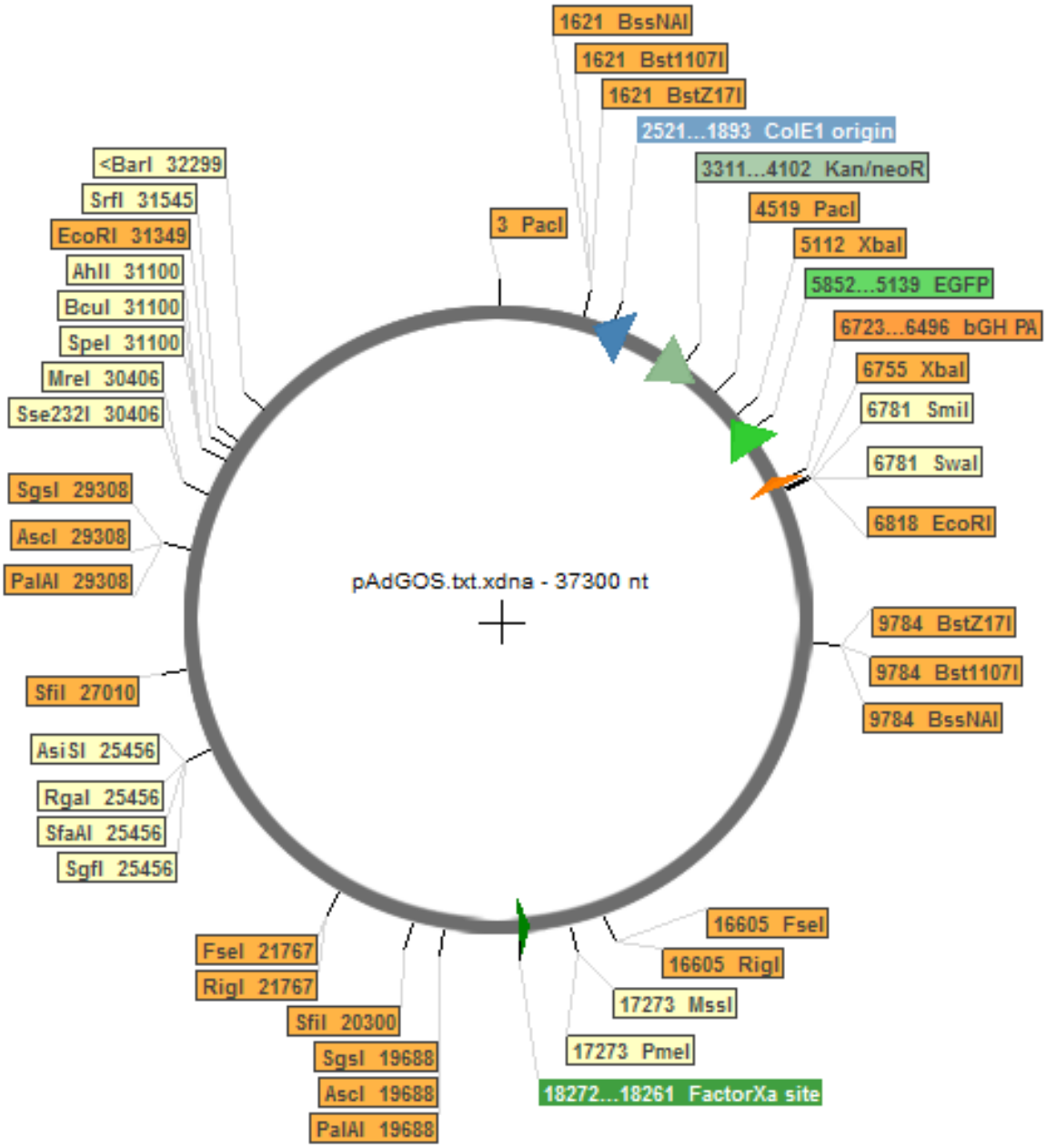
**Vector:** **pAdGOS** (adenoviral vector, GFP)

**Antibiotic Selection**: **Kan**

**Creator(s)**: Fang Deng, Molecular Oncology Laboratory of The University of Chicago

**Date of Construction**: February, 2013

MOSO1F: AATCGGAAAGCGGACGCGGA**attt** (**>>> kozak/5'-end coding region**)
MOSO2R: AAGCGCTCACGGGATACTCGattt (**<<< 3'-end coding region**)



# pAdGOS Full-Length Sequence

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AATTGGCCATGGCCTAGAATTTGATTCAAACAAGGCTATGGTTCCTAAACTAGGAACTGGCCTTAGTTTTGACAGCACAGGTGCCATTACAGTAGGAAACAAAAATAATGATAAGCTAACTTTGTGGACCACACCAGCTCCATCTCCTAACTGTA
GACTAAATGCAGAGAAAGATGCTAAACTCACTTTGGTCTTAACAAAATGTGGCAGTCAAATACTTGCTACAGTTTCAGTTTTGGCTGTTAAAGGCAGTTTGGCTCCAATATCTGGAACAGTTCAAAGTGCTCATCTTATTATAAGATTTGACGAA
AATGGAGTGCTACTAAACAATTCCTTCCTGGACCCAGAATATTGGAACTTTAGAAATGGAGATCTTACTGAAGGCACAGCCTATACAAACGCTGTTGGATTTATGCCTAACCTATCAGCTTATCCAAAATCTCACGGTAAAACTGCCAAAAGTAA
CATTGTCAGTCAAGTTTACTTAAACGGAGACAAAACTAAACCTGTAACACTAACCATTACACTAAACGGTACACAGGAAACAGGAGACACAACTCCAAGTGCATACTCTATGTCATTTTCATGGGACTGGTCTGGCCACAACTACATTAATGAAA
TATTTGCCACATCCTCTTACACTTTTTCATACATTGCCCAAGAATAAAGAATCGTTTGTGTTATGTTTCAACGTGTTTATTTTTCAATTGCAGAAAATTTCAAGTCATTTTTCATTCAGTAGTATAGCCCCACCACCACATAGCTTATACAGATC
ACCGTACCTTAATCAAACTCACAGAACCCTAGTATTCAACCTGCCACCTCCCTCCCAACACACAGAGTACACAGTCCTTTCTCCCCGGCTGGCCTTAAAAAGCATCATATCATGGGTAACAGACATATTCTTAGGTGTTATATTCCACACGGTTT
CCTGTCGAGCCAAACGCTCATCAGTGATATTAATAAACTCCCCGGGCAGCTCACTTAAGTTCATGTCGCTGTCCAGCTGCTGAGCCACAGGCTGCTGTCCAACTTGCGGTTGCTTAACGGGCGGCGAAGGAGAAGTCCACGCCTACATGGGGGTA
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GGCACAGCAGCGCACCCTGATCTCACTTAAATCAGCACAGTAACTGCAGCACAGCACCACAATATTGTTCAAAATCCCACAGTGCAAGGCGCTGTATCCAAAGCTCATGGCGGGGACCACAGAACCCACGTGGCCATCATACCACAAGCGCAGGT
AGATTAAGTGGCGACCCCTCATAAACACGCTGGACATAAACATTACCTCTTTTGGCATGTTGTAATTCACCACCTCCCGGTACCATATAAACCTCTGATTAAACATGGCGCCATCCACCACCATCCTAAACCAGCTGGCCAAAACCTGCCCGCCG
GCTATACACTGCAGGGAACCGGGACTGGAACAATGACAGTGGAGAGCCCAGGACTCGTAACCATGGATCATCATGCTCGTCATGATATCAATGTTGGCACAACACAGGCACACGTGCATACACTTCCTCAGGATTACAAGCTCCTCCCGCGTTAG
