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Carbon C 13/Nitrogen N 15-labeled Valine

National Cancer Institute

Source

National Cancer Institute. *Carbon C 13/Nitrogen N 15-labeled Valine*. NCI Thesaurus. Code C119742.

A radioconjugate composed of the essential amino acid valine radiolabeled to carbon C 13 and nitrogen N 15, that can potentially be used as a tracer for protein metabolism in vivo using mass spectrometry (MS). Upon administration of carbon C 13/nitrogen N 15-labeled valine, the exogenous valine is taken up by cells and incorporated into proteins. Upon imaging, protein biomarkers containing radiolabeled valine are secreted by tumor cells and can be identified by MS. This may aid in cancer diagnosis and prognosis. Compared to normal cells, tumor cells rapidly take up amino acids to use as protein building blocks.