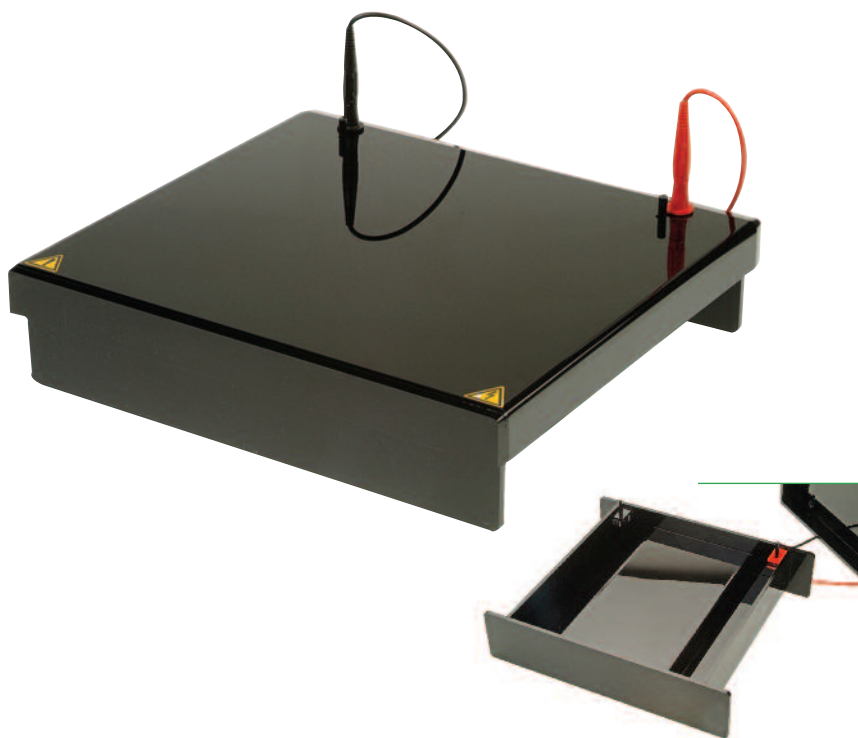


# COMET ASSAY

**COMET assay** tanks are available in three slide formats to study single cell gel electrophoresis (SCGE), a technique made popular by drug toxicology and carcinogenesis studies for the detection and quantitation of DNA damage in cells.

Each tank's robust construction from ebony acrylic ensures that cells remain free of exposure to background light and DNA damage during electrophoresis, while a cooled central platform provides a convenient surface for slide preparation and control of slide temperature during the assay. Following electrophoresis, DNA damage may be measured using Comet Assay scoring software.



## KEY FEATURES

**Quantifying DNA damage and repair in drug development applications and Reproductive science.**

- Overview: Following genotoxic insult, such as ionizing radiation, the resultant strand breakage of supercoiled duplex DNA reduces the size of the large genomic DNA from which these strands are separated or drawn out by electrophoresis. The genomic DNA then takes on the appearance of a 'comet' as its negatively charged broken ends and fragments migrate towards the anode during electrophoresis.
- Method: After exposure to a genotoxic insult cells are suspended within low melting point agarose and embedded within a thin layer of agarose on a microscope slide. Cellular protein is then removed by lysis in detergent, when DNA is allowed to unwind in alkaline conditions before electrophoresis. The DNA is electrophoresed, stained and then analysed using fluorescent microscopy and imaging software.

TECHNICAL SPECIFICATIONS			
SLIDE CAPACITY	10	20	40
UNIT DIMENSIONS (W X L X H)	17x34x9cm	31x34x9cm	33x59x9cm
VOLUME	550ML	1000ML	2100ML

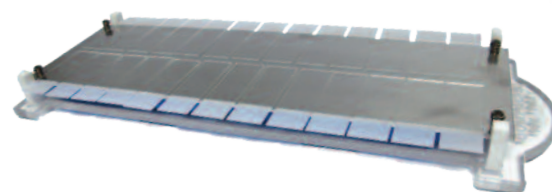
For COMET assay cooling we recommend the CSL-CHILLER. This CHILLER is ready assembled with the thermostat mounted on the refrigerator and supplied with insulated tubing and clips to form a system ready to use. A simple-to-use rotor dial plus two keys provide access to the interactive interface for fast, accurate set-up.

TECHNICAL SPECIFICATIONS			
Temperature range	-25 to 100°C	Pump flow rate	17 L/min (max.)
Stability (water @ 10°C)	± 0.1°C	No. stored temp. values	3
Uniformity (water @ 10°C)	± 0.1°C	Safety over-temperature	adjustable cut-out
Setting resolution	0.1°C	Heater power 230 V	1.3 kW
Display	4 digit LED	Height above tank rim	200mm
Timer function	1minto99hrs59mins	Depth below tank rim	135mm



High specification Chiller

This Chilling Plate is custom designed and manufactured specifically for Comet Assay. The Chilling Plate can accommodate 26 Comet assay slides and assists in the Comet Assay process by allowing a rapid solidification of the low melting point agarose on the Comet Assay slides and facilitates easy retrieval of the slides once the agarose gels are solid.