AACCATATCCCAGGGAACAACCCATTCCTGAATCAGCGTAAATCCCACACTGCAGGGAAGACCTCGCACGTAACTCACGTTGTGCATTGTCAAAGTGTTACATTCGGGCAGCAGCGGATGATCCTCCAGTATGGTAGCGCGGGTTTCTGTCTCAA
AAGGAGGTAGACGATCCCTACTGTACGGAGTGCGCCGAGACAACCGAGATCGTGTTGGTCGTAGTGTCATGCCAAATGGAACGCCGGACGTAGTCATATTTCCTGAAGCAAAACCAGGTGCGGGCGTGACAAACAGATCTGCGTCTCCGGTCTCG
CCGCTTAGATCGCTCTGTGTAGTAGTTGTAGTATATCCACTCTCTCAAAGCATCCAGGCGCCCCCTGGCTTCGGGTTCTATGTAAACTCCTTCATGCGCCGCTGCCCTGATAACATCCACCACCGCAGAATAAGCCACACCCAGCCAACCTACAC
ATTCGTTCTGCGAGTCACACACGGGAGGAGCGGGAAGAGCTGGAAGAACCATGTTTTTTTTTTTATTCCAAAAGATTATCCAAAACCTCAAAATGAAGATCTATTAAGTGAACGCGCTCCCCTCCGGTGGCGTGGTCAAACTCTACAGCCAAAGA
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ACCAGCGTAGCCCCGATGTAAGCTTTGTTGCATGGGCGGCGATATAAAATGCAAGGTGCTGCTCAAAAAATCAGGCAAAGCCTCGCGCAAAAAAGAAAGCACATCGTAGTCATGCTCATGCAGATAAAGGCAGGTAAGCTCCGGAACCACCACAG
AAAAAGACACCATTTTTCTCTCAAACATGTCTGCGGGTTTCTGCATAAACACAAAATAAAATAACAAAAAAACATTTAAACATTAGAAGCCTGTCTTACAACAGGAAAAACAACCCTTATAAGCATAAGACGGACTACGGCCATGCCGGCGTGAC
CGTAAAAAAACTGGTCACCGTGATTAAAAAGCACCACCGACAGCTCCTCGGTCATGTCCGGAGTCATAATGTAAGACTCGGTAAACACATCAGGTTGATTCATCGGTCAGTGCTAAAAAGCGACCGAAATAGCCCGGGGGAATACATACCCGCAG
GCGTAGAGACAACATTACAGCCCCCATAGGAGGTATAACAAAATTAATAGGAGAGAAAAACACATAAACACCTGAAAAACCCTCCTGCCTAGGCAAAATAGCACCCTCCCGCTCCAGAACAACATACAGCGCTTCACAGCGGCAGCCTAACAGTC
AGCCTTACCAGTAAAAAGAAAACCTATTAAAAAAACACCACTCGACACGGCACCAGCTCAATCAGTCACAGTGTAAAAAAGGGCCAAGTGCAGAGCGAGTATATATAGGACTAAAAAATGACGTAACGGTTAAAGTCCACAAAAAACACCCAGA
AAACCGCACGCGAACCTACGCCCAGAAACGAAAGCCAAAAAACCCACAACTTCCTCAAATCGTCACTTCCGTTTTCCCACGTTACGTAACTTCCCATTTTAAGAAAACTACAATTCCCAACACATACAAGTTACTCCGCCCTAAAACCTACGTCA
CCCGCCCCGTTCCCACGCCCCGCGCCACGTCACAAACTCCACCCCCTCATTATCATATTGGCTTCAATCCAAAATAAGGTATATTATTGATGATNNN

## Site Usage for pAdGOS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AanI | 6 | BcgI | 10 | Bsp13I | 9 | Cfr13I | 165 | HgaI | 86 | Nli3877I | 35 |
| SdaI | 3 | | | | | | | | | | |
| AarI | 9 | BciT130I | 131 | Bsp1407I | 5 | Cfr42I | 29 | HgiAI | 47 | NmeAIII | 19 |
| SdeAI | 52 | | | | | | | | | | |
| AasI | 10 | BciVI | 14 | Bsp143I | 114 | Cfr9I | 13 | HgiCI | 65 | NmeDI | 47 |
