

## Summary of Publications Using NK Vue

Year	Publication Reference	Description	DOI Link
2013	<a href="#">Koo, K. C. et al. Reduction of the CD16(-) CD56bright NK cell subset precedes NK cell dysfunction in prostate cancer. <i>PLoS ONE</i> 8, e78049 (2013).</a>	NK cell activity (NKA) was significantly lower in PC patients compared to controls. NKA tended to decrease with cancer stage progression. n=54 (controls), n=51 (PC); performed in South Korea	<a href="http://doi.org/10.1371/journal.pone.0078049">http://doi.org/10.1371/journal.pone.0078049</a>
2014	<a href="#">Lee, S.-B. et al. A high-throughput assay of NK cell activity in whole blood and its clinical application. <i>Biochem. Biophys. Res. Commun.</i> 445, 584–590 (2014).</a>	NKA was significantly lower in MSS CRC patients compared to healthy subjects. n=41 (controls), n=41 (CRC); performed in South Korea	<a href="http://doi.org/10.1016/j.bbrc.2014.02.040">http://doi.org/10.1016/j.bbrc.2014.02.040</a>
2016	<a href="#">Han, J.-W. et al. The Effects of Forest Therapy on Coping with Chronic Widespread Pain: Physiological and Psychological Differences between Participants in a Forest Therapy Program and a Control Group. <i>International Journal of Environmental Research and Public Health</i> 13, 255 (2016).</a>	NKA increased more significantly in the Forest therapy participants compared to the control group. n=28 (controls), n=33 (treated); performed in South Korea	<a href="https://doi.org/10.3390/ijerph13030255">https://doi.org/10.3390/ijerph13030255</a>
2016	<a href="#">Sung, H.-H. et al. Study on the Relationship between Obesity Factors and NK Cell Activity in White-Collar Females. <i>Korean J Clin Lab Sci.</i> 48, 196–201 (2016).</a>	A significant difference in NKA between the obese and non-obese factor groups was seen ( $p < 0.05$ ). Pearson correlation analysis demonstrated that NKA was closely correlated with obesity related factors; n=99; performed in South Korea	<a href="https://doi.org/10.15324/kjcls.2016.48.3.196">https://doi.org/10.15324/kjcls.2016.48.3.196</a>
2016	<a href="#">Lim, Y. A. et al. Evaluation of the Effectiveness of NK Vue Gold Kit in Patients with Chronic Hepatitis B. <i>J Lab Med Qual Assur</i> 38, 151–158 (2016).</a>	Similar levels of NKA were seen in both patients and control groups. NKA was inversely correlated with leukocyte count in both groups; n=40 (controls), n=40 (patients); performed in South Korea	<a href="https://doi.org/10.15263/jlmqa.2016.38.3.151">https://doi.org/10.15263/jlmqa.2016.38.3.151</a>
2017	<a href="#">Barkin, J., Rodriguez-Suarez, R. &amp; Betito, K. Association between natural killer cell activity and prostate cancer: a pilot study. <i>Can J Urol</i> 24, 8708–8713 (2017).</a>	Subjects with low values of NKA were more likely to have a positive outcome at prostate biopsy. n=22 (controls), n=21 (PC); performed in Canada	<a href="https://www.canjuro.l.com/html/free-articles/V24I2_07_FREE_DrBarkin.pdf">https://www.canjuro.l.com/html/free-articles/V24I2_07_FREE_DrBarkin.pdf</a>

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2017	<a href="#">Jobin, G., Rodriguez-Suarez, R. &amp; Betito, K. Association Between Natural Killer Cell Activity and Colorectal Cancer in High-Risk Subjects Undergoing Colonoscopy. <i>Gastroenterology</i> <b>153</b>, 980–987 (2017).</a>	Subjects with low NKA had a 10-fold higher risk of CRC compared with subjects with high NK cell activity. This test might be used in clinical practice to assess patients for risk of CRC. n=849 (controls), n=23 (CRC); performed in Canada	<a href="http://doi.org/10.1053/j.gastro.2017.06.009">http://doi.org/10.1053/j.gastro.2017.06.009</a>
2017	<a href="#">Lee, J. et al. Natural killer cell activity for IFN-gamma production as a supportive diagnostic marker for gastric cancer. <i>Oncotarget</i> <b>8</b>, 70431–70440 (2017).</a>	NKA was decreased in GC patients of all stages compared to controls. NKA was associated with tumor size, depth of invasion and lymph node metastasis. NKA could be used as a supportive non-invasive tumor marker for GC diagnosis. n=48 (controls), n=261 (GC); performed in South Korea	<a href="http://doi.org/10.18632/oncotarget.19712">http://doi.org/10.18632/oncotarget.19712</a>
