Cell Biology

Staff

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Cells are fundamental and essential units of life in all living organisms. Study of the cells therefore make it strait to understand how diseases can be caused and developed. Since cellular functions are regulated by vital molecules properly, we are approaching to solve the pathology at both cellular and molecular levels.

- Our interests -

Inflammatory disorders

Cancer development
growth
invasion
metastasis

Neurodegenerative disease
apoptosis
mitophagy

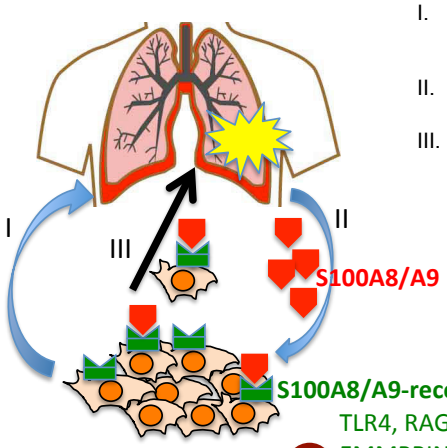
Responsive molecules ?

Functions ?

Application of the results to therapeutic approach

Gene based therapy
Protein based therapy
Drug based therapy

We are studying on novel S100A8/A9-receptors that play pivotal role in cancer metastasis.



I. Cancer induces inflammation in lung (homeotic protection regarding to immune system).
II. Inflammatory lung rises alarm through release of excess amounts of S100A8/A9.
III. Cancers metastasizes lung area through S100A8/A9 receptors upon ligand binding.

Study of the novel S100A8/A9-receptors in a cancer development

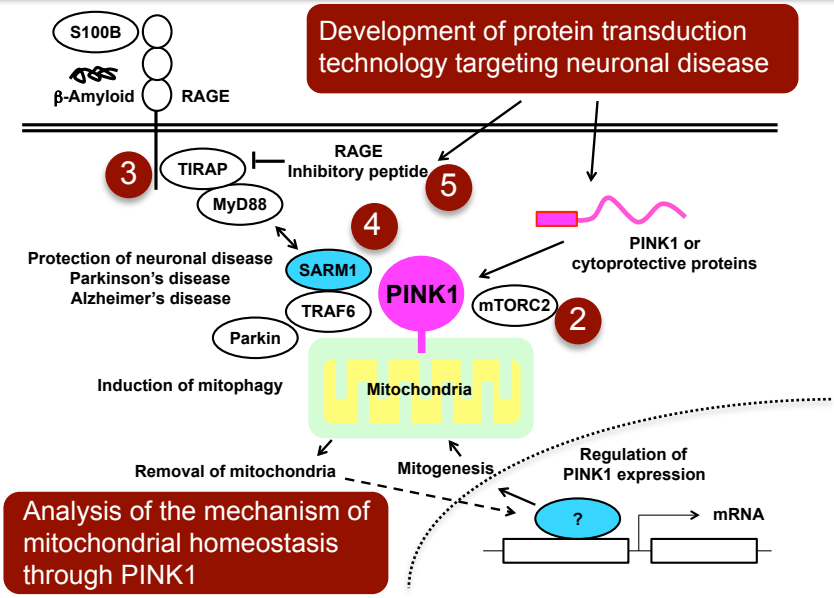
Working on a metastatic regulation by targeting them

S100A8/A9-receptors

TLR4, RAGE (known receptors)

EMMPRIN & others (novel receptors) Our finding !! [1]

We are studying on critical molecules regulating mitochondria homeostasis, especially focusing PINK1, in neurodegenerative diseases.



1 Hibino et al., Cancer Res, 2013.
2 Murata et al., J Biol Chem, 2011.
3 Sakaguchi et al., Plos One, 2011.
4 Murata et al., Mol Biol Cell, 2013.
5 Putranto et al., Int J Mol Med, 2013.

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