| SdeOSI | 13 | | | | | | | | | | |
| AatII | 11 | BclI | 5 | Bsp1720I | 7 | CfrI | 73 | HgiJII | 62 | NmuCI | 64 |
| SduI | 119 | | | | | | | | | | |
| *AbsI* | - | BcnI | 92 | Bsp19I | 23 | ChaI | 114 | HhaI | 400 | NotI | 6 |
| SecI | 221 | | | | | | | | | | |
| Acc16I | 18 | BcoDI | 51 | Bsp24I | 17 | CjeI | 73 | Hin1I | 57 | NruI | 7 |
| SelI | 330 | | | | | | | | | | |
| Acc36I | 36 | **BcuI** | **1** | Bsp68I | 7 | CjeNIII | 43 | Hin1II | 184 | NsbI | 18 |
| SetI | 586 | | | | | | | | | | |
| Acc65I | 8 | BdaI | 9 | BspACI | 641 | CjePI | 60 | Hin4I | 57 | NsiI | 6 |
| SexAI | 9 | | | | | | | | | | |
| AccB1I | 65 | BetI | 33 | BspCNI | 61 | *ClaI* | - | Hin4II | 97 | NspBII | 92 |
| **SfaAI** | **1** | | | | | | | | | | |
| AccB7I | 17 | BfaI | 63 | BspD6I | 46 | CpoI | 3 | Hin6I | 400 | NspI | 40 |
| SfaNI | 105 | | | | | | | | | | |
| AccBSI | 25 | BfiI | 26 | *BspDI* | - | CseI | 86 | HincII | 24 | *NspV* | - |
| SfcI | 39 | | | | | | | | | | |
| AccI | 18 | BfmI | 39 | BspEI | 9 | CsiI | 9 | HindII | 24 | OliI | 8 |
| SfeI | 39 | | | | | | | | | | |
| AccII | 330 | BfoI | 83 | BspFNI | 330 | Csp6I | 90 | HindIII | 8 | PabI | 90 |
| SfiI | 2 | | | | | | | | | | |
| AccIII | 9 | BfrI | 4 | BspHI | 6 | CspAI | 8 | HinfI | 82 | PacI | 2 |
| SfoI | 28 | | | | | | | | | | |
| AceIII | 41 | BfuAI | 36 | BspLI | 187 | CspCI | 8 | HinP1I | 400 | PaeI | 8 |
| Sfr274I | 5 | | | | | | | | | | |
| AciI | 641 | BfuCI | 114 | BspLU11I | 6 | CspI | 3 | HpaI | 5 | PaeR7I | 5 |
| Sfr303I | 29 | | | | | | | | | | |
| AclI | 5 | BfuI | 14 | BspMI | 36 | CstMI | 26 | HpaII | 176 | PagI | 6 |
| *SfuI* | - | | | | | | | | | | |
| AclWI | 55 | BglI | 26 | BspMII | 9 | CviAII | 184 | HphI | 89 | PalAI | 2 |
| SgeI | 2970 | | | | | | | | | | |
| AcoI | 73 | BglII | 12 | BspOI | 6 | CviJI | 709 | Hpy166II | 128 | PasI | 7 |
| **SgfI** | **1** | | | | | | | | | | |
| AcsI | 27 | BinI | 55 | BspPI | 55 | CviKI-1 | 709 | Hpy178III | 113 | PauI | 58 |
| SgrAI | 5 | | | | | | | | | | |
| AcuI | 30 | BisI | 445 | BspQI | 7 | CviQI | 90 | Hpy188I | 83 | PceI | 10 |