2018	<a href="#">Angka, L. et al. Natural Killer Cell IFN<math>\gamma</math> Secretion is Profoundly Suppressed Following Colorectal Cancer Surgery. <i>Annals of Surgical Oncology</i> <b>25</b>, 3747–3754 (2018).</a>	NKA is significantly reduced following surgery in CRC surgery patients for 2 months. This study showed that NKA decreased after surgery and may possibly lead to recurrence and metastases of cancers. n=27 (controls), n=42 (CRC); performed in Canada	<a href="http://doi.org/10.1245/s10434-018-6691-3">http://doi.org/10.1245/s10434-018-6691-3</a>
2018	<a href="#">Angka, L. &amp; Auer, R. C. ASO Author Reflections: Prolonged Immunoparalysis of NK Cells After Surgery. <i>Ann Surg Oncol</i> <b>25</b>, 968–969 (2018).</a>	This ASO Author Reflections is a brief invited commentary on the article “Natural Killer Cell IFN $\gamma$ Secretion Is Profoundly Suppressed Following Colorectal Cancer Surgery,” <i>Ann Surg Oncol</i> . 2018.	<a href="http://doi.org/10.1245/s10434-018-6793-y">http://doi.org/10.1245/s10434-018-6793-y</a>
2018	<a href="#">Jung, Y. S. et al. Association between natural killer cell activity and the risk of colorectal neoplasia: NK cell activity and colorectal neoplasm. <i>Journal of Gastroenterology and Hepatology</i> <b>33</b>, 831–836 (2018).</a>	NKA seemed to decrease along with CRC progression toward the later stages in the adenoma-carcinoma sequence. Its activity may be depressed in relation to progression of neoplasia, even at precancerous stage., n=1572 (controls), n=1 (CRC), n=12 (AA), n=233 (NAA); performed in South Korea	<a href="http://doi.org/10.1111/jgh.14028">http://doi.org/10.1111/jgh.14028</a>
2018	<a href="#">Jung, Y. S. et al. Physical Inactivity and Unhealthy Metabolic Status Are Associated with Decreased Natural Killer Cell Activity. <i>Yonsei Medical Journal</i> <b>59</b>, 554 (2018).</a>	Physical inactivity and metabolic abnormalities are associated with reduced NKA. Immune systems may become altered depending on physical activity and metabolic status. n=4607 (inactive), n=5940 (minimally active), n=1267 (active); performed in South Korea	<a href="http://doi.org/10.3349/ymj.2018.59.4.554">http://doi.org/10.3349/ymj.2018.59.4.554</a>

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2018	<a href="#">Kang, H.-J. et al. Correlation Between Natural Killer Cell Activity and Systemic Inflammatory Markers for Heterogeneous Cancer Patients Treated With Wheel Balance Cancer Therapy. <i>Integrative Cancer Therapies</i> 17, 322–331 (2018).</a>	Negative correlations were identified between NKA and NLR (neutrophil-to-lymphocyte ratio), NKA and ESR (erythrocyte sedimentation rate), and NKA and fibrinogen in patients with heterogeneous cancer types. n=42; performed in South Korea	<a href="http://doi.org/10.1177/1534735417717789">http://doi.org/10.1177/1534735417717789</a>
2018	<a href="#">Nederby, L. et al. Quantification of NK cell activity using whole blood: Methodological aspects of a new test. <i>Journal of Immunological Methods</i> 458, 21–25 (2018).</a>	Intracellular flow cytometry showed that NK cells, T cells, and Natural Killer T (NKT) cells were producing IFN $\gamma$ in the assay, however when analyzing the distribution of lymphocytes in the IFN $\gamma$ -expressing subset, the proportion of NK cells far exceeded the percentage of T-, and NKT cells (p < .0001). The read-out of the test was indicative of the NK cells' ability to mount a response; performed in Denmark	<a href="http://doi.org/10.1016/j.jim.2018.04.002">http://doi.org/10.1016/j.jim.2018.04.002</a>
