



# *THE JCSG CORE 1 SUITE*

**FOR INITIAL SCREENING USING AN OPTIMIZED SET OF CONDITIONS**



## **The JCSG Core Suites provide:**

- Conditions giving the highest hit rates at the Joint Center for Structural Genomics
- Optimized suites based on over half a million crystallization trials
- Maximized reproducibility through online access to production reports

The JCSG Core Suites - split into four screens of 96 unique conditions - are the result of analyzing over 500,000 high-throughput crystallization experiments performed at the JCSG (1). The 384 crystallization conditions that provided the highest hit rates in initial screening were chosen to form the screens.

The JCSG Core Suites are available in 1 ml DWBlock and 10 ml tube formats.

The formulations of the 96 conditions of this screen, together with an order number for the 100 ml refill solution for each condition, are found on pages 2 and 3. Optimization reagent stock solutions for each NeXtal crystallization screen are available on our website. Please contact us with any questions about condition formulations or optimization.

1. P Lesley, S.A., and Wilson, I.A. (2005) Protein production and crystallization at the joint center for structural genomics. J. Struct. Funct. Genomics. 6, 71.

 Fast, simple, consistent crystallography. **NO SURPRISES**



# THE JCSG CORE I SUITE COMPOSITION TABLE

| #  | Well | Salt  | Buffer                         | Precipitant                              | Final pH | Refill-Hit Solution SKU |
|----|------|---|--------------------------------|--|----------|-------------------------|
| 1  | A1   |   | 0.1 M CHES pH 9.5              | 20% (w/v) PEG 8000                       |          | 136201-01               |
| 2  | A2   |   | 0.1 M Bicine pH 8.5            | 20% (w/v) PEG 6000                       | 9.0      | 136201-02               |
| 3  | A3   | 0.05 M Lithium sulfate; 0.05 M Sodium sulfate                             | 0.05 M Tris-HCl pH 8.5         | 30% (w/v) PEG 400                        |          | 136201-03               |
| 4  | A4   | 0.2 M Ammonium dihydrogen phosphate                                       | 0.1 M Tris pH 8.5              | 50% (v/v) MPD                            |          | 136201-04               |
| 5  | A5   | 0.2 M Magnesium chloride  | 0.1 M Tris pH 8.5              | 3.4 M 1,6 Hexanediol                     |          | 136201-05               |
| 6  | A6   | 0.05 M Magnesium chloride   | 0.1M Tris pH 8.5               | 40% (v/v) Ethanol                        |          | 136201-06               |
| 7  | A7   |   | 0.2 M tri-Potassium citrate    | 20% (w/v) PEG 3350                       |          | 136201-07               |
| 8  | A8   |   | 0.2 M tri-Sodium citrate       | 20% (w/v) PEG 3350                       |          | 136201-08               |
| 9  | A9   |   | 0.2 M tri-Lithium citrate      | 20% (w/v) PEG 3350                       |          | 136201-09               |
| 10 | A10  | 0.2 M Calcium acetate   | 0.1 M Imidazole pH 8.0         | 20% PEG 1000                             |          | 136201-10               |
| 11 | A11  |   | 0.2 M Potassium acetate        | 20% (w/v) PEG 3350                       |          | 136201-11               |
| 12 | A12  |   | 0.2 M Magnesium acetate        | 20% (w/v) PEG 3350                       |          | 136201-12               |
| 13 | B1   | 0.2 M Sodium chloride   | 0.1 M HEPES pH 7.5             | 20% (w/v) PEG 3000                       |          | 136201-13               |
| 14 | B2   |   | 0.1 M HEPES pH 7.5             | 20% (w/v) PEG 8000                       |          | 136201-14               |
| 15 | B3   |   | 0.1 M HEPES pH 7.5             | 10% (w/v) PEG 8000                       |          | 136201-15               |
| 16 | B4   | 0.19 M Calcium chloride   | 0.095 M HEPES pH 7.5           | 26.6% (v/v) PEG 400; 5%(v/v) Glycerol    |          | 136201-16               |
| 17 | B5   |   | 0.1 M HEPES pH 7.5             | 20% (w/v) PEG 4000; 10%(v/v) Isopropanol |          | 136201-17               |
| 18 | B6   | 0.8 M di-Sodium hydrogen phosphate; 0.8 M di-Potassium hydrogen phosphate | 0.1 M HEPES pH 7.5             |  |          | 136201-18               |
| 19 | B7   | 0.2 M di-Sodium tartrate  |                                | 20% (w/v) PEG 3350                       |          | 136201-19               |