| SgrBI | 29 | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| AcvI | 9 | BlnI | 3 | *BspT104I* | - | CviRI | 195 | Hpy188III | 113 | PciI | 6 |
| *SgrDI* | - | | | | | | | | | | |
| AcyI | 57 | BlpI | 7 | BspT107I | 65 | DdeI | 81 | Hpy8I | 128 | PciSI | 7 |
| SgrTI | 1328 | | | | | | | | | | |
| AdeI | 7 | BlsI | 445 | BspTI | 4 | DinI | 28 | Hpy99I | 72 | PcsI | 50 |
| SgsI | 2 | | | | | | | | | | |
| AfaI | 90 | BmcAI | 4 | BsrBI | 25 | DpnI | 114 | HpyAV | 97 | PctI | 12 |
| SimI | 73 | | | | | | | | | | |
| AfeI | 16 | Bme1390I | 223 | BsrDI | 16 | DpnII | 114 | HpyCH4III | 125 | PdiI | 16 |
| SlaI | 5 | | | | | | | | | | |
| AfiI | 218 | Bme18I | 70 | BsrFI | 47 | DraI | 10 | HpyCH4IV | 105 | PdmI | 3 |
| SmaI | 13 | | | | | | | | | | |
| AflII | 4 | BmeRI | 9 | BsrGI | 5 | DraII | 44 | HpyCH4V | 195 | PfeI | 36 |
| **SmiI** | **1** | | | | | | | | | | |
| AflIII | 20 | BmeT110I | 35 | BsrI | 95 | DraIII | 7 | HpyF10VI | 408 | Pfl23II | 5 |
| SmiMI | 32 | | | | | | | | | | |
| AgeI | 8 | BmgBI | 15 | BsrSI | 95 | DraRI | 19 | HpyF3I | 81 | PflFI | 13 |
| SmlI | 31 | | | | | | | | | | |
| AgsI | 57 | BmgT120I | 165 | BssAI | 47 | DrdI | 10 | HpySE526I | 105 | PflMI | 17 |
| SmoI | 31 | | | | | | | | | | |
| AhaIII | 10 | BmiI | 187 | BssECI | 221 | DrdIV | 10 | Hsp92I | 57 | PfoI | 10 |
| SmuI | 149 | | | | | | | | | | |
| AhdI | 9 | BmrFI | 223 | BssHII | 58 | DriI | 9 | Hsp92II | 184 | PhoI | 224 |
| SnaBI | 5 | | | | | | | | | | |
| **AhlI** | **1** | BmrI | 26 | BssKI | 223 | DsaI | 75 | HspAI | 400 | PinAI | 8 |
| **SpeI** | **1** | | | | | | | | | | |
| AjiI | 15 | BmsI | 105 | BssMI | 114 | DseDI | 10 | KasI | 28 | PlaDI | 19 |
| SphI | 8 | | | | | | | | | | |
| AjnI | 131 | BmtI | 6 | BssNAI | 2 | EaeI | 73 | KflI | 6 | Ple19I | 7 |
| SplI | 5 | | | | | | | | | | |
| AjuI | 6 | BmuI | 26 | BssNI | 57 | EagI | 22 | Kpn2I | 9 | PleI | 46 |
| **SrfI** | **1** | | | | | | | | | | |
| AleI | 8 | BoxI | 3 | BssSI | 12 | Eam1104I | 25 | KpnI | 8 | PmaCI | 9 |
| **Sse232I** | **1** | | | | | | | | | | |
| AlfI | 13 | BpiI | 25 | BssT1I | 50 | Eam1105I | 9 | KroI | 16 | **PmeI** | **1** |
