

Malignant clonal expansion of an NK cell subpopulation and its suppressive effect on the growth of hemopoietic stem cells.

メタデータ	言語: jpn 出版者: 公開日: 2022-11-11 キーワード (Ja): キーワード (En): 作成者: Koizumi, Shoichi メールアドレス: 所属:
URL	<a href="https://doi.org/10.24517/00067907">https://doi.org/10.24517/00067907</a>

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 International License.



# 1987 Fiscal Year Final Research Report Summary

Malignant clonal expansion of an NK cell subpopulation and its suppressive effect on the growth of hemopoietic stem cells.

Research Project

## Project/Area Number

61570447

## Research Category

Grant-in-Aid for General Scientific Research (C)

## Allocation Type

Single-year Grants

## Research Field

Pediatrics

## Research Institution

Kanazawa University

## Principal Investigator

**KOIZUMI Shoichi** Department of pediatrics, Kanazawa university School of Medicine, 医学部附属病院, 講師 (50019973)

## Project Period (FY)

1986 – 1987

## Keywords

NK cells / LGL cells / Leukemia / Bone marrow / Stem cells / CFU-C / Interferon / IL2

## Research Abstract

Natural killer (NK) cells, morphologically indistinguishable from large granular lymphocytes (LGLs), are thought to have an important role in the regulation of hematopoiesis. A clonal leukemic population of NK cells was isolated from a 14-year-old girl. They had a Leu-11<sup>+</sup>, Leu-7<sup>-</sup> phenotype. Since the NK activity was low but was remarkably augmented by stimulation with recombinant human interleukin 2 (rIL-2), but not interferon- (IFN- $\gamma$ ), this NK subset seems to belong to a premature stage in the maturation of NK cells. Because of severe neutropenia throughout the clinical course, we investigated the effects of this NK subpopulation on the in vitro growth of granulocyte-macrophage colony forming cells (GM-CFC). When this NK subset in the presence of rIL-2 was added to the GM-CFC assay system employing normal bone marrow cells, a remarkable suppression of GM-CFC was demonstrated. Culture supernatants from the rIL-2-stimulated NK cells, which had a high level of IFN- $\gamma$ , also exhibited a significant suppressive activity. Treatment of the supernatants with a specific antibody against IFN- $\gamma$  abrogated the inhibitory effect on GM-CFC. These data indicate that this unique subset of premature NK cells in the presence of rIL-2 produce IFN- $\gamma$  which seems to be involved in the suppression of myelopoietic progenitor cells.

# Research Products (11 results)

		All	Other
		All	Publications (11 results)
[Publications]	Koizumi S.et al: Blood. 68. 1065-1073 (1986)		▼
[Publications]	Koizumi S.et al: Acta Haematol Jpn. 51. 81-93 (1988)		▼
[Publications]	Fine RL,Koizumi S.et al: J Clin Oncol. 5. 489-495 (1987)		▼
[Publications]	小泉晶一他: 日小血誌. 1. 165-170 (1987)		▼
[Publications]	小泉晶一他: 臨床血液. 28. 1375-1384 (1987)		▼
[Publications]	Koizumi S.et al: Cancer. (1988)		▼
[Publications]	Koizumi S. et al.: "Malignant clonal expansion of large granular lymphocytes with a Leull+, Leu7-surface phenotype: In vitro responsiveness of malignant cells to recombinant human interleukin 2." Blood. 68. 1065-1073 (1986)		▼
[Publications]	Koizumi S. et al.: "Suppression of myeloid hematopoiesis by leukemic natural killer cells bearing a Leull+, Leu7- phynotype: Interferon<gamm> as a possible mediator." Acta Haematol Jpn. 51. 81-93 (1988)		▼
[Publications]	Fine RL, Koizumi S. et al.: "Effect of calcium channel blockers on human CFU-GM with cytotoxic drugs." J Clin Oncol. 5. 489-495 (1987)		▼
[Publications]	Koizumi S. et al.: "Comparison of intermittent or continuous methotrexate plus 6-mercaptopurine in regimens for standard-risk acute lymphoblastic leukemia in childhood (JCCLSG-S11)." Cancer in press. 61. (1988)		▼
[Publications]	Koizumi S. et al.: Effects of high-dose methotrexate on in vitro growth of hemopoietic progenitor cells. In Methotrexate in cancer therapy. Editors; Kimura K and Wang YM.Raven Press, New York, 49-54 (1986)		▼

URL: 

https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-61570447/615704471987kenkyu\_seika\_hokoku\_

Published: 1989-03-29