2018	<a href="#">Kim, C. K. et al. Reduced NK cell IFN-<math>\gamma</math> secretion and psychological stress are independently associated with herpes zoster. <i>PLOS ONE</i> 13, e0193299 (2018).</a>	Patients with a recent diagnosis of herpes zoster display reduced interferon-gamma secretion from natural killer cells and frequent previous psychological stress events compared with controls. n=44 (controls), n=44 (herpes); performed in South Korea	<a href="http://doi.org/10.1371/journal.pone.0193299">http://doi.org/10.1371/journal.pone.0193299</a>
2018	<a href="#">Park, S. et al. Variable Natural Killer Cell Activity in Hematological Malignancies at Diagnosis. <i>Laboratory Medicine Online</i> 8, 41 (2018).</a>	NKA was significantly lower in patients with AML, MM and lymphoma compared to controls. Serial changes in NKA correlated with disease progression. Measurement of NKA could be useful to evaluate the immunological status in hematological malignancies at diagnosis and during follow-up. n=23 (controls), n=18 (AML), n=31 (MM), n=62 (lymphoma); performed in South Korea	<a href="https://synapse.koreamed.org/articles/1057382">https://synapse.koreamed.org/articles/1057382</a>
2018	<a href="#">Cho, A. R. et al. Effects of 4-Week Intervention with <i>Ulmus macrocarpa</i> Hance Extract on Immune Function Biomarkers in Healthy Adults: A Randomized Controlled Trial. <i>Evidence-Based Complementary and Alternative Medicine</i> 2018, 1–6 (2018).</a>	Administration of UME for 1 week increased serum TNF-alpha and sustains IL-2 in human, which suggests that UME increases Th1-related immune function in the short-term in healthy people. However, long-term effect of UME was not proven. n=29 (placebo), n=29 (UME); performed in South Korea	<a href="https://doi.org/10.1155/2018/5690816">https://doi.org/10.1155/2018/5690816</a>

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2018	<a href="#">Song, W. et al. The clinical usefulness of natural killer cell activity in patients with suspected or diagnosed prostate cancer: an observational cross-sectional study. <i>Onco Targets Ther</i> 11, 3883–3889 (2018).</a>	NKA was not significantly different in PC patients compared to non-PC patients. n=86 (no PC), n=135 (PC); performed in South Korea	<a href="https://doi.org/10.2147/OTT.S169094">https://doi.org/10.2147/OTT.S169094</a>
2019	<a href="#">Kim, J. H. et al. Relationship between natural killer cell activity and glucose control in patients with type 2 diabetes and prediabetes. <i>J Diabetes Investig</i> 10, 1223–1228 (2019).</a>	Compared with individuals with normal glucose tolerance or prediabetes, type 2 diabetes patients have a reduced NK cell activity, and it is significantly related to glucose control. n=13 (control), n=21 (Type 2 diabetes), n=15 (prediabetes); performed in South Korea	<a href="http://doi.org/10.1111/jdi.13002">http://doi.org/10.1111/jdi.13002</a>
2019	<a href="#">Hansen, T. F. et al. Correlation Between Natural Killer Cell Activity and Treatment Effect in Patients with Disseminated Cancer. <i>Translational Oncology</i> 12, 968–972 (2019).</a>	The results suggest a correlation between NK cell activity and treatment effect across different solid tumor types and treatments. Patients lacking the ability to mount an immune response during the first 2 months of treatment have a poor prognosis, and their clinical benefit of the treatment is questionable. n=93; performed in Denmark	<a href="https://doi.org/10.1016/j.tranon.2019.04.002">https://doi.org/10.1016/j.tranon.2019.04.002</a>
2019	<a href="#">Choi, S. I. et al. Clinical utility of a novel natural killer cell activity assay for diagnosing non-small cell lung cancer: a prospective pilot study. <i>OncoTargets and Therapy</i> Volume 12, 1661–1669 (2019).</a>	NKA in NSCLC patients was significantly lower than in benign lung disease or controls. Diagnosis of NSCLC was significantly associated with NKA in a multivariate analysis. n=40 (controls), n=71 (NSCLC), n=40 (benign lung disease); performed in South Korea	<a href="http://doi.org/10.2147/OTT.S194473">http://doi.org/10.2147/OTT.S194473</a>