| Sse8387I | 3 | | | | | | | | | | |
| AloI | 6 | BplI | 8 | Bst1107I | 2 | EarI | 25 | Ksp22I | 5 | PmlI | 9 |
| Sse8647I | 5 | | | | | | | | | | |
| AluBI | 166 | BpmI | 32 | Bst2BI | 12 | EciI | 38 | Ksp632I | 25 | PpiI | 7 |
| Sse9I | 73 | | | | | | | | | | |
| AluI | 166 | Bpu10I | 21 | Bst2UI | 131 | Ecl136II | 15 | KspAI | 5 | PpsI | 46 |
| SseBI | 10 | | | | | | | | | | |
| Alw21I | 47 | Bpu1102I | 7 | Bst4CI | 125 | EclXI | 22 | KspI | 29 | Ppu10I | 6 |
| SsiI | 641 | | | | | | | | | | |
| Alw26I | 51 | *Bpu14I* | - | Bst6I | 25 | Eco105I | 5 | Kzo9I | 114 | Ppu21I | 26 |
| SspD5I | 89 | | | | | | | | | | |
| Alw44I | 11 | BpuAI | 25 | BstACI | 57 | Eco130I | 50 | LguI | 7 | PpuMI | 21 |
| SspDI | 28 | | | | | | | | | | |
| AlwI | 55 | BpuEI | 22 | BstAFI | 4 | Eco147I | 10 | LpnI | 83 | PscI | 6 |
| SspI | 5 | | | | | | | | | | |
| AlwNI | 24 | BpuMI | 92 | BstAPI | 18 | Eco24I | 62 | LpnPI | 604 | PshAI | 3 |
| SstE37I | 6 | | | | | | | | | | |
| Ama87I | 35 | BpvUI | 7 | BstAUI | 5 | Eco31I | 16 | Lsp1109I | 202 | PshBI | 9 |
| SstI | 15 | | | | | | | | | | |
| Aor13HI | 9 | *Bsa29I* | - | BstBAI | 26 | Eco32I | 8 | LweI | 105 | PsiI | 6 |
| Sth132I | 392 | | | | | | | | | | |
| Aor51HI | 16 | BsaAI | 26 | *BstBI* | - | Eco47I | 70 | MabI | 9 | Psp03I | 70 |
| Sth302II | 176 | | | | | | | | | | |
| AoxI | 224 | BsaBI | 10 | BstC8I | 317 | Eco47III | 16 | MaeI | 63 | Psp124BI | 15 |
| StrI | 5 | | | | | | | | | | |
| ApaBI | 18 | BsaHI | 57 | BstDEI | 81 | Eco52I | 22 | MaeII | 105 | Psp1406I | 5 |
| StsI | 91 | | | | | | | | | | |
| ApaI | 12 | BsaI | 16 | BstDSI | 75 | Eco53kI | 15 | MaeIII | 119 | Psp5II | 21 |
| StuI | 10 | | | | | | | | | | |
| ApaLI | 11 | BsaJI | 221 | BstEII | 9 | Eco57I | 30 | MalI | 114 | Psp6I | 131 |
| StyD4I | 223 | | | | | | | | | | |
| ApeKI | 202 | BsaWI | 33 | BstENI | 9 | Eco57MI | 62 | MaqI | 21 | PspCI | 9 |
| StyI | 50 | | | | | | | | | | |
| ApoI | 27 | BsaXI | 24 | BstF5I | 91 | Eco72I | 9 | MauBI | 7 | PspEI | 9 |
| **SwaI** | **1** | | | | | | | | | | |
| ApyPI | 10 | BsbI | 15 | BstFNI | 330 | Eco81I | 4 | MbiI | 25 | PspGI | 131 |
