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CAT#:2-0004  
低温运输, -80℃保存

**BINGENE**

**E.coli 大肠杆菌 MDS42 recA 菌种**

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**使用手册 V1.0**

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江苏天净沙基因诊断技术有限公司

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| <p><b>产品及特点</b></p> | <p>大肠杆菌 MSD42 表示 Multiple-deletion Series 42 号菌，它是用合成生物学的方法，将属于 E.coli K-12 系的野生型 MG1655 菌株的非必需基因（如 IS、原噬菌体、假基因）、重组相关基因、转座相关基因、潜在毒力基因等进行精准缩减，同时保留细菌生长和蛋白表达基因而得。它具有下列特点：</p> <ol style="list-style-type: none"> <li>1. 其基因组比野生型的大肠杆菌小 14.3%，少 663,316 个碱基，但仍然能够在最低培养基上生长。</li> <li>2. 其电转效率比正常大小的 E.coli 更高，极端条件下基因组更稳定，蛋白表达更精准，质粒更稳定。</li> <li>3. 其关键基因型是 F<sup>-</sup>, λ<sup>-</sup>, <i>recA1819</i>, <i>lacZM15</i>, <i>Δflg</i>, <i>ΔfhuACDB</i>, 另外缺失 699 个基因（包括所有 IS 因子和原噬菌体）。缺失 <i>fhuACDB</i> 导致抗 T1 噬菌体感染，携带 <i>lacZM15</i> 可以进行蓝白斑筛选。详细基因型见下。</li> <li>4. 本菌种没有任何抗菌素抗性。</li> <li>5. 缺失 <i>recA</i> 基因，ATP 依赖型重组酶失活，<i>recBCD</i>、<i>recE</i> 和 <i>recF</i> 三条重组路径均丧失，重组率比野生型低 1 万倍。可用于扩增有回文结构的高拷贝质粒。</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>基因型</b></p>   | <p>E. coli K-12 F<sup>-</sup> λ<sup>-</sup> Δ<i>abgA</i> Δ<i>abgB</i> Δ<i>abgR</i> Δ<i>abgT</i> Δ<i>afuB</i> Δ<i>afuC</i> Δ<i>alpA</i> Δ<i>ampH</i> Δ<i>amyA</i> Δ<i>appY</i> Δ<i>argF</i> Δ<i>bfd</i> Δ<i>bfr</i> Δ<i>borD</i> Δ<i>cheA</i> Δ<i>cheB</i> Δ<i>cheR</i> Δ<i>cheW</i> Δ<i>cheY</i> Δ<i>cheZ</i> Δ<i>chiA</i> Δ<i>codA</i> Δ<i>codB</i> Δ<i>cpsB</i> Δ<i>cpsG</i> Δ<i>cspB</i> Δ<i>cspF</i> Δ<i>cspI</i> Δ<i>cynR</i> Δ<i>cynS</i> Δ<i>cynT</i> Δ<i>cynX</i> Δ<i>dbpA</i> Δ<i>dicA</i> Δ<i>dicB</i> Δ<i>dicC</i> Δ<i>dicF</i> Δ<i>eaeH</i> Δ<i>elbA</i> Δ<i>emrE</i> Δ<i>endA</i> Δ<i>essD</i> Δ<i>essQ</i> Δ<i>etp</i> Δ<i>fcl</i> Δ<i>feaB</i> Δ<i>feaR</i> Δ<i>fecA</i> Δ<i>fecB</i> Δ<i>fecC</i> Δ<i>fecD</i> Δ<i>fecE</i> Δ<i>fecI</i> Δ<i>fecR</i> Δ<i>fhuA</i> Δ<i>fhuB</i> Δ<i>fhuC</i> Δ<i>fhuD</i> Δ<i>fimA</i> Δ<i>fimB</i> Δ<i>fimC</i> Δ<i>fimD</i> Δ<i>fimE</i> Δ<i>fimF</i> Δ<i>fimG</i> Δ<i>fimH</i> Δ<i>fimI</i> Δ<i>flgA</i> Δ<i>flgB</i> Δ<i>flgC</i> Δ<i>flgD</i> Δ<i>flgE</i> Δ<i>flgF</i> Δ<i>flgG</i> Δ<i>flgH</i> Δ<i>flgI</i> Δ<i>flgJ</i> Δ<i>flgK</i> Δ<i>flgL</i> Δ<i>flgM</i> Δ<i>flgN</i> Δ<i>flhA</i> Δ<i>flhB</i> Δ<i>flhC</i> Δ<i>flhD</i> Δ<i>flhE</i> Δ<i>fliA</i> Δ<i>fliC</i> Δ<i>fliD</i> Δ<i>fliE</i> Δ<i>fliF</i> Δ<i>fliG</i> Δ<i>fliH</i> Δ<i>fliI</i> Δ<i>fliJ</i> Δ<i>eaeH</i> Δ<i>elbA</i> Δ<i>emrE</i> Δ<i>endA</i> Δ<i>essD</i> Δ<i>essQ</i> Δ<i>etp</i> Δ<i>fcl</i> Δ<i>feaB</i> Δ<i>feaR</i> Δ<i>fecA</i> Δ<i>fecB</i> Δ<i>fecC</i> Δ<i>fecD</i> Δ<i>fecE</i> Δ<i>fecI</i> Δ<i>fecR</i> Δ<i>fhuA</i> Δ<i>fhuB</i> Δ<i>fhuC</i> Δ<i>fhuD</i> Δ<i>fimA</i> Δ<i>fimB</i> Δ<i>fimC</i> Δ<i>fimD</i> Δ<i>fimE</i> Δ<i>fimF</i> Δ<i>fimG</i> Δ<i>fimH</i> Δ<i>fimI</i> Δ<i>flgA</i> Δ<i>flgB</i> Δ<i>flgC</i> Δ<i>flgD</i> Δ<i>flgE</i> Δ<i>flgF</i> Δ<i>flgG</i> Δ<i>flgH</i> Δ<i>flgI</i> Δ<i>flgJ</i> Δ<i>flgK</i> Δ<i>flgL</i> Δ<i>flgM</i> Δ<i>flgN</i> Δ<i>flhA</i> Δ<i>flhB</i> Δ<i>flhC</i> Δ<i>flhD</i> Δ<i>flhE</i> Δ<i>fliA</i> Δ<i>fliC</i> Δ<i>fliD</i> Δ<i>fliE</i> Δ<i>fliF</i> Δ<i>fliG</i> Δ<i>fliH</i> Δ<i>fliI</i> Δ<i>fliJ</i> Δ<i>fliK</i> Δ<i>fliL</i> Δ<i>fliM</i> Δ<i>fliN</i> Δ<i>fliO</i> Δ<i>fliP</i> Δ<i>fliQ</i> Δ<i>fliR</i> Δ<i>fliS</i> Δ<i>fliT</i> Δ<i>fliY</i> Δ<i>fliZ</i> Δ<i>flu</i> Δ<i>flxA</i> Δ<i>galF</i> Δ<i>gatA</i> Δ<i>gatB</i> Δ<i>gatC</i> Δ<i>gatD</i> Δ<i>gatR</i> Δ<i>gatY</i> Δ<i>gatZ</i> Δ<i>glcA</i> Δ<i>glcB</i> Δ<i>glcC</i> Δ<i>glcD</i> Δ<i>glcE</i> Δ<i>glcF</i> Δ<i>glcG</i> Δ<i>glf</i> Δ<i>gmd</i> Δ<i>gnsB</i> Δ<i>gspA</i> Δ<i>gspC</i> Δ<i>gspD</i> Δ<i>gspE</i> Δ<i>gspF</i> Δ<i>gspG</i> Δ<i>gspH</i> Δ<i>gspI</i> Δ<i>gspJ</i> Δ<i>gspK</i> Δ<i>gspL</i> Δ<i>gspM</i> Δ<i>gspO</i> Δ<i>hokC</i> Δ<i>hokD</i> Δ<i>hokE</i> Δ<i>hsdM</i> Δ<i>hsdR</i> Δ<i>hsdS</i> Δ<i>hslJ</i> Δ<i>iadA</i> Δ<i>icdC</i> Δ<i>ileY</i> Δ<i>insA-1</i> Δ<i>insA-2</i> Δ<i>insA-3</i> Δ<i>insA-4</i> Δ<i>insA-5</i> Δ<i>insA-6</i> Δ<i>insA-7</i> Δ<i>insB-1</i> Δ<i>insB-2</i> Δ<i>insB-3</i> Δ<i>insB-4</i> Δ<i>insB-5</i> Δ<i>insB-6</i> Δ<i>insB-7</i> Δ<i>insC-1</i> Δ<i>insC-2</i> Δ<i>insC-3</i></p> |