| 20 | B8   | 0.2 M Calcium acetate hydrate   |                                | 20% (w/v) PEG 3350                       |          | 136201-20               |
| 21 | B9   | 0.2 M Potassium formate   |                                | 20% (w/v) PEG 3350                       |          | 136201-21               |
| 22 | B10  | 0.2 M Potassium Sodium tartrate   |                                | 20% (w/v) PEG 3350                       |          | 136201-22               |
| 23 | B11  | 0.2 M Sodium formate  |                                | 20% (w/v) PEG 3350                       |          | 136201-23               |
| 24 | B12  | 0.2 M Potassium fluoride  |                                | 20% (w/v) PEG 3350                       |          | 136201-24               |
| 25 | C1   | 0.2 M Ammonium acetate  |                                | 20% (w/v) PEG 3350                       |          | 136201-25               |
| 26 | C2   | 0.2 M Lithium nitrate   |                                | 20% (w/v) PEG 3350                       |          | 136201-26               |
| 27 | C3   |   | 0.1M Sodium cacodylate pH 6.5  | 5% (w/v) PEG 8000; 40%(v/v) MPD          |          | 136201-27               |
| 28 | C4   | 0.2 M Magnesium chloride  | 0.1 M Tris pH 7.0              | 10% (w/v) PEG 8000                       |          | 136201-28               |
| 29 | C5   | 0.2 M Calcium acetate   | 0.1 M Tris pH 7.0              | 20% (w/v) PEG 3000                       |          | 136201-29               |
| 30 | C6   | 0.2 M Magnesium chloride  | 0.1 M Tris pH 7.0              | 2.5 M Sodium chloride                    |          | 136201-30               |
| 31 | C7   |   | 0.1 M Tris pH 7.0              | 20% (w/v) PEG 2000 MME                   |          | 136201-31               |
| 32 | C8   | 0.2 M Sodium acetate  |                                | 20% (w/v) PEG 3350                       |          | 136201-32               |
| 33 | C9   | 0.2 M Potassium thiocyanate   |                                | 20% (w/v) PEG 3350                       |          | 136201-33               |
| 34 | C10  |   | 0.1 M HEPES pH 6.5             | 20% (w/v) PEG 6000                       | 7.0      | 136201-34               |
| 35 | C11  | 0.2 M Potassium nitrate   |                                | 20% (w/v) PEG 3350                       |          | 136201-35               |
| 36 | C12  | 0.2 M Sodium thiocyanate  |                                | 20% (w/v) PEG 3350                       |          | 136201-36               |
| 37 | D1   | 0.2 M Sodium iodide   |                                | 20% (w/v) PEG 3350                       |          | 136201-37               |
| 38 | D2   | 0.2 M Potassium chloride  |                                | 20% (w/v) PEG 3350                       |          | 136201-38               |
| 39 | D3   | 0.2 M Sodium chloride   |                                | 20% (w/v) PEG 3350                       |          | 136201-39               |
| 40 | D4   | 0.2 M Potassium iodide  |                                | 20% (w/v) PEG 3350                       |          | 136201-40               |
| 41 | D5   | 0.2 M Lithium chloride  |                                | 20% (w/v) PEG 3350                       |          | 136201-41               |
| 42 | D6   | 0.2 M Magnesium chloride  | 0.1M Sodium cacodylate pH 6.5  | 50% (v/v) PEG 200                        |          | 136201-42               |
| 43 | D7   | 0.2 M di-Ammonium tartrate  |                                | 20% (w/v) PEG 3350                       |          | 136201-43               |
| 44 | D8   | 0.2 M Sodium sulfate  |                                | 20% (w/v) PEG 3350                       |          | 136201-44               |
| 45 | D9   | 0.2 M Ammonium formate  |                                | 20% (w/v) PEG 3350                       |          | 136201-45               |
| 46 | D10  |   | 0.1 M HEPES pH 7.5             | 10% (w/v) PEG 6000; 5% (v/v) MPD         |          | 136201-46               |
| 47 | D11  |   | 1.6 M Sodium citrate pH 6.5    |  |          | 136201-47               |
| 48 | D12  | 0.2 M Magnesium acetate   | 0.1 M Sodium cacodylate pH 6.5 | 20% (w/v) PEG 8000                       |          | 136201-48               |