| TaaI | 125 | | | | | | | | | | |
| AquII | 32 | Bsc4I | 218 | BstH2I | 83 | Eco88I | 35 | MboI | 114 | PspLI | 5 |
| TaiI | 105 | | | | | | | | | | |
| AquIII | 53 | BscAI | 105 | BstHHI | 400 | Eco91I | 9 | MboII | 101 | PspN4I | 187 |
| TaqI | 64 | | | | | | | | | | |
| AquIV | 26 | Bse118I | 47 | BstKTI | 114 | EcoHI | 92 | McaTI | 58 | PspOMI | 12 |
| TaqII | 11 | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| ArsI | 15 | Bse1I | 95 | BstMAI | 51 | EcoICRI | 15 | McrI | 59 | PspOMII | 26 |
| TasI | 73 | | | | | | | | | | |
| AscI | 2 | Bse21I | 4 | BstMBI | 114 | EcoNI | 9 | MfeI | 6 | PspPI | 165 |
| TatI | 26 | | | | | | | | | | |
| AseI | 9 | Bse3DI | 16 | BstMCI | 59 | EcoO109I | 44 | MflI | 37 | PspPPI | 21 |
| TauI | 243 | | | | | | | | | | |
| Asi256I | 114 | Bse8I | 10 | BstMWI | 408 | EcoO65I | 9 | MhlI | 119 | PspPRI | 43 |
| TfiI | 36 | | | | | | | | | | |
| AsiGI | 8 | BseAI | 9 | BstNI | 131 | EcoRI | 2 | MlsI | 17 | PspXI | 4 |
| Tru1I | 104 | | | | | | | | | | |
| **AsiSI** | **1** | BseBI | 131 | BstNSI | 40 | EcoRII | 131 | MluCI | 73 | *PsrI* | - |
| Tru9I | 104 | | | | | | | | | | |
| Asp700I | 3 | *BseCI* | - | BstOI | 131 | EcoRV | 8 | MluI | 5 | PssI | 44 |
| TscAI | 87 | | | | | | | | | | |
| Asp718I | 8 | BseDI | 221 | BstPAI | 3 | EcoT14I | 50 | MluNI | 17 | PstI | 24 |
| TseFI | 64 | | | | | | | | | | |
| AspA2I | 3 | BseGI | 91 | BstPI | 9 | EcoT22I | 6 | Mly113I | 28 | PstNI | 24 |
| TseI | 202 | | | | | | | | | | |
| AspBHI | 3902 | BseJI | 10 | BstSCI | 223 | EcoT38I | 62 | MlyI | 46 | PsuI | 37 |
| TsoI | 26 | | | | | | | | | | |
| AspEI | 9 | BseLI | 218 | BstSFI | 39 | EgeI | 28 | MmeI | 26 | PsyI | 13 |
| Tsp45I | 64 | | | | | | | | | | |
| AspI | 13 | BseMI | 16 | BstSLI | 48 | EheI | 28 | MnlI | 386 | PteI | 58 |
| Tsp4CI | 125 | | | | | | | | | | |
| AspLEI | 400 | BseMII | 61 | BstSNI | 5 | ErhI | 50 | Mph1103I | 6 | PvuI | 7 |
| TspDTI | 54 | | | | | | | | | | |
| AspS9I | 165 | BseNI | 95 | BstUI | 330 | EsaBC3I | 64 | **MreI** | **1** | PvuII | 25 |
| TspEI | 73 | | | | | | | | | | |
