

MicroBAR LAMP Reaction Cost Estimate

Reaction Volume: 6.28E-07 L
Reaction Cost: 0.012893607
Cost/uL: 0.020531221
Cost/chip 1.237786242

Solids

| Reagent | Molecular Weight | Mass (g) | Moles | Cost | Cost/mole | Concentration/Rea | Moles/reaction | Cost/reaction | Fraction of Cost |
|-------------|------------------|----------|-------------|-------|-----------|-------------------|----------------|---------------|------------------|
| Tris Buffer | 127.2 | 100 | 0.786163522 | \$74 | 94.128 | 0.02 | 1.256E-08 | 1.18225E-06 | 0.01% |
| KCl | 74.55 | 500 | 6.706908115 | \$31 | 4.59228 | 0.01 | 6.28E-09 | 2.88395E-08 | 0.00% |
| MgSO4.7H2O | 246.47 | 500 | 2.02864446 | \$30 | 14.7882 | 0.008 | 5.024E-09 | 7.42959E-08 | 0.00% |
| (NH4)2SO4 | 132.14 | 100 | 0.756773119 | \$14 | 18.76388 | 0.01 | 6.28E-09 | 1.17837E-07 | 0.00% |
| MnCl2 | 197.91 | 100 | 0.505280178 | \$22 | 43.93602 | 0.001 | 6.28E-10 | 2.75918E-08 | 0.00% |
| Calcein | 622.53 | 5 | 0.008031741 | \$103 | 12761.865 | 0.00005 | 3.14E-11 | 4.00723E-07 | 0.00% |

Solutions

| Reagent | Concentration (M) | Volume (L) | Moles | Cost | Cost/mole | Rxn Concentration | Moles/reaction | Cost/reaction | Fraction of Cost |
|-----------------|-------------------|------------|-----------|-------|-------------|-------------------|----------------|---------------|------------------|
| Betaine | 5 | 0.0015 | 0.0075 | \$20 | 2666.666667 | 0.8 | 5.024E-07 | 0.001339733 | 10.39% |
| dATP | 0.1 | 0.00025 | 0.000025 | \$37 | 1470000 | 0.0014 | 8.792E-10 | 0.001292424 | 10.02% |
| dCTP | 0.1 | 0.00025 | 0.000025 | \$37 | 1470000 | 0.0014 | 8.792E-10 | 0.001292424 | 10.02% |
| dGTP | 0.1 | 0.00025 | 0.000025 | \$37 | 1470000 | 0.0014 | 8.792E-10 | 0.001292424 | 10.02% |
| dTTP | 0.1 | 0.00025 | 0.000025 | \$37 | 1470000 | 0.0014 | 8.792E-10 | 0.001292424 | 10.02% |
| Bst Polymerase | 8000000 | 0.001 | 8000 | \$244 | 0.0305 | 320000 | 0.20096 | 0.00612928 | 47.54% |
| Tween 20 (%) | 1 | 100 | 100 | \$27 | 0.273 | 0.2 | 1.256E-07 | 3.42888E-08 | 0.00% |
| Primers FIP/BIP | | | 0.0000005 | 45 | 90000000 | 0.0000032 | 2.0096E-12 | 0.000180864 | 1.40% |
| Primers LoopF/B | | | 0.0000002 | 10 | 50000000 | 0.0000016 | 1.0048E-12 | 0.00005024 | 0.39% |
| Primers F3/B3 | | | 0.0000002 | 16 | 80000000 | 0.0000004 | 2.512E-13 | 0.000020096 | 0.16% |

Reagents are from Sigma or New England Biosciences, Primers are from IDT