## ORDERING INFORMATION

CSL-COM10	Comet Assay Tank for 10 Slides	CSL-CHILLER	Chiller unit for active slide temperature control
CSL-COM20	Comet Assay Tank for 20 Slides	CSL-CHILLPLATE	Chill Plate for 26 Comet Assay Slides
CSL-COM40	Comet Assay Tank for 40 Slides		

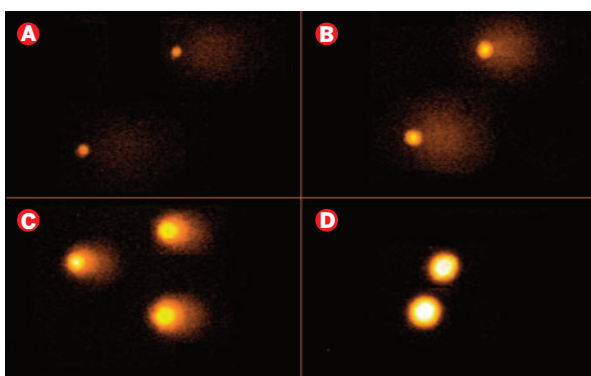
# COMPAC-50

Developed in collaboration with the Oxidative Stress Group in the Department of Cancer Studies and Molecular Medicine within the University of Leicester, the COMPAC-50 is a high throughput electrophoresis system, to perform the Comet Assay using a patented vertical slide orientation design. This allows up to 50 slides to be run in a single tank, with a fraction of the footprint of traditional tanks.

The unique patented design employs two carriers to hold a total of 50 slides (25 per carrier) vertically. This provides two distinct advantages over conventional Comet Assay systems that utilise a horizontal platform for manual mounting of multiple individual slides. Firstly to produce a highly compact system which saves 75% of Lab space. Secondly by holding 25 slides in a rack this allows slides to be processed together in one batch saving on handling assay time by up to 90%. Consequently, this is not only beneficial for electrophoresis but also in the lysis, neutralisation, staining and washing steps of the Comet Assay, when each batch of slides may be treated during each step respectively using the ten ebony acrylic staining dishes supplied. In addition, the COMPAC-50 benefits from a high performance ceramic cooling base with sliding drawer to accommodate a cool pack, which is frozen before use, to maintain optimal buffer temperature.

## KEY FEATURES

- Patented design used vertical slide orientation to increase throughput
- Slide carriers eliminate manual handling decreasing errors and assay time.
- Ten staining dishes supplied for batch-treatment of slides during the lysis, neutralisation, staining and washing steps
- Ebony acrylic construction ensures reduced exposure to background light and potential DNA damage
- Highly compact design optimises electrophoresis efficiency during Comet Assay
- Ebony acrylic construction ensures reduced exposure to background light and potential DNA damage
- 50 slides may be run within 20 minutes using powerPRO300 power supply (page 62)



### Typical Results

Repair of UVB-induced DNA damage in human keratinocytes, using enzyme-modified Comet assay. HaCaT cells were irradiated with 1J/cm<sup>2</sup> UVB, then allowed to repair in fresh medium and DNA damage analysed at different time points (A) 0 h, (B) 1 h, (C) 6 h, (D) unirradiated (courtesy of Karbaschi, M. University of Leicester, Leicester, UK).

### TECHNICAL SPECIFICATIONS

Unit Dimensions (WxLxH)	26.5 x 15 x 15cm
Total Slide Capacity	50 slides 25 x 75mm
Slide Capacity per Rack	25
Volume	550 ml
Recommended Power Supply	POWERPRO300 300V, 700mA, 150W

### ORDERING INFORMATION

<b>COMPAC-50</b>	<b>High Throughput Comet System</b> for 50 slides, includes 2x 25 slide carriers, 10x staining dishes, tank with ceramic cooling platform and cool pack, lid and power cables	STAINDISH	Ebony acrylic stain dish, pk/1
		STAINDISH4X	Ebony acrylic stain dish, pk/4
		COMPAC- 50-PE	Positive electrode
		COMPAC- 50-NE	Negative electrode
<b>COMPAC-PP300</b>	<b>COMPAC-50 and powerPRO300</b> Power Supply 300V, 700mA, 150W	CSL-LMA50	Agarose 50g, Low melting point (Pg 29)
COMRAC-25	Vertical slide carrier for 25 slides, pk/1		