| AssI | 4 | BsePI | 58 | BstV1I | 202 | Esp3I | 15 | MroI | 9 | R1.BceSIV | 202 |
| TspGWI | 37 | | | | | | | | | | |
| AsuC2I | 92 | BseRI | 53 | BstV2I | 25 | EspI | 7 | MroNI | 16 | RcaI | 6 |
| TspMI | 13 | | | | | | | | | | |
| AsuHPI | 89 | BseSI | 48 | BstX2I | 37 | FaeI | 184 | MroXI | 3 | RceI | 7 |
| TspRI | 87 | | | | | | | | | | |
| AsuI | 165 | BseX3I | 22 | BstXI | 6 | FaiI | 422 | MscI | 17 | RdeGBII | 21 |
| TstI | 16 | | | | | | | | | | |
| *AsuII* | - | BseXI | 202 | BstYI | 37 | FalI | 15 | MseI | 104 | RdeGBIII | 43 |
| Tth111I | 13 | | | | | | | | | | |
| AsuNHI | 6 | BseYI | 34 | BstZ17I | 2 | FaqI | 66 | MslI | 32 | **RgaI** | **1** |
| Tth111II | 45 | | | | | | | | | | |
| AvaI | 35 | BsgI | 31 | BstZI | 22 | FatI | 184 | Msp20I | 17 | RigI | 2 |
| UcoMSI | 15 | | | | | | | | | | |
| AvaII | 70 | Bsh1236I | 330 | *Bsu15I* | - | FauI | 149 | MspA1I | 92 | RleAI | 21 |
| UnbI | 165 | | | | | | | | | | |
| AviII | 18 | Bsh1285I | 59 | Bsu36I | 4 | FauNDI | 5 | MspCI | 4 | RpaB5I | 15 |
| Van91I | 17 | | | | | | | | | | |
| AvrII | 3 | BshFI | 224 | BsuI | 14 | FbaI | 5 | MspI | 176 | RpaBI | 8 |
| Vha464I | 4 | | | | | | | | | | |
| AxyI | 4 | BshNI | 65 | BsuRI | 224 | FblI | 18 | MspJI | 5080 | RpaI | 10 |
| VneI | 11 | | | | | | | | | | |
| BaeGI | 48 | BshTI | 8 | BtgI | 75 | FmuI | 165 | MspR9I | 223 | RruI | 7 |
| VpaK11AI | 70 | | | | | | | | | | |
| BaeI | 4 | *BshVI* | - | BtgZI | 26 | Fnu4HI | 445 | **MssI** | **1** | RsaI | 90 |
| VpaK11BI | 70 | | | | | | | | | | |
| BalI | 17 | BsiEI | 59 | BthCI | 445 | FnuDII | 330 | MstI | 18 | RsaNI | 90 |
| VspI | 9 | | | | | | | | | | |
| BamHI | 3 | BsiHKAI | 47 | BtrI | 15 | FokI | 91 | MunI | 6 | RseI | 32 |
| WviI | 24 | | | | | | | | | | |
| BanI | 65 | BsiHKCI | 35 | BtsCI | 91 | FriOI | 62 | Mva1269I | 12 | Rsr2I | 3 |
| XagI | 9 | | | | | | | | | | |
| BanII | 62 | BsiI | 12 | BtsI | 22 | FseI | 2 | MvaI | 131 | RsrII | 3 |
| XapI | 27 | | | | | | | | | | |
| **BarI** | **1** | BsiSI | 176 | BtsIMutI | 87 | Fsp4HI | 445 | MvnI | 330 | SacI | 15 |
| XbaI | 2 | | | | | | | | | | |