2019	<a href="#">Kim, B.-R. et al. Association of neutrophil-to-lymphocyte ratio and natural killer cell activity revealed by measurement of interferon-gamma levels in a healthy population. <i>Journal of Clinical Laboratory Analysis</i> 33, e22640 (2019).</a>	NKA is negatively correlated with NLR. NLR is an independent prognostic factor in cancer patients and is correlated with clinical outcome. NLR may predict NKA in the clinical environment. n=106; performed in South Korea	<a href="http://doi.org/10.1002/jcla.22640">http://doi.org/10.1002/jcla.22640</a>
2019	<a href="#">Vidal, A. C. et al. Natural killer cell activity and prostate cancer risk in veteran men undergoing prostate biopsy. <i>Cancer Epidemiology</i> 62, 101578 (2019).</a>	Men with a low NKA value had five-times higher odds of PC at biopsy. The implementation of this NKA assay in the clinic together with PSA may help to advise patients with the highest risk of PC whether, or not, to undergo a prostate biopsy. n=32 (controls), n=62 (PC); performed in USA	<a href="https://doi.org/10.1016/j.canep.2019.101578">https://doi.org/10.1016/j.canep.2019.101578</a>

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2019	<a href="#">Lee et al. Natural Killer Cell Function Tests by Flowcytometry-Based Cytotoxicity and IFN-<math>\gamma</math> Production for the Diagnosis of Adult Hemophagocytic Lymphohistiocytosis. <i>International Journal of Molecular Sciences</i> <b>20</b>, 5413 (2019).</a>	NK-cytotoxicity and NKA-IFN $\gamma$ assays predicted HLH with sensitivities of 96.0% and 92.0%, respectively. Both NK-cytotoxicity and NKA-IFN $\gamma$ could be used for diagnosis of HLH. n=50 (HLH), n=69 (non-HLH); performed in South Korea	<a href="https://doi.org/10.3390/ijms20215413">https://doi.org/10.3390/ijms20215413</a>
2020	<a href="#">Cho, Y.-H. et al. Natural Killer Cells as a Potential Biomarker for Predicting Immunotherapy Efficacy in Patients with Non-Small Cell Lung Cancer. <i>Targeted Oncology</i> <b>15</b>, 241–247 (2020).</a>	NKA in responders was much higher than that in non-responders. The overall activity or number of NK cells may be a useful biomarker to predict immunotherapy response in patients with NSCLC. n=9 (NSCLC); performed in South Korea	<a href="https://doi.org/10.1007/s11523-020-00712-2">https://doi.org/10.1007/s11523-020-00712-2</a>
2020	<a href="#">Lu, Y.-C. et al. Lower postoperative natural killer cell activity is associated with positive surgical margins after radical prostatectomy. <i>Journal of the Formosan Medical Association</i> <b>119</b>, 1673–1683 (2020).</a>	NKA was significantly higher postoperatively than preoperatively. Patients with positive surgical margins had lower postoperative NKA than those with negative margins. Lower postoperative NKA was also observed in higher-stage PC. NKA could be used as a supplemental marker for detecting the remaining tumor cells after prostatectomy in combination with PSA. n=10 (controls), n=51 (PC); performed in Taiwan	<a href="https://doi.org/10.1016/j.jfma.2019.12.015">https://doi.org/10.1016/j.jfma.2019.12.015</a>
2020	<a href="#">Jung, Y. S. et al. Impact of Smoking on Human Natural Killer Cell Activity: A Large Cohort Study. <i>Journal of Cancer Prevention</i> <b>25</b>, 13–20 (2020).</a>	NKA was lower in current smokers. NKA also decreased with an increase in the number of cigarettes smoked, and it was negatively correlated with nicotine levels among current smokers. Findings indicate a clear relationship between smoking and decreased NKA. n=12,249; performed in South Korea	<a href="https://doi.org/10.15430/JCP.2020.25.113">https://doi.org/10.15430/JCP.2020.25.113</a>
2020	<a href="#">Park, K. H. et al. Delayed NK Cell Reconstitution and Reduced NK Activity Increased the Risks of CMV Disease in Allogeneic-Hematopoietic Stem Cell Transplantation. <i>IJMS</i> <b>21</b>, 3663 (2020).</a>	In AML patients receiving HSCT, NKA levels in those with CMV disease had delayed recovery and lower NKA post-transplant. NKA predicted the risk of CMV. NKA may be useful as a biomarker for prediction of CMV disease; n=58; performed in South Korea	<a href="https://doi.org/10.3390/ijms21103663">https://doi.org/10.3390/ijms21103663</a>

