcttTTT gTTTGataga            |
| 2661         | aaatcataaa                                                                                                                       | aGgattTtGca | gactacGGGc  | cTaaagaact aaaaaatcta            |
| 2721         | tCTGTTTCTT                                                                                                                       | TTcattctct  | gtaTTTTtTa  | tagTTTCTGT TGCatGGGca            |
| 2781         | taagTTGcaa                                                                                                                       | gctTGatata  | ttGacagcta  | gctcagtcct                       |
| 2841         | aggTataata                                                                                                                       | cTagTCgag   | accattGGTc  | tcagTTTTAG agctagaaaat           |
| 2901         | agcaagTTaa                                                                                                                       | aataaGGcta  | gTccGTTat   | caactTGaaa aagtGGcacc            |
| 2961         | gagTcGGTgc                                                                                                                       | tTTTTTGata  | tcGaattcct  | gcagcccGGG                       |
| 3011         | ggatccacta                                                                                                                       | gTTCTagagc  | GGccGCCacc  | GcGGtGGagc                       |
| 3061         | tcatcccaat                                                                                                                       | GGcGcGCCg   | agctTGGctc  | gagcatGGTc                       |
| 3121         | ataGCTgttT                                                                                                                       | CCTgtGTGaa  | attGTTatcc  | Gctcacaatt                       |
| 3181         | ccacacaaca                                                                                                                       | tacGagccGg  | aagcataaag  | tgtaaagcct                       |
| 3241         | GGGtGCCtTaa                                                                                                                      | tGagTGagc   | taactccat   | taattGcGTT                       |
| 3301         | cGCTcactGc                                                                                                                       | cCGctTTTcca | gTcGGGaaac  | ctGTCGTgcc                       |
| 3361         | agctGcatta                                                                                                                       | atGaATcGcc  | caacGcGcGG  | ggagagGcGG                       |
| 3421         | tTTGcGTatt                                                                                                                       | GGGcGCTctT  | ccGCTTcctc  | GCTcactGac                       |
| 3481         | tcGCTGcGCT                                                                                                                       | cGGTcGTTcG  | GetGcGGcGa  |                                  |
| 3541         | gcGGtatcag                                                                                                                       | ctcactcaaa  | ggCGGgtaat  |                                  |
| 3601         | acGGTtatcc                                                                                                                       | acaGaATcag  | GGGataacGc  |                                  |
| 3661         | agggaaaagaa                                                                                                                      | catGTGagca  | aaGGccagc   |                                  |

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3721 aaaGGccagG aaccGTaaaa aGGccGcGTT
3781 GCTGGcGTTT TTccataGGc tccGCCCCCt
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3901 cagagGTGGc GAAAccCGac aGGactataaG
3961 ataccaggcG tTTCCCCctg Gaagctccctc
4021 GTgcGCTctc cTGTtccGac cctGccGctt
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4141 GGgaagcGTG GcGCTTTCTc
4201 ataGCTcacG cTGTaggtaT
4261 cTCagTTCGG TGTaGGTCGT
4321 TCGCTccaagc tGGGctGTGT
4381 GcacGaacccc cCGTTCagcc
4441 cGaccGctGcG cCTtatccGG
4501 taactatCGT cTTGagTcca
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5521 GGTaGCTctTG
5581 atccGGcaaa
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5941 cGcagaaaaaa
6001 GGatctcaaga
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6181 GGGgtCTGac
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9061 cGctGGaccta
9121 ccaaGGcaac
9181 GctatGTTct

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9241 cTTGctTTTG  
9301 tcagcaagaT  
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1321 taTTGaagca  
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 1901 GacGcGTatt  
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 1981 caccataaTG  
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 2021 actGTTaatTG  
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4001 cGccaccGcGG  
4011 tGGagctcat  
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4041 GGctcGagca  
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4091 aattccacac  
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## CAUTIONS & HANDLING INSTRUCTIONS

### Caution:

1. This product is **FOR RESEARCH USE ONLY!** Not intended for diagnostic, therapeutic, or human/animal use.

The item is supplied as lyophilized form. Centrifuge at 5000 rpm/min for 1 min before opening. Add 20  $\mu$ l ddH<sub>2</sub>O into the tube to reconstitute the plasmid. Take 2  $\mu$ l reconstituted plasmid into 100  $\mu$ l corresponding competent cell (DH5 $\alpha$ ), centrifuge briefly, then spread fully onto LB+Spe plate. Shipping temperature is 2–8 degrees centigrade ( $^{\circ}$ C). Store lyophilized plasmid at  $-20^{\circ}$ C upon receipt. Spectinomycin selection concentration: 50-100  $\mu$ g/mL in LB agar plates. Prepare stock solution (50 mg/mL in water, filter-sterilized) and add to cooled autoclaved media ( $<55^{\circ}$ C). This vector carries spectinomycin/streptomycin resistance via the aadA gene. Avoid co-transformation with other StrR/SpecR plasmids to prevent selection conflict. For optimal transformation efficiency, use high-quality chemically competent or electrocompetent E.coli DH5 $\alpha$  cells ( $>10^8$  cfu/ $\mu$ g DNA). Verify insert orientation and sequence integrity by colony PCR and Sanger sequencing before proceeding to editing experiments.