

Competitive Comparison of JETSTAR 2.0, Qiagen/Nucleobond, Promega Wizard and CsCl

| Specification | JETSTAR 2.0 | Qiagen/Nucleobond | Promega Wizard | Cesium Chloride |
|----------------------------------|-----------------------------|-----------------------------|-------------------------------------|------------------------|
| Technology | IEX | IEX | silica adsorption | density gradient |
| Type of procedure | Gravity-flow columns | Gravity-flow columns | Spin and or vacuum driven procedure | ultracentrifugation |
| Toxic/Mutagenic substances used | no | no | yes (guanidine hydrochloride) | yes (ethidium bromide) |
| Preparation of Cleared Lysate | Alkaline Lysis | Alkaline Lysis | Alkaline Lysis | Alkaline Lysis |
| Time to prepare Cleared Lysate | 20-25 min | ≥ 1 h* | 30-35 min | 20-25 min |
| Time needed for column procedure | | | | |
| MINI | 19-21 min | >30 min | 20 min | --- |
| MIDI | 30-45 min | > 1 h | 90 min | --- |
| MAXI | 30-35 min | > 1 h | 3 h | in general > 24-48 h |
| Column flow | Homogeneous | Variable | Variable | --- |
| Reproducibility | Yes | Variable | Variable | Yes |
| Plasmid Size | All Sizes | All Sizes | max. 15 - 20 kb | All Sizes |
| Plasmid Quality | Ultrapure | Ultrapure | Variable | Highly pure |

| | | | | |
|-------------------------------------|----------------|------------|---------------|------------|
| DNA suitable for: | | | | |
| Automated Sequencing | Yes | Yes | Variable | Yes |
| Transfection | Yes | Yes | Variable - No | Yes |
| Microinjection | Yes | Yes | Variable - No | Yes |
| Restriction/Ligation | Yes | Yes | Yes | Yes |
| Library Screening | Yes | Yes | Yes | Yes |
| Transformation | Yes | Yes | Yes | Yes |
| Endotoxin Content (EU/ μ g DNA) | <0.1 | 1.2** | >150 | n.d. |
| Option to work without RNase | Yes | No | No | Yes |

* = with Qiafilter only 20-25 min, but the filter will increase cost.

** = determined with a regular Qiagen kit, NOT with their "Endo Free" kit.

*** = working with a much simpler and therefore cheaper technology than IEX technology. DNA quality much worse than IEX-prepared DNA.