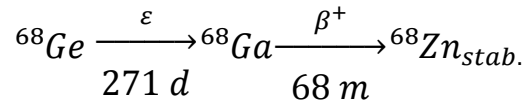




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Universal chromatographic system – paper impregnated with N,N,N',N'-Tetraoctyl Diglycolamide is an useful tool for Ge/Ga separation that may serve as validated QC method for radionuclide generators eluate as well as other Ga/Ge mixtures. The ^{68}Ge decays according to a scheme:



Thus ^{68}Ga may be separated from ^{68}Ge in a radionuclide generators. More than 85 % of the nominal activity is reached every 3 hours in the generator so multiple elutions in one day are possible.

Single 2×20 cm DGA-sheet was used for separation of low activity $^{68}\text{Ge}/^{68}\text{Ga}$ sample (collected decayed $^{68}\text{Ge}/^{68}\text{Ga}$ eluates with very low ^{68}Ge breakthrough). Mobile phase was the 6M HNO_3 . After the sheet elution, first measurement was performed on a standard radio-TLC scanner (see Fig.1). Further, the sheet was re-measured after few hours in the same position to allow to decay/growth the ^{68}Ga in the respective peaks of ^{68}Ga and ^{68}Ge . In pure ^{68}Ga solutions no activity should remain at the start of the radio-chromatogram.

Fig. 1. Separation of $^{68}\text{Ge}/^{68}\text{Ga}$ mixture using 2×20 cm DGA-sheet with 6M HNO_3 as a mobile phase.

