

Supplemental Digital Content 5

ICP-MS for quantification of hippocampal slice Gd content ex vivo

The ICP-MS Element 2 (Thermo Fisher Scientific, Bremen, Germany) was equipped with a cyclonic spray chamber and a MicroMist nebulizer (glass). For quantification of slice Gd content after incubation with gadopentetate or gadobutrol at 10 or 50 mM +/- TNF α , an external calibration with lutetium (Lu) as an internal standard was carried out. For this purpose, mono element standard solutions (Merck, Darmstadt, Germany) were diluted with deionised water (MilliQ system, Millipore, Eschborn, Germany). Lu was added to the calibration standards and digested samples to correct the instrumental drift during the series of measurements. In addition, the blank correction was made with acid blanks (HNO₃ + hydrogen peroxide). The limit of quantification for Gd was 0.16 ng/g.

Table SDC_7. Instrumental settings of the ICP-MS system Element 2.

ICP-MS parameters	
Radio frequency power	1250 W
Argon cool flow	16 L min ⁻¹
Argon auxiliary flow	0.95 L min ⁻¹
Argon nebulizer flow	1.18 L min ⁻¹
Mass resolution	4000
Detected isotopes	¹⁵⁸ Gd, ¹⁶⁰ Gd, ¹⁷⁵ Lu (internal standard)

Table SDC_8. Quantitative analysis of Gd concentrations contained in chronic hippocampal slices using ICP-MS.

C _{GBCA}		C _{Gd} post Gadopentetate			C _{Gd} post Gadobutrol		
		- TNF α	+ TNF α	mean	- TNF α	+ TNF α	mean
1.	10 mM GBCA	100.07	123.74	111.91	83.03	81.26	82.17
2.	50 mM GBCA	248.40	200.92	224.66	611.70	228.34	534.19
3.	untreated control	< 0.00016					

C_{Gd}= Gadolinium concentrations in μ g/g, C_{GBCA}= GBCA concentrations in mM, n=1/group.