



### Applications

- y radioactivity TLC
- radiochemical purity
- multiple trace TLC
- 2 plates 200 x 200 mm
- multiple nuclides

### General description

GITA is a scanning device, which moves the radioactivity detector along 1 trace from start to front and goes to the next pre-programmed trace position and scans that trace with individual nuclide settings.

For nuclides, GITA is using a scintillation probe with a BGO crystal. Due to its density, BGO has a quite high stopping power for radiation and a reasonable energy resolution. BGO is mechanically quite stable and non-hygroscopic. Relative small size and special shape enable a sophisticated design of the scintillation probe.

There are 5 mechanical collimators designed for the energy ranges of 0-60, 60-150, 150-250, 250-450, >450 keV. Depending on the radiation energy of the radioactive compound, the suitable collimator is inserted into the detector. Simple tools help to keep the distance exactly the same between the sample surface and detector entry window.

GITA offers a calibration and sensitivity check by a reference source.

After all traces of 1 TLC plate 200 x 200 mm are ready, the second TLC-plate 200 x 200 mm can be scanned.

A single chromatogram can be displayed live on the screen of the connected PC. Multiple traces can be displayed 3-dimensional.

Peak integration and evaluation can be performed manually or automatically. The measurement and data handling is digital (single event counting) and limit of detection can be determined for every small peak.

### Features

- 80 trace scans on 2 TLC plates 200 x 200 mm
- automatic energy calibration
- extremely high counting rate
- dead time correction
- automatic decay correction
- live display on screen
- peak integration,
- TLC evaluation
- limit-of detection calculation

### Ordering information

- 07000010** GITA\* multiple-y-TLC-scanner  
all programs included
- 02900004** GITA\* collimator 0-60 keV
- 02900005** GITA\* collimator 60-150 keV
- 02900006** GITA\* collimator 150-250 keV
- 02900007** GITA\* collimator 250-450 keV
- 02900008** GITA\* collimator 450 – keV
- 02900011** y-reference source with holder
- 01240074** installation and 1 day training

complete installation requires PC and WINDOWS

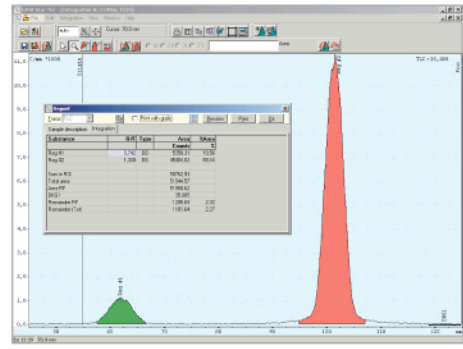




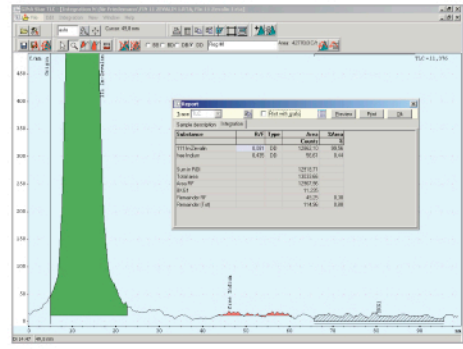
# GITA

## y- radioactivity-multi-TLC

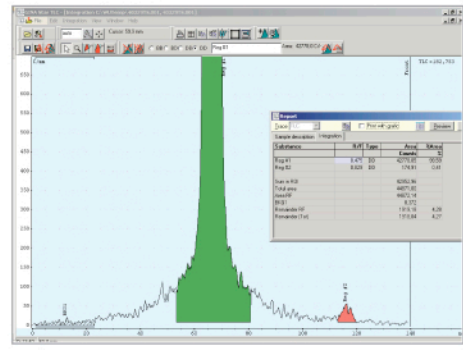
y-Radiochromatography



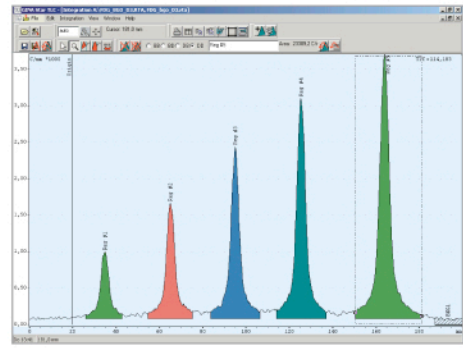
radioactive TLC , 99m Tc



radioactive TLC , 111 In



radioactive TLC , 123 I



scintillation probe 18F linearity on TLC

### Technical data

Scan area: 400 x 200 mm  
 Scan speed: selectable  
 Traces: 80  
 Detector: scintillation probe  
 Nuclides: gamma  
 Energy: 20 – 2000 keV  
 Activity: 10 – 100.000 Bq  
 Decay: corrected

### collimators 3 x 25 mm open

0-60 keV  
 typical nuclide 125 I  
 3 mm high

60 – 150 keV  
 typical nuclide 99 m Tc  
 5mm high

150 – 250 keV  
 typical nuclide 111In  
 10 mm high

250 – 450 keV  
 typical nuclide 131I  
 15 mm high

> 450 keV  
 typical nuclide 18F  
 20 mm high

123 I bkg 0.7 cps (20-100 keV)  
 sensitivity 20 Bq in 10 min  
 resolution 2-3 mm depending on collimator

| Substance       | R/F   | Type | Area     | %Area |
|-----------------|-------|------|----------|-------|
| Reg #1          | 0.083 | DD   | 5000.42  | 7.26  |
| Reg #2          | 0.252 | DD   | 9153.05  | 13.30 |
| Reg #3          | 0.419 | DD   | 13526.89 | 19.05 |
| Reg #4          | 0.587 | DD   | 17762.16 | 25.01 |
| Reg #5          | 0.802 | DD   | 23393.21 | 33.96 |
| Sum in ROI      |       |      | 68831.74 |       |
| Total area      |       |      | 72764.89 |       |
| Area RF         |       |      | 72694.11 |       |
| DK:01           |       |      | 77.204   |       |
| Remainder RF    |       |      | 3772.37  | 5.20  |
| Remainder (Tot) |       |      | 3933.16  | 5.41  |

scintillation probe 18F linearity result table

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