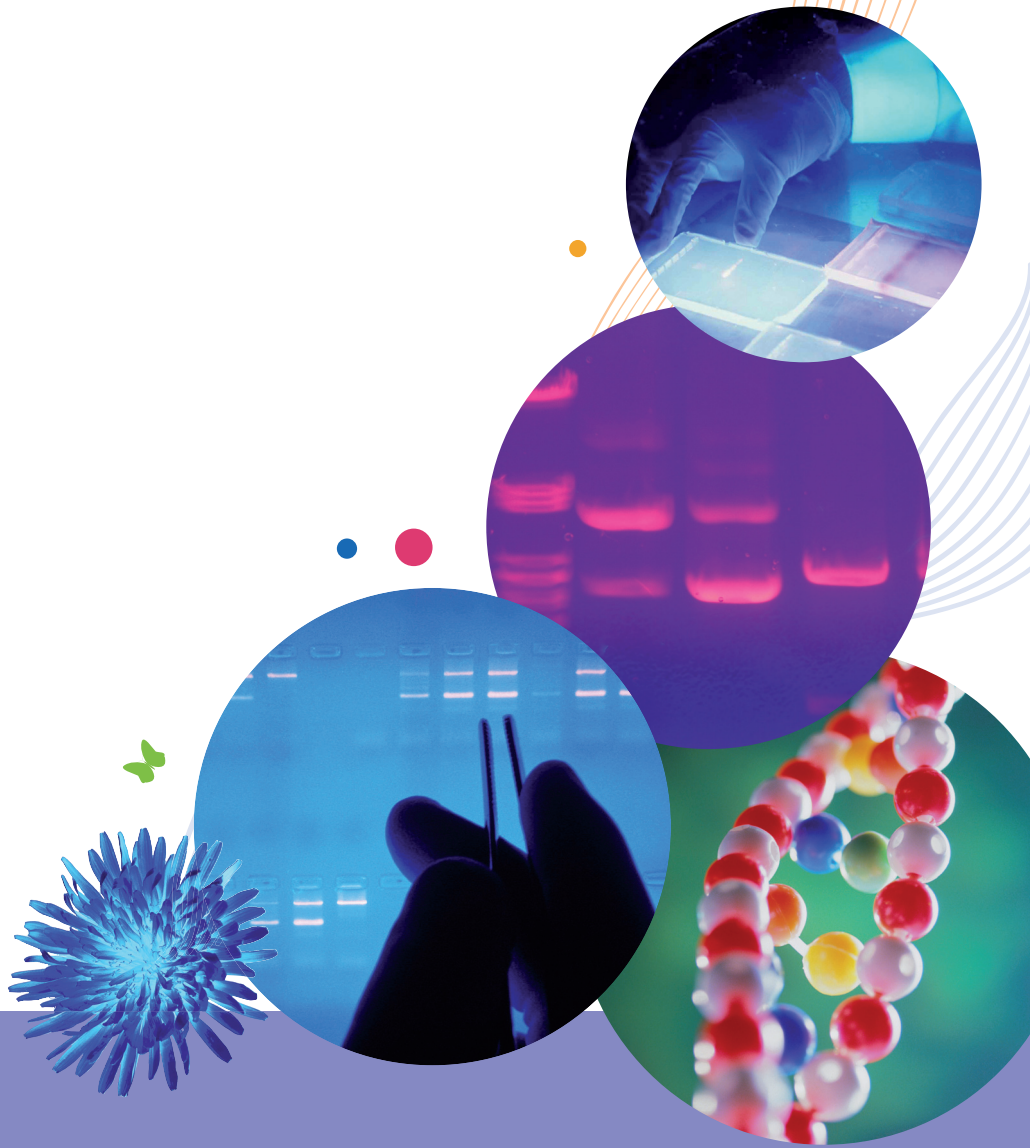




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Agaroses

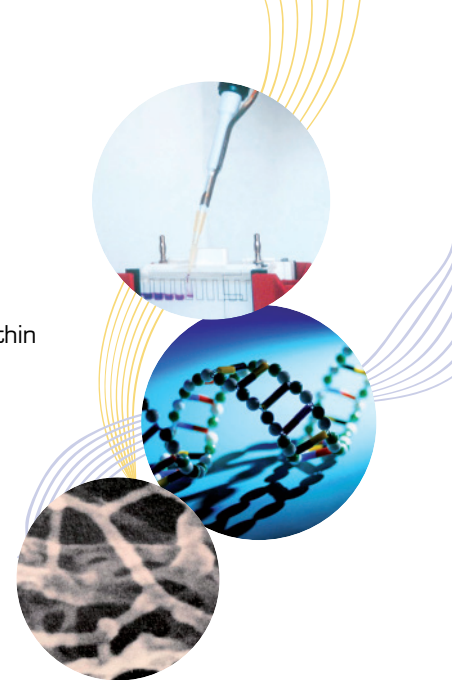
# Agaroses

## types, applications & concentrations

Agarose is a fraction extracted from agar-producing seaweeds and is mainly responsible for the agar's gelling power. It exhibits a high hysteresis (difference between melting and gelling temperatures) making it ideal for separations such as electrophoresis and chromatography within the fields of Molecular Biology and Biochemistry.

Specifically, the gelling temperature range is 32 - 45°C, and the melting temperature range is normally 80 - 95°C, although these can be modified when preparing products for specific uses.

Agarose is a neutral and toxic-free material so it can be handled freely. In addition to its uses in gels, agarose can be used to form support structures such as beads, to which proteins, such as enzymes and antibodies, as well as other products, including dyes and antigens, can be fixed for separations. Agarose is an indispensable tool for Molecular Biology, Biochemistry, Cell Structure and Microbiology.



## Applications

	Analytical separation ≥1000 bp	Analytical separation ≤1000 bp	Preparative electrophoresis	PFGE	DNA typing	Blotting	Fine resolution	In-gel applications	Protein electrophoresis