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2020	<a href="#">Choi, M. G. et al. Efficacy of natural killer cell activity as a biomarker for predicting immunotherapy response in non-small cell lung cancer. <i>Thorac Cancer</i> <b>11</b>, 3337–3345 (2020).</a>	Baseline NKA was related to the response to immunotherapy and to PFS. NKA before immunotherapy may be a non-invasive, simple, and novel way to predict the treatment response in patients with NSCLC. n=34; performed in South Korea	<a href="https://doi.org/10.1111/1759-7714.13677">https://doi.org/10.1111/1759-7714.13677</a>
2020	<a href="#">Tae, B. S. et al. Can natural killer cell activity help screen patients requiring a biopsy for the diagnosis of prostate cancer? <i>Int. braz j urol.</i> <b>46</b>, 244–252 (2020).</a>	Low NKA and high PSA levels were likely to be associated with a positive prostate biopsy outcome. n=52 (no PC), n=50 (PC); performed in South Korea	<a href="https://doi.org/10.1590/S1677-5538.IBJU.2019.0268">https://doi.org/10.1590/S1677-5538.IBJU.2019.0268</a>
2020	<a href="#">Henriksen, J. R. et al. Blood natural killer cells during treatment in recurrent ovarian cancer. <i>Acta Oncologica</i> <b>59</b>, 1365–1373 (2020).</a>	Patients with both low NK count and NK activity at baseline had median OS 6.5 months, vs. 11.5 months in patients with either high activity, high count or both. In parallel, patients with both low NK activity and count at cycle 2 had a median survival of 4.0 months vs. 15.4 months. n=72; performed in Denmark.	<a href="https://doi.org/10.1080/0284186X.2020.1791358">https://doi.org/10.1080/0284186X.2020.1791358</a>
2020	<a href="#">Choi, Y. A. et al. Outcomes Assessment of Sustainable and Innovatively Simple Lifestyle Modification at the Workplace-Drinking Electrolyzed-Reduced Water (OASIS-ERW): A Randomized, Double-Blind, Placebo-Controlled Trial. <i>Antioxidants</i> <b>9</b>, 564 (2020).</a>	Drinking 1.5L daily of either electrolyzed reduced water (ERW) or mineral water (MW), increased NKA significantly over the 8 week period. No differences were found between the type of water that was ingested. n=32 (ERW), n=29 (mineral water); performed in South Korea	<a href="https://doi.org/10.3390/antiox9070564">https://doi.org/10.3390/antiox9070564</a>
2021	<a href="#">Lee, H. S. et al. Peripheral natural killer cell activity is associated with poor clinical outcomes in pancreatic ductal adenocarcinoma. <i>Journal of Gastroenterology and Hepatology</i> <b>36</b>, 516–522 (2021).</a>	In pancreatic cancer patients, NKA decreased as cancer progressed, and decreased NKA was associated with poor clinical outcomes. n=101 (controls), n=102 (pancreatic ductal adenocarcinoma); performed in South Korea	<a href="https://doi.org/10.1111/jgh.15265">https://doi.org/10.1111/jgh.15265</a>
2021	<a href="#">Oh, S. et al. Vitamin D and Exercise Are Major Determinants of Natural Killer Cell Activity, Which Is Age- and Gender-Specific. <i>Front. Immunol.</i> <b>12</b>, 594356 (2021).</a>	Physical exercise and vitamin D were associated with higher NKA in a gender and age-dependent manner. Age was a major risk factor of very low NKA in men but not in women. n=2,095; performed in South Korea	<a href="https://doi.org/10.3389/fimmu.2021.594356">https://doi.org/10.3389/fimmu.2021.594356</a>

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2021	<a href="#">Cho, H., et al. Prognostic value of natural killer cell activity for patients with HER2 + advanced gastric cancer treated with first-line fluoropyrimidine–platinum doublet plus trastuzumab. <i>Cancer Immunol Immunother</i> (2021)</a>	HER2 + AGC patients treated with fluoropyrimidine–platinum doublet plus trastuzumab, with a low baseline NKA, were associated with worse PFS and OS. Patients whose NKA recovered during treatment had better PFS and OS compared to those with consistently low NKA. The association between treatment outcomes and dynamic changes in NKA suggests that NK cell treatment may improve treatment outcomes, especially for patients with low baseline NKA. n=41; performed in South Korea	<a href="https://doi.org/10.1007/s00262-021-03035-x">https://doi.org/10.1007/s00262-021-03035-x</a>
