

Multi Generator Elution Tool

For Modular-Lab eazy and PharmTracer

Automated elution of up to three $^{68}\text{Ge}/^{68}\text{Ga}$ generators with your Modular-Lab eazy or PharmTracer radiosynthesizer.



General Information

The increasing acceptance and demand for ^{68}Ga for use in the development of diagnostic imaging kits, as well as in actual clinical practice, has highlighted some shortcomings with the existing radiolabeling systems. The trend towards the need for higher activity generators aggravates the potential extremity dose received during manual radiolabeling protocols, as well as increasing the incorporated shielding required and therefore the weight of the generators.

In light of these trends, Eckert & Ziegler has developed the Multi Generator Elution Tool. This new tool enables the automated use of eluate from up to three standard (each max. 1.85 GBq/50 mCi) $^{68}\text{Ge}/^{68}\text{Ga}$ generators for a single production process with the Modular-Lab eazy or PharmTracer system. Sites with high demand for ^{68}Ga will now be able to combine the required ^{68}Ge activity from one, two or three generators in a single-step procedure. Furthermore, the tool can extend the useful life of each generator by combining eluates.

The Multi Generator Elution Tool updates the current available activity within each of the generators so the user only needs to enter the required amount of activity via the included RaPET-Lab Workflow Management Software. The tool automatically calculates the theoretically available activity in each referenced generator, based on the date of its previous elution. The tool furthermore gives recommendation as to which generator(s) should be eluted in order to provide the requested activity. Users can either accept or manually select another option.

RaPET-Lab Workflow Management Software

The RaPET-Lab software is a workflow management tool for automated execution of full processes of generator elution, radiosynthesis and quality control. Different tasks for desired processes can be integrated and will be executed in a predetermined order. All steps of the workflow will be evaluated in an automatically generated, unchangeable report.

Generator management and tasks for automated (pre-) elution as well as operation of the Multi Generator Elution Tool and the Modular-Lab eazy or Modular-Lab PharmTracer are integrated into this software and can be executed in a prearranged workflow. TLC analysis and evaluation with Eckert & Ziegler's quality control equipment can be included in the workflow as well.

Advantages

- Flexibility to use low and high activities
- Extension of the period of use for each generator by combining eluates of the generators
- Opportunity to produce tracers with high specific activities
- Multi-dose or various single-doses with high activities - in only one production process
- Automatic calculation of which generators have to be eluted and in which order
- Possibility to view each generator's current activity
- Programmable timer for pre-elution

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Technical data	
Validated with the following $^{68}\text{Ge}/^{68}\text{Ga}$ generators:	GalliaPharm [®] , IGG100
Standard time of elution for each $^{68}\text{Ge}/^{68}\text{Ga}$ generator:	180 sec. (time is adjustable, depending on the length of tubing)
Synthesis time:	with one $^{68}\text{Ge}/^{68}\text{Ga}$ generator: Standard synthesis time with two $^{68}\text{Ge}/^{68}\text{Ga}$ generators: + 3 min with three $^{68}\text{Ge}/^{68}\text{Ga}$ generators: + 6 min
Available for the following applications:	^{68}Ga DOTA- conjugated peptides ^{68}Ga PSMA-HBED ^{68}Ga DOTA-PSMA
Set-Up	
Hardware	Stopcock Cassette Module (SLM-1), BUS cable, RaPET-Lab software Peristaltic Pump (PharmTracer only)
Consumables	Elution cassette, multiple use / max. 20 elutions (Art. No. C1-GA68-MULTI)

The end user is solely responsible when using high activities for radiolabeling and should be aware that such high activities might bear the risk of radiolytic decomposition of the tracer after a certain period of time. The use of high activity levels has not been validated for radiolytic effects. No warranty is given by Eckert & Ziegler Eurotope GmbH.

Eckert & Ziegler Eurotope GmbH

Robert-Rössle-Strasse 10
13125 Berlin
Germany
Phone: +49 30 941084 197
Fax: +49 30 941084 470

medical@ezag.de
www.medical.ezag.com

Your contact in USA & Canada: Eckert & Ziegler Radiopharma, Inc.

25 Upton Drive
Wilmington, MA 01887
USA
Phone: + 1 508 497 0060
Fax: + 1 508 497 0061

infoRAU@ezag.com
www.medical.ezag.com