D1 LE	●				●	●			
D1 ME/HE									●
D1 LE GGT	●		●		●	●			
D2	●								●
D5	●			●		●			
FP DNA	●				●	●			
LM	●								
LM GGT	●		●					●	
LM Sieve		●	●				●	●	
Novagel GGT		●	●				●	●	
MS4		●							●
MS6		●							●
MS8		●							●
MS12		●				●			

## Comparative

	CONDA	LONZA
D1 LE		Seakem LE
D1 ME		Seakem ME
D1 LE GGT		Seakem LE GGT
D2		Seakem HGT
D5		Seakem GOLD
FP DNA		-
LM		SeaPlaque
LM GGT		SeaPlaque GGT
LM Sieve		NuSieve GTG
Novagel GGT		NuSieve GTG
MS4		-
MS6		-
MS8		Metaphor
MS12		NuSieve 3:1

## Standard concentrations for DNA resolution

	Buffer 1X TAE Range (bp)	Gel concentration [%]	Buffer 1X TBE Range (bp)
D1 LE / D1 LE GGT	20.000 - 1.000	0,6	15.000 - 1.000
	12.000 - 500	0,8	10.000 - 500
	8.000 - 300	1,0	7.000 - 250
	6.000 - 200	1,2	5.000 - 200
	3.500 - 100	1,5	3.000 - 100
	2.000 - 50	2,0	2.000 - 50
D5	40.000 - 3.000	0,3	20.000 - 2.000
	22.000 - 2.000	0,5	12.000 - 1.500
	15.000 - 1.000	0,8	9.000 - 1.000
	10.000 - 400	1,0	6.000 - 500
	5.000 - 200	1,8	3.000 - 200
LM / LM GGT	20.000 - 500	0,75	12.000 - 500
	16.000 - 300	1,00	8.000 - 300
	10.000 - 250	1,25	4.000 - 200
	5.000 - 200	1,50	3.000 - 150
	2.500 - 100	1,75	2.000 - 100
	1.500 - 50	2,00	1.000 - 50

