


Quick Guide:

DNA Shearing with M220 Focused-ultrasonicator


microTUBE AFA Fiber Screw-Cap – 50 µl sample - from 150 to 800 bp

Target BP (Peak)	150	200	250	300	350	400	500	800
Peak Incident Power (W)	50	50	50	50	50	50	50	50
Duty Factor	20%	20%	20%	20%	20%	20%	20%	20%
Cycles per Burst	200	200	200	200	200	200	200	200
Treatment Time (s)	375	175	120	80	65	50	32	25
Temperature (°C)	20	20	20	20	20	20	20	20
Sample volume (µl)	50	50	50	50	50	50	50	50




microTUBE AFA Fiber Snap-Cap – 130 µl sample - from 150 to 1,500 bp

Target BP (Peak)	150	200	300	400	500	800	1,000	1,500
Peak Incident Power (W)	50	50	50	50	50	50	50	50
Duty Factor	20%	20%	20%	10%	10%	5%	5%	2%
Cycles per Burst	200	200	200	200	200	200	200	200
Treatment Time (s)	350	160	75	90	60	80	60	25
Temperature (°C)	20	20	20	20	20	20	20	20
Sample volume (µl)	130	130	130	130	130	130	130	130



Covaris AFA miniTUBE – 200 µl sample - 2,000; 3,000 and 5,000 bp

Target BP (Peak)	2,000	3,000	5,000
miniTUBE	Clear	Blue	Red
Peak Incident Power (W)	8	6	8
Duty Factor	20%	20%	20%
Cycles per Burst	1,000	1,000	1,000
Treatment Time (s)	900	600	600
Temperature (°C)	7	20	20
Sample Volume (µl)	200	200	200



To fragment DNA to size larger than 5 kb, Covaris offers the **g-TUBE**: a single-use device that shears genomic DNA into selected fragments sizes ranging from 6 kb to 20 kb. The only equipment needed is a compatible bench-top centrifuge.

Supplies

Covaris AFA tubes	microTUBE AFA Fiber Snap-Cap (25)	520045
	microTUBE AFA Fiber Screw-Cap (25)	520096
	miniTUBE Clear (25)	520064
	miniTUBE Blue (25)	520065
	miniTUBE Red (25)	520066
Preparation stations	microTUBE Prep Station Snap & Screw Cap	500330
	miniTUBE loading and unloading station	500207
Kits	M220 NGS microTUBE Starter Kit	500296
	Includes: microTUBE holder; microTUBE Snap-Cap (25) microTUBE Screw-Cap (25) microTUBE Prep Station Snap & Screw Cap	
	M220 NGS miniTUBE Starter Kit	500297
	Includes: miniTUBE holder; miniTUBE Clear (25) miniTUBE blue (25) miniTUBE red (25) miniTUBE Prep Station & Stand	
Instrument cleaning	M220 Fill & Drain Accessory Kit	500299
	M220 Swab Cleaning Kit	500298
AFA-grade Water		520101
g-TUBE	g-TUBEs (10) and prep station	520079

Values mentioned in this Quick Guide are nominal values. The tolerances are as follow:

- Temperature +/-2°C
- Sample volume +/- 5 µl

Sample preparation guidelines

- **DNA input:** from 100 ng to 5 µg purified DNA
- **Buffer:** Tris EDTA, pH 8.0
- **DNA quality:** Genomic DNA (> 10 kb). For lower quality DNA, Covaris recommends setting up a time dose response experiment for determining appropriate treatment times.

Recommended settings are subject to change without notice.

See following link www.covarisinc.com/wp-content/uploads/pn_010166.pdf for updates to this document.