| BasI | 17 | BsiWI | 5 | BtuMI | 7 | FspAI | 4 | MvrI | 7 | SacII | 29 |
| XceI | 40 | | | | | | | | | | |
| BauI | 12 | BsiYI | 218 | BveI | 36 | FspBI | 63 | MwoI | 408 | SalI | 3 |
| XcmI | 14 | | | | | | | | | | |
| BbeI | 28 | BslFI | 66 | Cac8I | 317 | FspEI | 5798 | NaeI | 16 | SanDI | 6 |
| XhoI | 5 | | | | | | | | | | |
| Bbr7I | 25 | BslI | 218 | CaiI | 24 | FspI | 18 | NarI | 28 | SapI | 7 |
| XhoII | 37 | | | | | | | | | | |
| BbrPI | 9 | BsmAI | 51 | CauII | 92 | GdiII | 38 | NciI | 92 | SaqAI | 104 |
| XmaI | 13 | | | | | | | | | | |
| BbsI | 25 | BsmBI | 15 | CchII | 84 | GlaI | 400 | NcoI | 23 | SatI | 445 |
| XmaIII | 22 | | | | | | | | | | |
| Bbv12I | 47 | BsmFI | 66 | CchIII | 21 | GluI | 445 | NdeI | 5 | Sau3AI | 114 |
| XmaJI | 3 | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| BbvCI | 6 | BsmI | 12 | CciI | 6 | GsaI | 34 | NdeII | 114 | Sau96I | 165 |
| XmiI | 18 | | | | | | | | | | |
| BbvI | 202 | BsnI | 224 | CciNI | 6 | GsuI | 32 | NgoAVIII | 25 | SauI | 4 |
| XmnI | 3 | | | | | | | | | | |
| BbvII | 25 | Bso31I | 16 | CdiI | 66 | HaeI | 58 | NgoMIV | 16 | SbfI | 3 |
| XspI | 63 | | | | | | | | | | |
| BccI | 76 | BsoBI | 35 | CdpI | 28 | HaeII | 83 | NheI | 6 | ScaI | 4 |
| ZraI | 11 | | | | | | | | | | |
| Bce83I | 22 | *Bsp119I* | - | CelII | 7 | HaeIII | 224 | NlaCI | 23 | SchI | 46 |
| ZrmI | 4 | | | | | | | | | | |
| BceAI | 77 | Bsp120I | 12 | CfoI | 400 | HaeIV | 17 | NlaIII | 184 | SciI | 5 |
| Zsp2I | 6 | | | | | | | | | | |
| BcefI | 77 | Bsp1286I | 119 | Cfr10I | 47 | HapII | 176 | NlaIV | 187 | ScrFI | 223 |

## The following sites are unique in pAdGOS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AhlI | 31100 | BcuI | 31100 | PmeI | 17273 | SgfI | 25456 | SrfI | 31545 |
| AsiSI | 25456 | MreI | 30406 | RgaI | 25456 | SmiI | 6781 | Sse232I | 30406 |
| #BarI | <32299 | MssI | 17273 | SfaAI | 25456 | SpeI | 31100 | SwaI | 6781 |

## The following sites are absent pAdGOS

| | | | | | |
|---|---|---|---|---|---|
| AbsI | Bsa29I | Bsp119I | BstBI | NspV | SgrDI |
| AsuII | BseCI | BspDI | Bsu15I | #PsrI | |
| Bpu14I | BshVI | BspT104I | ClaI | SfuI | |