CONCLUSION

The expression pattern of VEGF isoform in Thai patients with colorectal, liver and lung cancer who had undergone surgical re-section at the Maharaj Nakorn Chiang Mai Hospital was examined using Western blot analysis. Three major protein bands with molecular weight 18, 23 and 26 kDa were predominately detected, which are believed to be $VEGF_{121}$, $VEGF_{165}$ and $VEGF_{189}$, respectively. In colorectal tumors, $VEGF_{121}$ was found to be equally expressed in both tumor and normal tissues, whereas the $VEGF_{165}$ and $VEGF_{189}$ were only detected or detected at higher level in tumor tissues. However, in lung tumor $VEGF_{121}$ appeared to be predominately expressed in normal tissues, where as $VEGF_{165}$ and $VEGF_{189}$ were predominately expressed in tumors tissues. Unexpectedly, it appeared that while tumor tissues of colorectal and lung expressed high level of VEGF isoforms in comparison to normal tissues, normal tissues of liver expressed higher level of VEGF compared to tumor tissues. Expression of $VEGF_{165}$ was significantly correlated with smaller size tumor, whereas $VEGF_{189}$ was significantly correlated with advanced clinical stage of the tumors. The measurement of total VEGF by capture ELISA showed that total VEGF protein level were significantly higher in tumor tissues compared to normal tissues of colorectal and lung. Therefore, it is possible that during tumorigenesis, tumor cells could induce the expression of certain isoforms of VEGF to help with their progression.

The comparison of the VEGF level in serum of cancer patients compare to normal volunteers revealed that cancer patients possessed significantly higher level of serum VEGF than those in normal control. However, we found that it's very difficult to decide the cut-off value, as some normal volunteers possessed quite a high level of circulating VEGF and also no correlation between the circulating level of VEGF and pathological features was observed. From this investigation we concluded that circulating level of VEGF may have potential to be used as a tumor marker, however, careful considerations have to be taken, as it may not entirely represent the VEGF production level in tumor tissues and tumor stage, and other pathological conditions can also cause the induction of this protein in the circulation.