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Ribosomal protein S3 secreted from various cancer cell lines is a possible cancer biomarker

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Ribosomal protein S3 (rpS3) has been known as a genuine component of the 40S ribosomal small subunit. However, it has been recently discovered that it has multiple other extra-ribosomal functions in apoptosis, cell cycle control, DNA repair etc. It has a DNA repair endonuclease activity which is related with various cancers. Recently, we have discovered that this protein is secreted as a dimer after glycosylation in the ER. It is secreted only from various cancer cell lines but not in normal cells. We also confirmed that rpS3 is secreted more into media from the more invasive cancer cell lines. The secretion pathway turned out to be an ER-Golgi dependent pathway. We propose that secreted rpS3 could be used as a useful marker for cancer or cell invasiveness.

Biography

Joon Kim has completed his BS and MS from Seoul National University, PhD in Biochemistry from the University of California at Berkeley and Post-doctoral study from Harvard Medical School. He is a Professor in the Division of Life Sciences, and the Director of Radiation Safety and Management Center, Korea University, Seoul, Korea. He has published more than 150 papers in reputed journals.

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