

免疫学

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現在の研究テーマと内容

現在の研究テーマのひとつとしてDNAワクチンの開発を行っております。ワクチンは通常、生化学的に作製した抗原や病原蛋白を不活化処理したものが用いられております。しかし、DNAワクチンは抗原蛋白遺伝子コードを組み込んだ人工遺伝子を体内に導入し、生体内で有効な抗体を産生させることが可能です。DNAワクチンでは抗原の高次構造をin vitroで発現させたものや不活化処理したものよりも本来の構造を保っていることが予想され、遺伝子組み換え技術で容易に改変可能です。

これまでの研究成果と今後の展開

2015-2017

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- Yamaguchi R, Sakamoto A, Yamamoto T, Narahara S, Sugiuchi H, Yamaguchi Y. Surfactant protein D inhibits interleukin-12p40 production by macrophages through the SIRP α /ROCK/ERK signaling pathway. Am J Med Sci (in press).
- Arakawa T, Yamaguchi R, Tokunaga H, Tokunaga M. Unique Features of Halophilic Proteins. Curr Protein Pept Sci. 18:65-71, 2017.
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- ・ Yamaguchi R, Yamamoto T, Sakamoto A, Ishimaru Y, Narahara S, Sugiuchi H, and Yamaguchi Y. Substance P enhances tissue factor release from granulocyte-macrophage colony-stimulating factor-dependent macrophages via the p22phox/ β -arrestin 2/Rho A signaling pathway. *Blood Cells Mol Dis* 57:85-90, 2016.
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- ・ Kawata J, Yamaguchi R, Yamamoto T, Ishimaru Y, Sakamoto A, Aoki M, Kitano M, Umehashi M, Hirose E, Yamaguchi Y. Human neutrophil elastase induce IL-10 expression in PBMC through PKC θ/δ and phospholipase pathways. *Cell J* 17:692-700, 2016.
- ・ Yamaguchi R, Otsuji D, Tokunaga H, Ishibashi M, Arakawa T, Tokunaga M. Halophilic metal binding protein and His-Asp repeating peptides as fusion partners for high solubility and affinity-purification of fusion proteins. *Bull Soc Sea Water Sci* 70:51-52, 2016.
- ・ Yamaguchi R, Yamamoto T, Sakamoto A, Ishimaru Y, Narahara S, Sugiuchi H, Yamaguchi Y. Chemokine profiles of human visceral adipocytes from cryopreserved preadipocytes: neutrophil activation and induction of nuclear factor-kappa B repressing factor. *Life Sciences* 143:225-230, 2015.
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大学院を目指すみなさんへメッセージ

研究というのは大学、大学院だけでなく臨床の現場でも多く行われており、保健科学分野に特化した研究を行うということはその分野の質の向上につながります。熊本保健科学大学大学院において「研究マインド」を身に着けることで、保健医療の分野において現場での問題解決等につながることを期待しております。