ΔinsC-4 ΔinsC-5 ΔinsC-6 ΔinsD-1 ΔinsD-2 ΔinsD-3 ΔinsD-4 ΔinsD-5  
 ΔinsD-6 ΔinsD-7 ΔinsE-1 ΔinsE-2 ΔinsE-3 ΔinsE-4 ΔinsE-5 ΔinsF-1  
 ΔinsF-2 ΔinsF-3 ΔinsF-4 ΔinsF-5 ΔinsG ΔinsH-1 ΔinsH-10 ΔinsH-11  
 ΔinsH-2 ΔinsH-3 ΔinsH-4 ΔinsH-5 ΔinsH-6 ΔinsH-7 ΔinsH-8 ΔinsH-9  
 ΔinsI-1 ΔinsI-2 ΔinsI-3 ΔinsJ ΔinsK ΔinsL-1 ΔinsL-2 ΔinsL-3 ΔinsM  
 ΔinsN-1 ΔinsN-2 ΔinsO-1 ΔinsO-2 ΔintA ΔintB ΔintD ΔintE ΔintF ΔintG  
 ΔintQ ΔintR ΔintS ΔintZ ΔisrA ΔisrC Δkil ΔkptA ΔlacA ΔlacI ΔlacY ΔlacZ  
 Δlar ΔldhA Δlit ΔlomR ΔmaoC ΔmcrA ΔmcrB ΔmcrC ΔmhpA ΔmhpB  
 ΔmhpC ΔmhpD ΔmhpE ΔmhpF ΔmhpR ΔmhpT ΔmicC ΔmmuM  
 ΔmmuP ΔmntH ΔmokC ΔmotA ΔmotB ΔmpaA ΔmppA Δmrr ΔnfnB  
 ΔnhaA ΔnhaR ΔninE ΔnmpC ΔnohA ΔnohB ΔnudD ΔnupC ΔogrK  
 ΔompN ΔompT ΔpaaA ΔpaaB ΔpaaC ΔpaaD ΔpaaE ΔpaaF ΔpaaG  
 ΔpaaH ΔpaaI ΔpaaJ ΔpaaK ΔpaaX ΔpaaY ΔperR Δpin ΔpinH ΔpinQ  
 ΔpinR ΔpitB ΔpppA ΔprpB ΔprpC ΔprpD ΔprpE ΔprpR ΔracC ΔracR  
 ΔrecE ΔrecT ΔrelB ΔrelE Δrem ΔrenD ΔrfbA ΔrfbB ΔrfbC ΔrfbD ΔrfbX  
 ΔrhsA ΔrhsB ΔrhsC ΔrhsD ΔrhsE ΔrusA ΔryeE ΔrzoD ΔrzoR ΔrzpD  
 ΔrzpR ΔsbmA ΔsgcA ΔsgcB ΔsgcC ΔsgcE ΔsgcQ ΔsgcR ΔsgcX ΔsieB  
 ΔsokC ΔstfE ΔstfQ ΔstfR Δtap Δtar ΔtauA ΔtauB ΔtauC ΔtauD ΔtfaD  
 ΔtfaE ΔtfaQ ΔtfaR ΔtfaS ΔtrkG Δtsr ΔtynA ΔuspE ΔuspF ΔwbbH ΔwbbI  
 ΔwbbJ ΔwbbK ΔwbbL ΔwcaA ΔwcaB ΔwcaC ΔwcaD ΔwcaE ΔwcaF  
 ΔwcaI ΔwcaJ ΔwcaK ΔwcaL ΔwcaM Δwza Δwzb Δwzc ΔwzxC ΔyafW  
 ΔyafX ΔyafY ΔyafZ ΔyagA ΔyagB ΔyagE ΔyagF ΔyagG ΔyagH ΔyagI  
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 ΔyagU ΔyagV ΔyagW ΔyagX ΔyagY ΔyagZ ΔyahA ΔyahB ΔyahC ΔyahD  
 ΔyahE ΔyahF ΔyahG ΔyahH ΔyahI ΔyahJ ΔyahK ΔyahL ΔyahM ΔyahN  
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 ΔybbC ΔybbD ΔybcC ΔybcD ΔybcK ΔybcL ΔybcM ΔybcN ΔybcO ΔybcQ  
 ΔybcS ΔybcV ΔybcW ΔybcY ΔybdF ΔybdG ΔybdJ ΔybdK ΔybfB ΔybfC  
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 ΔyeeS ΔyeeT ΔyeeU ΔyeeV ΔyeeW ΔyeeX ΔyegP ΔyegQ ΔyegR ΔyegS  
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 ΔyffQ ΔyffR ΔyffS ΔyfiH ΔyfiI ΔyfiJ ΔyfiK ΔyfiL ΔyfiM ΔyfiN ΔyfiO ΔyfiP  
 ΔyfiQ ΔyfiR ΔyfiS ΔyfiT ΔyfiU ΔyfiV ΔyfiW ΔyfiX ΔyfiY ΔyfiZ ΔygaF ΔygaQ