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| #  | Well | Salt                                  | Buffer                         | Precipitant  | Final pH | Refill-Hit Solution SKU |
|----|------|---------------------------------------|--------------------------------|--|----------|-------------------------|
| 49 | E1   | 0.2 M Ammonium nitrate                |                                | 20% (w/v) PEG 3350   |          | 136201-49               |
| 50 | E2   | 0.2 M Ammonium chloride               |                                | 20% (w/v) PEG 3350   |          | 136201-50               |
| 51 | E3   | 0.2 M Sodium chloride                 | 0.1 M Na/K phosphate pH 6.2    | 10% (w/v) PEG 8000   |          | 136201-51               |
| 52 | E4   | 0.2 M Ammonium iodide                 |                                | 20% (w/v) PEG 3350   |          | 136201-52               |
| 53 | E5   | 0.2 M Ammonium fluoride               |                                | 20% (w/v) PEG 3350   |          | 136201-53               |
| 54 | E6   |                                       | 0.1M MES pH 6.0                | 5% (w/v) PEG 3000; 30% (v/v) PEG 200                         |          | 136201-54               |
| 55 | E7   | 0.2 M Calcium acetate                 | 0.1 M MES pH 6.0               | 20% (w/v) PEG 8000   |          | 136201-55               |
| 56 | E8   | 0.2 M Lithium sulfate                 | 0.1 M MES pH 6.0               | 35% (v/v) MPD  |          | 136201-56               |
| 57 | E9   | 0.2 M Ammonium sulfate                |                                | 20% (w/v) PEG 3350   |          | 136201-57               |
| 58 | E10  |                                       | 0.1 M MES pH 5.0               | 40% (v/v) MPD  | 6.0      | 136201-58               |
| 59 | E11  |                                       | 0.1 M MES pH 5.0               | 20% (v/v) MPD  | 6.0      | 136201-59               |
| 60 | E12  |                                       | 0.1 M MES pH 5.0               | 20% (w/v) PEG 6000   | 6.0      | 136201-60               |
| 61 | F1   |                                       | 0.1 M MES pH 5.0               | 10% (w/v) PEG 6000   | 6.0      | 136201-61               |
| 62 | F2   | 0.2 M Magnesium sulfate               |                                | 20% (w/v) PEG 3350   |          | 136201-62               |
| 63 | F3   | 0.2 M Magnesium formate               |                                | 20% (w/v) PEG 3350   |          | 136201-63               |
| 64 | F4   | 0.2 M Magnesium nitrate               |                                | 20% (w/v) PEG 3350   |          | 136201-64               |
| 65 | F5   | 0.2 M Magnesium chloride              |                                | 20% (w/v) PEG 3350   |          | 136201-65               |
| 66 | F6   |                                       | 0.095 M Sodium citrate pH 5.6  | 19% (v/v) Isopropanol; 19% (w/v) PEG 4000; 5% (v/v) Glycerol |          | 136201-66               |
| 67 | F7   |                                       | 0.1 M Sodium citrate pH 5.6    | 20% (v/v) Isopropanol; 20% (w/v) PEG 4000                    |          | 136201-67               |
| 68 | F8   |                                       | 0.1 M Sodium citrate pH 5.5    | 20% (w/v) PEG 3000   |          | 136201-68               |
| 69 | F9   | 0.2 M Sodium chloride                 | 0.1M Phosphate-citrate pH 4.2  | 50% (v/v) PEG 200  |          | 136201-69               |
| 70 | F10  |                                       | 0.1M Phosphate-citrate pH 4.2  | 5% (w/v) PEG 1000; 40% Ethanol                               |          | 136201-70               |
| 71 | F11  | 0.2 M Lithium sulfate                 | 0.1M Sodium acetate pH 4.5     | 50% (v/v) PEG 400  |          | 136201-71               |
| 72 | F12  |                                       | 0.1M Phosphate-citrate pH 4.2  | 40% (v/v) MPD  |          | 136201-72               |
| 73 | G1   |                                       | 0.18 M tri-Ammonium citrate    | 20% (w/v) PEG 3350   |          | 136201-73               |
