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Viability-TIC®

Viability Test • Dilution 1:20
Zur Bestimmung der Lebensfähigkeit von Zellen

Definition

Product information for quantitative microscopic viability counting of cells based on trypan blue staining.

Principle

Microscopic counting of living and dead cells in the counting chamber. The cells appear clearly against a clean, slightly blue background.
Viability-TIC® for viability counting enables fast, simple, clean and accurate operation. 360 µl solution are placed in the sample cup. 20 µl sample and 20 µl staining solution are used (dilution ratio 1:20).

Suitability

Viability-TIC® is particularly suitable for cell suspensions from e. g. bioreactors. The osmolality of the dilution solution is 288 mosmol/kg.
For the viability count of leukocytes, please use Leuko-TIC VT to lyse the interfering erythrocytes.

Reagents

The Viability-TIC® are ready for use and can be stored at room temperature (+15 ... +25 °C) until the expiry date printed on the label. Remove vials only for use, otherwise store in an upright and dark position (closed package).
Only use if the solution is clear and free of particles.

Risks and Safety

Please observe the necessary precautions for use of laboratory reagents and body fluids; as well as possibly also of microbiological samples. Applications should be performed by expert personnel only. Follow the national and laboratory internal guidelines for work safety and infection control. Wear suitable protective clothing, safety eyewear and disposable gloves while handling.
It is important to ensure effective protection against infection according to laboratory guidelines.
Use a capillary holder for volume capillaries.

SDS ID International
www.sds-id.com

For additional safety information please refer to the information on the label and the corresponding Safety Data Sheet (SDS).
Download by QR-Code or link:

www.sds-id.com/103-4 (080202-... Viability-TIC Diluent Solution)

No hazardous product in the mind of the directives 1272/2008, 67/548/EWG or 1999/45/EG. Safety Data Sheet (SDS) not necessary. Transport: Road, air, sea: No limitation.

www.sds-id.com/100176-1 (080202-... Viability-TIC Staining Trypanblau)

Main Components/Contents

080202-...	Cont.	Viability-TIC Diluent Solution 288 mosm/kg buffered sodium chloride
080203-...	Cont.	Viability-TIC Staining Solution aktiviated Trypanblue Solution 0.8 %

080201-6100	**KIT**		**Viability-TIC® 1:20 • Single test with capillaries**
080202-4360	1.	100× 360 µl	Viability-TIC® 1:20 Diluent Solution Packed in styrofoam racks.
080203-0002.A	2.	1× ≥2 ml	Viability-TIC® Staining Solution
ETE020-0100	3.	2× 100 St	End-to-end Volume Capillaries 20 µl
KFK-0100	4.	1× 100 St	Chamber filling Capilaries
080201-6010	**SET**		**Viability-TIC® 1:20 • Single test w/o capillaries**
080202-4360	1.	10× 360 µl	Viability-TIC® 1:20 Diluent Solution Packed in aluminium foil sachet.
080203-4250.B	2.	1× ≥0,2 ml	Viability-TIC® Staining Solution

Replacement pack optional

TIC-CP20	**SET**	**TIC 20 µl Capillary Pack**	
ETE020	1.	100× 20 µL	End-to-end volume capillaries
KFK	2.	100×	Chamber filling capillaries

Do not use other capillaries that are not intended for this TIC test kit.
Different coatings may result in incorrect results.

Additional required or recommended materials and equipment

099920-0001 *	Capillary Holder *
CC-NEUI *	Counting Chamber Neubauer "improved" * Microscope for medical laboratory use.

* Available from Bioanalytic GmbH.

Specimen

Process fresh sample material immediately.

Bioanalytic GmbH
● biomedical & analytical chemical reagents • medical laboratory diagnostics
● in vitro diagnostics (IVD) • biomedical science & analysis technology
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Procedure

The Viability-TIC® dilution is 1 : 20 *1). This dilution is optimal for counting cell concentrations of about 5 to 15 × 10^3/µL or × 10^9/L. Higher cell concentrations should be pre-diluted with a solution of Viability-TIC® or PBS or 0.9 % NaCl or another suitable solution *3). Prepare Viability-TIC® immediately after predilution and follow the instructions below.