2021	<a href="#">Kim, E. Y. &amp; Hong, T. H. Changes in natural killer cell activity after surgery and predictors of its recovery–failure. <i>J Surg Oncol</i> 124, 1561–1568 (2021).</a>	NKA rapidly decreased after curative surgery for biliopancreatic cancer and recovered to normal levels about 5 weeks later. Clinicians should be aware and cautious that patients with low NKA at admission may fail to recover NKA postoperatively. n=202; performed in South Korea	<a href="https://doi.org/10.1002/jso.26636">https://doi.org/10.1002/jso.26636</a>
2021	<a href="#">Amankulov, J. et al. Natural killer cell activity level in colorectal cancer screening in an average risk population. <i>Arch Med Sci</i> (2021)</a>	In average risk individuals, the diagnostic accuracy of NKA for CRC and AN was 75.5% and 72.3% respectively, with 96.4% NPV. Individuals with low NKA had 6.84 times higher odds of having CRC. NKA was higher in men vs.women, and lower in smokers, non-exercisers, and alcohol users. n=344 (no CRC), n=10 (CRC); performed in Kazakhstan.	<a href="https://doi.org/10.5114/aoms/142101">https://doi.org/10.5114/aoms/142101</a>
2021	<a href="#">Cho, J. S. et al. The immunomodulatory effect of ketamine in colorectal cancer surgery: a randomized-controlled trial. <i>Can J Anesth/J Can Anesth</i> 68, 683–692 (2021).</a>	NKA was significantly decreased after surgery in both control and ketamine groups. Perioperative low-dose ketamine administration did not convey any favourable impacts on overall postoperative NKA, inflammatory responses, and prognosis in colorectal cancer surgery patients. n=50 (controls), n=50 (ketamine); performed in South Korea.	<a href="https://doi.org/10.1007/s12630-021-01925-3">https://doi.org/10.1007/s12630-021-01925-3</a>
2021	<a href="#">Cho, J. S. et al. Effects of Perioperative Dexmedetomidine on Immunomodulation in Uterine Cancer Surgery: A Randomized, Controlled Trial. <i>Front. Oncol.</i> 11, 749003 (2021).</a>	NKA was significantly decreased after surgery in both control and dexmedetomidine groups. Perioperative dexmedetomidine administration had no favourable impacts on K cell activity, inflammatory responses, or prognosis, whereas it increased interferon- $\gamma$ and reduced early post-operative pain severity and opioid consumption in uterine cancer surgery patients, n=45 (Controls), n=46 (dexmedetomidine); performed in South Korea.	<a href="https://doi.org/10.3389/fonc.2021.749003">https://doi.org/10.3389/fonc.2021.749003</a>

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2021	<a href="#">Park, C. et al. 3 Cases of Cancer Patients Whose Natural Killer Cell Activity Improved with Traditional Korean Medicine Treatment: A Case Series. J Int Korean Med 42, 444–454 (2021).</a>	NKA increased in all 3 patients receiving Traditional Korean Medicine treatment for their cancer (breast, thyroid, liver). n=3; performed in South Korea.	<a href="https://doi.org/10.22246/jikm.2021.42.3.444">https://doi.org/10.22246/jikm.2021.42.3.444</a>
2022	<a href="#">Lee, Y.-K., et al. Cross-Sectional and Time-Dependent Analyses on Inflammatory Markers following Natural Killer Cell Activity. Diagnostics 12, 448 (2022).</a>	Higher NKA was an index of lower inflammatory state. Very low NKA may be a strong marker for inflammation. As NKA reduces to a very low level, the white blood cell (WBC) and neutrophil counts increase sharply, and the lymphocyte count exhibits a slow decline. NKA <100 pg/mL was found in a high proportion of subjects with NLR $\geq$ 4, WBC > 10,000/ $\mu$ L, CRP > 3g/L. n=7,031; performed in South Korea.	<a href="https://doi.org/10.3390/diagnostics12020448">https://doi.org/10.3390/diagnostics12020448</a>