



Figure 18.5 Interleukin-6 stimulates expression of C-reactive protein

b. C-reactive protein as a cancer biomarker

C-reactive protein has found utility as prognostic marker for a number of cancers, including liver cancer, lung cancer, and melanoma, as detailed below.

1. C-reactive protein and lung cancer – the Allin study

Allin et al. (104) conducted an epidemiological study of 10,408 cancer-free Danish people. The authors acquired baseline plasma CRP levels, and followed the subjects for 16 years. Of all the subjects, 1,624 developed cancer. The study excluded subjects who, at any time before or during the study, had cirrhosis of the liver. The authors divided baseline CRP into three groups, that is, low (under 1.0 mg/L), medium (1.0–3.0 mg/L), and high (over 3.0 mg/L). The authors discovered a significant association between elevated CRP (at baseline) with later development of lung cancer. Greater levels of baseline CRP were progressively associated with greater risk for lung cancer. The authors proposed that the association could be the result of undetected cancer (at baseline) where inflammation around the cancer caused expression of IL-6, where this IL-6 provoked hepatic expression of CRP. The authors also proposed that tumor cells could have been expressing the IL-6.

2. C-reactive protein and liver cancer – the Wong study

The following concerns surgery on the liver to remove metastatic tumors originating from colorectal cancer. Surgery is the standard treatment for this type of liver cancer. With

¹⁰⁴ Allin KH, Bojesen SE, Nordestgaard BG. Baseline C-reactive protein is associated with incident cancer and survival in patients with cancer. *J Clin Oncol.* 2009;27:2217–2224.