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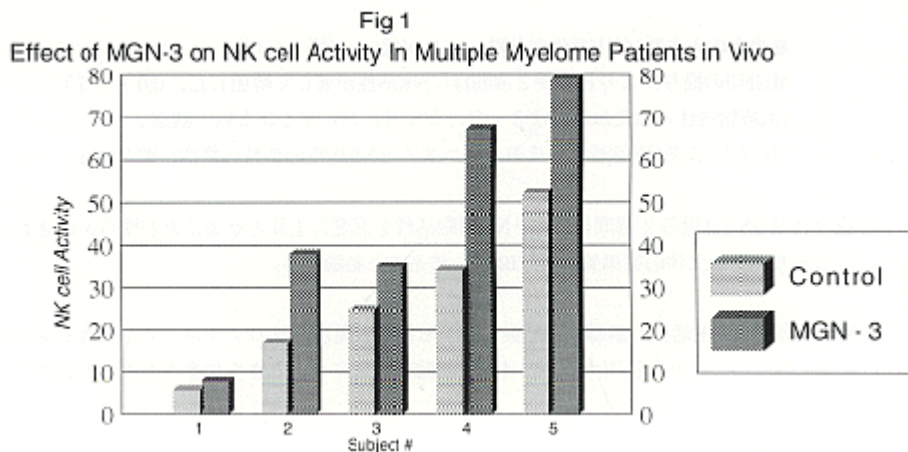
### **NK immunomodulatory function in 27 cancer patients by MGN-3, a modified arabinoxylane from rice bran.**

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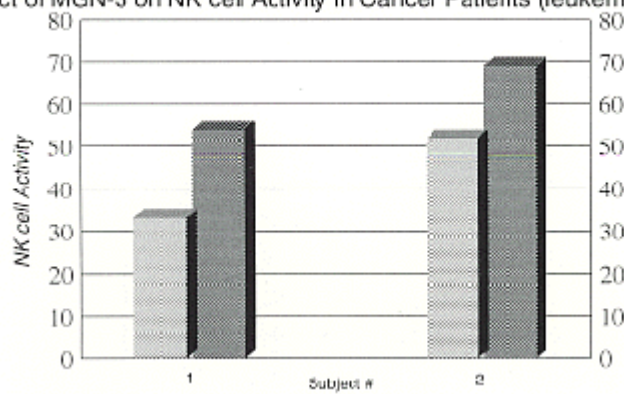
MGN-3 immunomodulatory function was examined in 27 cancer patients. MGN-3 is an arabinoxylane from rice bran that has been enzymatically modified by hyphomycetes mycelia. The patients had different types of advanced malignancies: 7 patients had breast CA, 7 prostate, 8 multiple myelome (MM), 3 leukemia and 2 cervical. All patients were under treatment with conventional therapy and were also given 3g of MGN-3 daily, then NK activity was examined at 2 wks, 3 and 6 months. Activity of NK cells was examined by 51Cr-release assay using K562 tumor cells as targets, at effector : target ratios from 12:1 -100:1.

Results showed that.

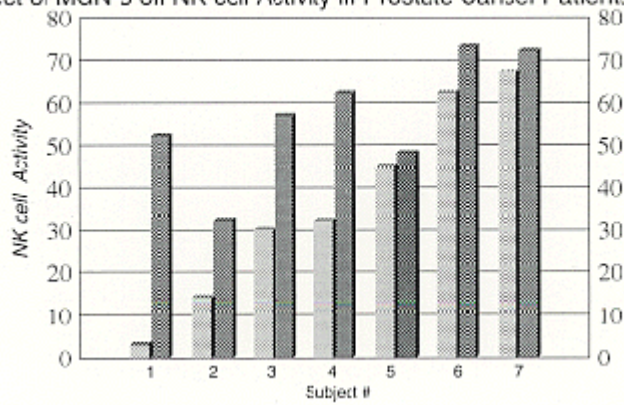
- 1 ) Patients had low level of basal NK activity (10.8 - 40%),
- 2 ) treatment with MGN-3 caused a remarkable increase in NK activity at 2 wks. The percentages of induction were as follows: breast CA 154-332%(Fig4), prostatic 174-385%(Fig3), leukemia 100-240%,(Fig2) MM 100-537%(Fig1), and cervical CA 100-275%(Fig5),



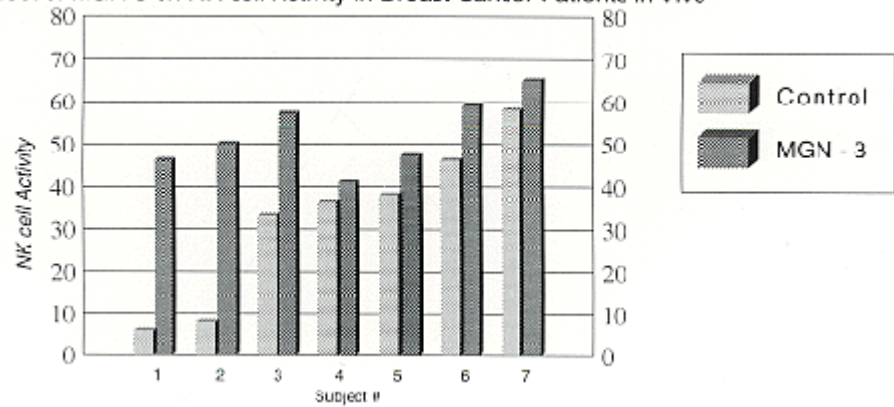
**Fig 2**  
**Effect of MGN-3 on NK cell Activity In Cancer Patients (leukemia) In Vivo**

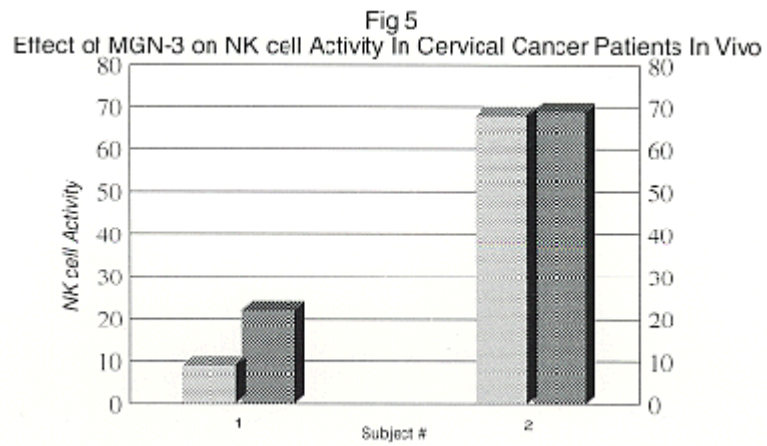


**Fig 3**  
**Effect of MGN-3 on NK cell Activity in Prostate Cancer Patients in Vivo**



**Fig 4**  
**Effect of MGN-3 on NK cell Activity In Breast Cancer Patients in Vivo**





3 ) enhancement of NK activity continue to rise at 3 and 6 months after treatment.

We conclude that the high augmentory effect of MGN-3 makes it a promising immunotherapeutic agent for treating cancer.

MGN-3 was offered by Daiwa Pharm. Co., Ltd. Tokyo, Japan.