	Buffer 1X TAE Range (bp)	Gel concentration [%]	Buffer 1X TBE Range (bp)
LM SIEVE / NOVAGEL GGT	1.500 - 500	2,0	1.000 - 400
	700 - 150	3,0	500 - 100
	300 - 70	4,0	150 - 10
	50 - 10	5,0	≤ 30
MS4	500 - 80	3,0	300 - 50
	300 - 30	4,0	100 - 10
	200 - 10	5,0	≤ 100
MS6 / MS8	1.200 - 400	1,8	1.200 - 100
	800 - 150	3,0	700 - 40
	500 - 20	4,0	200 - 20
	300 - 10	5,0	≤ 100
MS12	1.500 - 500	2,0	1.200 - 400
	1.200 - 300	3,0	800 - 100
	600 - 150	4,0	500 - 50
	250 - 30	5,0	250 - 20

## Standard agaroses: D1 Low EEO (0.05–0.13)

- ✓ *Standard agaroses for routine analysis of nucleic acid fragments*
- ✓ *Separation range:  $\geq 1,000$  bp*
- ✓ *Optimum gel concentration: 0.75%, 1% and 1.25%*
- ✓ *Gelling temperature (1.5%):  $36 \pm 1.5^\circ\text{C}$*
- ✓ *Melting temperature (1.5%):  $88 \pm 1.5^\circ\text{C}$*
- ✓ *Applications: suitable for nucleic acid electrophoresis, blotting and radial immunodiffusion of proteins*

### Other standard agaroses:

- **D1 Low EEO GQT (Genetic Quality Tested)**: Standard agarose with **GQT (Genetic Quality Tested) certificate**. Useful when recovering DNA fragments before enzymatic processes or cloning.
- **D1 Medium EEO (0.16-0.19)**: Useful for nucleic acid electrophoresis; serum protein electrophoresis and immunoelectrophoresis.
- **D1 High EEO (0.23-0.26)**: Suitable for electrophoresis of serum proteins, immunoelectrophoresis and counterimmunoelectrophoresis.
- **D2 High Gelling Temperature**: High gelling temperature agarose,  $42 \pm 1.5^\circ\text{C}$ , giving higher thermal stability to gels than D1-HE. Applications: Useful for preparation of agarose beads; protein electrophoresis and crossed immunoelectrophoresis.

## Low melting point agaroses: LM Sieve agarose

The low melting temperature of these agaroses allows for the recovery of undamaged nucleic acids at a temperature lower than their denaturing temperature.

- ✓ *Low gelling/melting point agarose, GQT grade certified with the highest resolving capacity for small fragments*
- ✓ *Separation range: 200 - 800 bp*
- ✓ *Optimum gel concentration:  $\geq 2\%$*
- ✓ *Gelling temperature (4%):  $\leq 35^\circ\text{C}$*
- ✓ *Melting temperature (4%):  $\leq 65^\circ\text{C}$*
- ✓ *Applications: electrophoresis of DNA fragments  $\leq 1000$  bp; In-Gel enzymatic processing (digestion, ligation, PCR). Analysis and recovery of small DNA fragments for further applications*

### Other low melting agaroses:

- **LM and LM GQT**: highest resolving capacity for **large** DNA fragments (separation:  $\geq 1,000$  bp). Two different alternatives: LM Standard and LM GQT (Genetic Quality Tested).
- **Novagel GQT**: Low melting agarose grade certified. Its high resolution capacity can resolve **small** DNA fragments (separation: 50–1,000 bp).

## High (DNA) resolution agaroses: MS-6 Metagel

This group of agaroses called “Molecular Screening” (MS) are used for an improved resolution of DNA fragments of  $\leq 500$  bp, especially sized-primer fragments.