| 74 | G2   |                                       | 0.1 M Sodium acetate pH 5.0    | 20% (v/v) MPD  |          | 136201-74               |
| 75 | G3   | 1.0 M Lithium chloride                | 0.1 M Citric Acid pH 5.0       | 10% (w/v) PEG 6000   | 5.0      | 136201-75               |
| 76 | G4   |                                       | 0.1 M Citric Acid pH 4.0       | 20% (w/v) PEG 6000   | 5.0      | 136201-76               |
| 77 | G5   |                                       | 0.1 M Citric Acid              | 10% (w/v) PEG 6000   | 5.0      | 136201-77               |
| 78 | G6   |                                       | 0.1 M Citric Acid pH 4.0       | 5% (w/v) PEG 6000  | 5.0      | 136201-78               |
| 79 | G7   | 0.2 M Potassium dihydrogen phosphate  |                                | 20% (w/v) PEG 3350   |          | 136201-79               |
| 80 | G8   | 0.2 M Ammonium dihydrogen phosphate   |                                | 20% (w/v) PEG 3350   |          | 136201-80               |
| 81 | G9   | 0.2 M Ammonium sulfate                | 0.1 M Sodium acetate pH 4.6    | 30% (w/v) PEG 2000 MME                                       |          | 136201-81               |
| 82 | G10  |                                       | 0.1 M Sodium acetate pH 4.6    | 8% (w/v) PEG 4000  |          | 136201-82               |
| 83 | G11  | 0.2 M Ammonium sulfate                | 0.1 M Sodium acetate pH 4.6    | 25% (w/v) PEG 4000   |          | 136201-83               |
| 84 | G12  | 0.02 M Calcium chloride               | 0.1 M Sodium acetate pH 4.6    | 30% (v/v) MPD  |          | 136201-84               |
| 85 | H1   |                                       | 0.1 M Sodium acetate pH 4.5    | 35% (v/v) MPD  |          | 136201-85               |
| 86 | H2   |                                       | 0.1 M Sodium acetate pH 4.5    | 20% (w/v) PEG 3000   |          | 136201-86               |
| 87 | H3   | 0.2M Sodium dihydrogen phosphate      |                                | 20% (w/v) PEG 3350   |          | 136201-87               |
| 88 | H4   | 0.05 M Potassium dihydrogen phosphate |                                | 20% (w/v) PEG 8000   |          | 136201-88               |
| 89 | H5   | 0.2 M Sodium chloride                 | 0.1 M Phosphate-citrate pH 4.2 | 10% (w/v) PEG 3000   |          | 136201-89               |
| 90 | H6   |                                       | 0.1 M Phosphate/citrate pH 4.2 | 2.0 M Ammonium sulfate                                       |          | 136201-90               |
| 91 | H7   | 0.2 M Lithium sulfate                 | 0.1 M Phosphate-citrate pH 4.2 | 20% (w/v) PEG 1000   |          | 136201-91               |
| 92 | H8   |                                       | 0.1 M Citric Acid pH 2.5       | 20% (v/v) MPD  | 4.0      | 136201-92               |
| 93 | H9   |                                       | 0.1 M Citric Acid pH 3.5       | 0.8 M Ammonium sulfate                                       | 4.0      | 136201-93               |
| 94 | H10  | 1.0 M Lithium chloride                | 0.1 M Citric Acid pH 4.0       | 20% (w/v) PEG 6000   | 4.0      | 136201-94               |
| 95 | H11  | 1.0 M Lithium chloride                | 0.1 M Citric Acid pH 4.0       | 10% (w/v) PEG 6000   | 4.0      | 136201-95               |
| 96 | H12  |                                       | 0.1 M Citric Acid pH 4.0       | 5% (w/v) PEG 6000  | 4.0      | 136201-96               |

### Other NeXtal Crystallization Screens Available

- The Classics Suite
- The Classics Lite Suite
- The Classics II Suite
- The Cryos Suite
- The PEGs Suite
- The AmSO<sub>4</sub> Suite
- The MPD Suite
- The Anions Suite
- The Cations Suite
- The pHClear Suite
- The pHClear II Suite
- The MbClass Suite
- The MbClass II Suite
- The Protein Complex Suite
- The PEGs II Suite
- The CompPAS Suite
- The PACT Suite
- The Nucleix Suite
- The JCSG+ Suite
- The JCSG Core I-IV Suites
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 Fast, simple, consistent crystallography. **NO SURPRISES**

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# NeXtal