

Cancer Center Support Grant – CCSG 2014

“Copper PET imaging as a biomarker for prediction of response to cisplatin”

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There are no biomarkers that allow reliable prediction of responsiveness of human tumors to cisplatin or carboplatin. The copper (Cu) transporter CTR1 is also the major influx transporter for both cisplatin and carboplatin. It is our hypothesis ^{64}Cu PET imaging can be used to identify those tumors with the highest and lowest probability of responding to these drugs. We have knocked out CTR1 in two human tumor cell lines and will use these, and a panel of cisplatin-sensitive and resistant ovarian cell lines, to determine the correlation between ^{64}Cu PET intensity and response to cisplatin in human tumor xenografts.