|                     | ΔygaR ΔygaT ΔygeL ΔygeM ΔygeN ΔygeO ΔygeP ΔygeQ ΔyghD ΔyghE<br>ΔyghF ΔyghG ΔyghJ ΔyghO ΔyghQ ΔyghR ΔyghS ΔyghT ΔygiL Δyhca<br>Δyhcd Δyhce Δyhcf ΔyhhhH ΔyhhhI ΔyhhhY ΔyhhhZ ΔyhiS ΔyibA ΔyibG<br>ΔyibJ ΔyigW ΔyigX ΔyigZ ΔyjhA ΔyjhB ΔyjhC ΔyjhD ΔyjhE ΔyjhF ΔyjhG<br>ΔyjhH ΔyjhI ΔyjhP ΔyjhQ ΔyjhR ΔyjhS ΔyjhT ΔyjhU ΔyjhV ΔyjhW Δ<br>ΔyjiA ΔyjiC ΔyjiD ΔyjiE ΔyjiG ΔyjiH ΔyjiJ ΔyjiK ΔyjiL ΔyjiM ΔyjiN ΔyjiO<br>ΔyjiP ΔyjiQ ΔyjiR ΔyjiS ΔyjiT ΔyjiV ΔyjiW ΔyjiX ΔyjiY ΔyjiZ ΔyjjM ΔyjjN<br>ΔykfA ΔykfB ΔykfC ΔykfF ΔykfG ΔykfH ΔykfI ΔykgA ΔykgB ΔykgC ΔykgD<br>ΔykgE ΔykgF ΔykgG ΔykgH ΔykgI ΔykgJ ΔykgK ΔykgL ΔykgM ΔykgN<br>ΔykgO ΔykiB ΔylbG ΔylbH ΔylcE ΔylcG ΔymcA ΔymcB ΔymcC ΔymcD<br>ΔymdE ΔymfD ΔymfE ΔymfG ΔymfH ΔymfI ΔymfJ ΔymfK ΔymfL ΔymfM<br>ΔymfN ΔymfO ΔymfP ΔymfQ ΔymfR ΔymfS ΔymfT ΔymgA ΔymgB<br>ΔymgC ΔymgD ΔymgF ΔymgG ΔymjC ΔynaA ΔynaE ΔynaI ΔynaJ ΔynaK<br>ΔynbA ΔynbB ΔynbC ΔynbD ΔynbE ΔyncI ΔyncM ΔynfN ΔynfO ΔynfP<br>ΔyoeA ΔyoeF ΔypdJ ΔypeC ΔypjA ΔypjB ΔypjC ΔypjF ΔypjJ ΔypjK ΔypjL<br>ΔypjM ΔyqaC ΔyqaD ΔyqiC ΔyqiG ΔyqiH ΔyqiI ΔyrhA ΔyrhB ΔyrhC recA |      |           |    |      |                     |        |      |           |      |          |     |   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----|------|---------------------|--------|------|-----------|------|----------|-----|---|
| 原始文献                | Pósfai G. <i>et.al.</i> 2006. Emergent properties of reduced-genome<br>Escherichia coli. <i>Science</i> . 312(5776):1044-1046.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |           |    |      |                     |        |      |           |      |          |     |   |
| 规格及成分               | <div>本产品使用塑料袋包装</div> <table><tr><th>成分</th><th>编号</th><th>规格</th><th>包装材料</th></tr><tr><td>大肠杆菌 MDS42 recA 甘油菌</td><td>2-0004</td><td>1 mL</td><td>2.0mL 红盖管</td></tr><tr><td>使用手册</td><td>2-0004sc</td><td>1 份</td><td>无</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 成分   | 编号        | 规格 | 包装材料 | 大肠杆菌 MDS42 recA 甘油菌 | 2-0004 | 1 mL | 2.0mL 红盖管 | 使用手册 | 2-0004sc | 1 份 | 无 |
| 成分                  | 编号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 规格   | 包装材料      |    |      |                     |        |      |           |      |          |     |   |
| 大肠杆菌 MDS42 recA 甘油菌 | 2-0004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 mL | 2.0mL 红盖管 |    |      |                     |        |      |           |      |          |     |   |
| 使用手册                | 2-0004sc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1 份  | 无         |    |      |                     |        |      |           |      |          |     |   |
| 运输及保存               | 低温运输，-80℃保种保存，有效期一年。                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |           |    |      |                     |        |      |           |      |          |     |   |
| 使用方法                | 本产品可用于常规大肠杆菌感受态细胞制备、转化等实验，具体步骤请见分子<br>克隆手册等工具书。但需要注意下面两点：<br><br>1. 由于本菌株缺失鞭毛，因此非常容易聚集，在取样前和测 OD 前都必须充<br>分震荡混匀。<br><br>2. 本菌株 LB 固定培养基上形成的菌落在常温不要放置超过 5 天，在 4℃放<br>置不要超过 2 周。                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |           |    |      |                     |        |      |           |      |          |     |   |