With capillary pipettes

Fill up one of the 20 µL end-to-end volume capillaries free of bubbles from end to end with sample. For this procedure it is recommend to use a capillary holder (see ordering Information). Remove outside adhesive sample with a lint free tissue - don't change the volume inside. Add the filled volume capillary to the opened vial, close and shake very well until all sample has been removed out of the capillary. Wait for 30 ... 60 seconds. Don't remove the capillary from the vial. Fill up one new of the 20 µL end-to-end volume capillaries free of bubbles from end to end with the Viability-TIC® staining solution. Use also the capillary holder. Put the filled volume capillary additional into the same vial. Close and shake well until all staining solution has been removed from the capillary.

Wait about 5 minutes *2) and prepare counting chamber. Shake once more before filling the counting chamber. Fill the chamber filling capillary about ¼...½ length and close the upper end with the finger. Adduct in a small angle to the cover slip and refill the counting chamber. Count immediately.

With automatic pipette

This mode of operation is recommended for laboratory experts only!

Instead of the 20 µL end-to-end volume capillaries and the chamber filling capillaries use an automatic pipette 20 µL. Rinse pipette tip sufficiently with reagent solution. Shake the vial once more before filling the counting chamber. Count immediately.

Examination

Microscopic counting with phase-contrast optics or transmitting light (lowered condensing lens) at 100× magnification.

Alive cells appear brightly. Dead cells appear blue. Often the morphology of dead cells looks with indistinct cell membrane structures.

Counting chamber Neubauer "improved" or Neubauer

Count the cells (alive and dead separately) of the 4 large corner squares of each 1 mm^2 surface, consisting of 4 × 4 squares. If the Neubauer „improved" counting chamber is used count cells up to the middle line.

Calculation

aCells count of the 4 large corner squares × 0.05 = aCells × 10^9/l sample
aCells count of the 4 large corner squares × 50 = aCells/µl sample

dCells count of the 4 large corner squares × 0.05 = dCells × 10^9/L sample
dCells count of the 4 large corner squares × 50 = dCells/µl sample

tCells count = aCells + dCells

Ratio = (100/tCells × aCells)/(100/tCells × dCells)

Example

tCells = 9,80; aCells = 5,88; dCells = 3,92

Ratio = (100/9,80 × 5,88)/(100/9,80 × 3,92)
Ratio = 60/40

Definitions

Cells = Cells you will determine
tCells = Total Cells
aCells = Alive Cells
dCells = Dead Cells

Notes

For laboratory use (e.g. research, life science).

This product information exclusively relates to the product described in this leaflet. In particular, this product information cannot be applied to similar reagents from other manufacturers.

Periodically check for updates of this product information on our website.

Instruction for use

For professional use only.

To avoid errors, the use of qualified personnel is carried out. National guidelines for work safety and quality assurance must be followed.

The used equipment must comply with the state of technology and the laboratory requirements.

All samples and used tubes/vials must be marked clearly identifiable to exclude any confusion.

Support / Information service

For methodological and technical support, please contact us by E-Mail at support@bioanalytic.de.

Periodically check for updates of this product information on our website.

Feedback

Information from users can be reported to support@bioanalytic.de.

Suggestions for further developments will be considered.

Waste Management

Please observe your national laws and regulations.

Used and expired solutions must be disposed of in accordance with your local regulations.

Inside the EU, national regulations apply that are based on the current, amended version of Council Directive 67/548/EEG on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.

Decontaminated packaging can disposed of as household waste or recycled, unless otherwise specified.

Literature & Footnotes

Legends for the graphic symbols and tags used follow relevant norms or are available on our internet pages.

*1) If required, we can also produce other dilutions on request.

*2) The staining time depends on the cell type and should be pre-tested. It is the time between the addition of the staining solution/mixture and the faultless detection of the staining of dead cells.

*3) Suitable are dilution media that exert the least possible stress on the cells. Ideal are those whose osmolality corresponds to the usual cell environments.