

The molecular mechanism for nuclear transport and its application

Yun Hak Kim

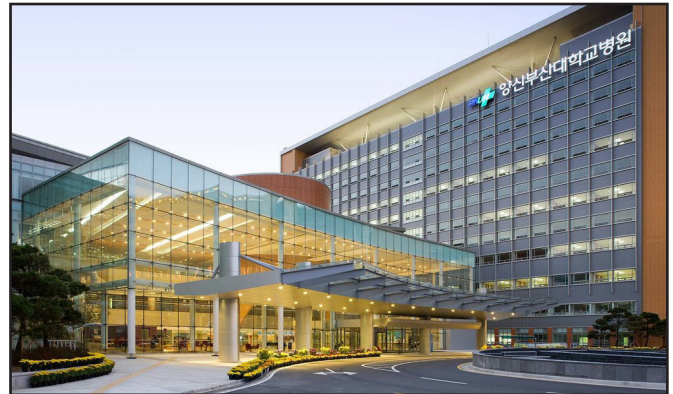
Pusan National University, Yangsan, Korea

Abstract:

Transportation between the cytoplasm and the nucleoplasm is critical for many physiological and pathophysiological processes including gene expression, signal transduction, and oncogenesis. So, the molecular mechanism for the transportation needs to be studied not only to understand cell physiological processes but also to develop new diagnostic and therapeutic targets. Recent progress in the research of the nuclear transportation (import and export) via nuclear pore complex and four important factors affecting nuclear transport (nucleoporins, Ran, karyopherins, and nuclear localization signals/nuclear export signals) will be discussed. Moreover, the clinical significance of nuclear transport and its application will be reviewed. This review will provide some critical insight for the molecular design of therapeutics which need to be targeted inside the nucleus.

Biography:

Yun Hak Kim is a Senior Molecular Biologist at Forensic Department Dubai Police and his expertise in solving complex cases related to molecular biology. His recent projects focus about study different STR Markers in different populations and how can use these markers in Forensic Science. He considers the first scientist who studied these types of autosomal loci in Arab World. He was invited from different universities to present lectures about these STR Markers. He received rating badges from Commander of Dubai police about his efforts in Forensic Science. He also participated as Scientific judges in different competitions related to Molecular Biology Science.



Recent Publications:

1. Cautain B, Hill R, de Pedro N, Link W. Components and regulation of nuclear transport processes. *FEBS J* 2015;282:445-62.
2. Kau TR, Way JC, Silver PA. Nuclear transport and cancer: from mechanism to intervention. *Nat Rev Cancer* 2004;4:106-17.
3. Bakhom SF, Compton DA. Chromosomal instability and cancer: a complex relationship with therapeutic potential. *J Clin Invest* 2012;122:1138-43.
4. McLane LM, Corbett AH. Nuclear localization signals and human disease. *IUBMB Life* 2009;61:697-706.
5. Patel VP, Chu CT. Nuclear transport, oxidative stress, and neurodegeneration. *Int J Clin Exp Pathol* 2011;4:215-29.

Webinar on Genetic Engineering; October 27, 2020

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