

FastRun™ 50-15k

Cat #: 22061, 22062

Base pairs	Nanogram in loading (ul)			
	10ul	5ul	2ul	1ul
15k	40	20	8	4
10k	20	10	4	2
7k	50	25	10	5
5k	80	40	16	8
3k	100	50	20	10
2k	200	100	40	20
1k	100	50	20	10
700	70	35	14	7
500	50	25	10	5
300	30	15	6	3
100	10	5	2	1
50	10	5	2	1

Number of bands: There are 12 DNA bands. Only a high percentage gel ($\geq 2.5\%$) will separate and detect 50 and 100 bp DNA bands. The gel can be run at 250-300 v for 10 to 15 minutes to resolve the DNA bands. The gel will not melt because of short running time.

Storage conditions: Room temperature for 12 months

Recommended Loading: 5ul/lane

Loading: It is supplied in ready-to-load buffer. No further mixing with dyes or glycerol is required. It is stored at liquid condition. No thawing and refreezing are needed. Different loading volume will give different quantity of DNA in each band while the size of each band will remain the same.

Staining: The gel is stained by EtBr in both the agarose gel and its running buffer at 0.2 ug/ml. Similar results will be obtained from other DNA staining procedures.

FAQs about FastRun™50-15k DNA standard

How much should it be loaded?

Recommended loading for this DNA standard is 5 ul. However other volumes may be loaded depending on quantity of the DNA sample to be determined. For large gel with big loading wells, 10 to 20 ul may be loaded. For mini gel with small wells, 1 to 2 ul may be loaded. Most agarose gel can detect 1 ng DNA band (Molecular Cloning, Sambrook et al). When 2 ul is loaded on a mini gel, all DNA bands will be visible under a regular digital camera. 50 and 100 bp bands may not be visible when 1 ul is loaded because of small DNA fragment diffusion.

How accurate is the quantity determination?

FastRun™50-15k DNA standard is prepared by CsCl double banding. Extensive efforts have been made to ensure its quantity accuracy. If a UV reading gives different quantity than it is determined by our standards, our quantification is more accurate. This is simply because of contaminations of DNA samples with impurities in the UV readings. These contaminations will not affect the quantity determination when using our standards.

Can we use this standard on buffer-less gel?

Yes. When you load this standard on a buffer-less gel, make sure you add some water in the same well to fill half of the well. Otherwise the DNA bands can not be well separated.

Can we use a density scanner to determine quantity with this standard?

Of course. Make sure the gel is evenly stained when you compare different DNA bands on the gel. If the gel is not evenly stained or EtBr is running off the bottom of the gel, the quantity will not be accurate. Our standards may be used to calibrate a density scanner.

Why are low or high molecular weight (MW) DNA bands sometimes not resolved or detectable?

Above figure is prepared from an 1% agarose gel with BRHR™ buffer (cat # 41001). When a regular buffer is used, a high percentage gel ($\geq 2.5\%$) and a low percentage gel ($\leq 0.8\%$) should be used to separate and detect low MW bands and high MW bands respectively .

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