- ✓ *Improved resolution efficiency for small DNA fragments*
- ✓ *Improved gel clarity, enhancing visualization, even at high concentrations*
- ✓ *High gel strength, which enables an easy handling when used at low concentrations*
- ✓ *Separation range: 150 - 700 bp*
- ✓ *Optimum gel concentration: 3%*
- ✓ *Gelling temperature (3%):  $\leq 35^\circ\text{C}$*
- ✓ *Melting temperature (3%):  $\leq 75^\circ\text{C}$*

### Other high resolution agaroses:

- **MS-4**: recommended for analytical electrophoresis of DNA lower than 500 bp.
- **MS-8**: recommended for analytical gels of DNA lower than 1,200 bp and especially for PCR products.
- **MS-12**: recommended for DNA analytical gels at 2% concentrations, it can separate 50 -1,500 bp fragments.

## Other agaroses

- **D5**: High gel strength agarose, not only especially recommended for high molecular weight nucleic acids  $>1000$  bp, including chromosomes, but also for large sized particles like viruses and ribosomes. Strongly recommended for PFGE owing to its high gel strength and its mobility, which is higher than that of standard agarose.
- **FP DNA**: DNA Finger-printing (FP) agarose is a powerful tool for laboratories performing forensic testing, paternity determination, cell line verification and tissue typing.

ALL RNase /  
DNase FREE



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Laboratorios CONDA was founded in 1960 as the first Spanish producer of Dehydrated Culture Media for Microbiology and Molecular Biology. The company is now internationally recognized as one of the leaders in the field and supplies key ingredients for use in research and testing, such as Agars, Peptones and Agaroses, among other products. Our corporate mission is to be a major contributor to the field of Life Sciences through the design, production and provision of products and services of the highest quality and value.

CONDA offers a complete line of **agaroses** covering all known applications: **standard agarose** for electrophoresis techniques, **low-melt agarose** for DNA recovery and **high-resolution agarose** for small fragments.



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### D1 low EEO

Cat. No. 8012	100 g
Cat. No. 8014	250 g
Cat. No. 8016	500 g
Cat. No. 8008	1.000 g

### D1 low EEO GGT

Cat. No. 8017	100 g
Cat. No. 8018	250 g
Cat. No. 8015	500 g

### D1 medium EEO

Cat. No. 8020	100 g
Cat. No. 8021	250 g
Cat. No. 8022	500 g
Cat. No. 8023	1.000 g

### D1 high EEO

Cat. No. 8025	100 g
Cat. No. 8026	250 g
Cat. No. 8027	500 g
Cat. No. 8028	1.000 g

### D2 high gelling temperature

Cat. No. 8033	100 g
Cat. No. 8034	250 g
Cat. No. 8038	500 g

### D5 high gel strength

Cat. No. 8045	100 g
Cat. No. 8046	250 g
Cat. No. 8047	500 g

### FP DNA

Cat. No. 8089	100 g
Cat. No. 8092	250 g
Cat. No. 8093	500 g

### LM

Cat. No. 8050	100 g
Cat. No. 8051	250 g
Cat. No. 8052	500 g

### LM GGT

Cat. No. 8087	100 g
Cat. No. 8094	250 g

### LM Sieve

Cat. No. 8085	100 g
Cat. No. 8084	250 g
Cat. No. 8096	500 g

### Novagel GGT

Cat. No. 9021	100 g
Cat. No. 9022	250 g
Cat. No. 9023	500 g

### MS-4

Cat. No. 8075	100 g
Cat. No. 8076	250 g
Cat. No. 8077	500 g

### MS-6 Metagel

Cat. No. 8002	100 g
Cat. No. 8003	250 g
Cat. No. 8004	500 g

### MS-8

Cat. No. 8065	100 g
Cat. No. 8066	250 g
Cat. No. 8064	500 g

### MS-12

Cat. No. 8067	100 g
Cat. No. 8068	250 g
Cat. No. 8069	500 g

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