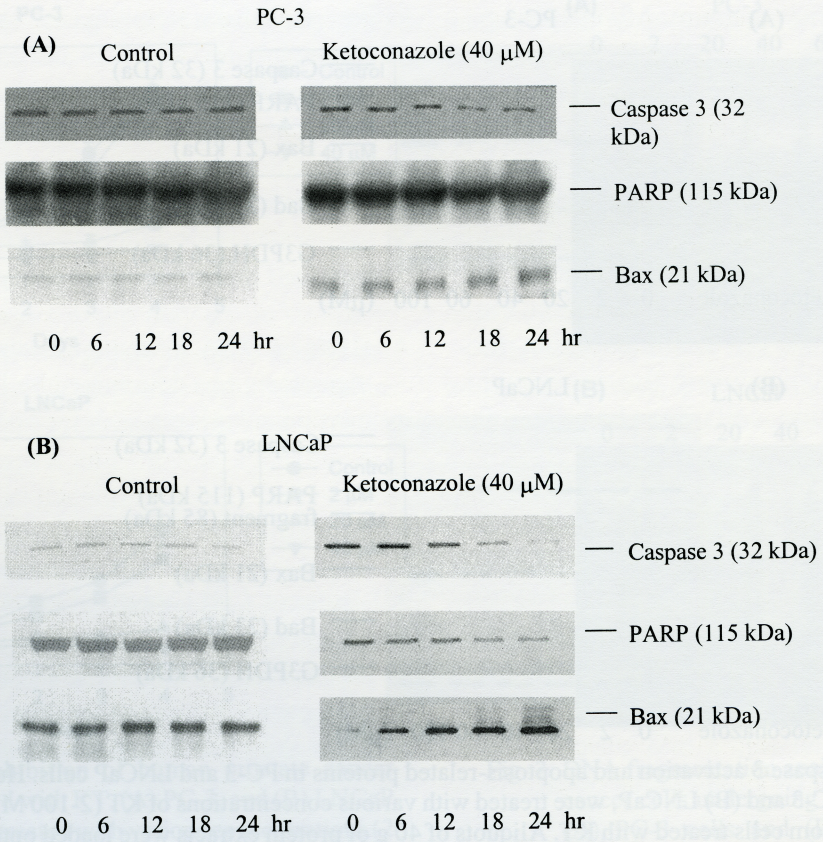

Fig. 4. Time-dependent response of KT-induced caspase 3 activity and apoptosis-related proteins in PC-3 and LNCaP cells. Human prostate cancer cells, (A) PC-3 and (B) LNCaP, were treated with 40 M of KT at the indicated time points. Proteins were isolated from cells treated with KT. Aliquots of 40 g of protein extracts were loaded onto SDS-PAGE, and Western blot analyses were performed. The intracellular responses of caspase 3 activation, PARP degradation, and Bax protein expression were determined.

sion of human cancer cells growth by KT treatment.

The tumor suppressor, p53, has been implicated in a variety of cellular processes.[26,27] However, p53 has undisputed roles of induction of cell growth arrest and apoptosis.[28] Our previous study demonstrated that the process of G0/G1 cell cycle arrest induced by KT is correlated with the induction of the p53-associated signaling pathway, as evidenced by a p53-specific anti-sense ODN experiment.[18] Our results also revealed that the HT 29 colon cancer cells with mutated p53 (His^{273} mutant) were sensitive to KT treatment.[18] These results support the hypothesis that p53-dependent and -independent pathways are involved in mediating KT-induced apoptosis and cell growth arrest in human prostate cancer cells. KT is also an anticancer drug used for the treatment of advanced prostate cancer.[10,29] According to previous studies, apoptosis induced by a wide variety of chemotherapeutic agents has been found to be dependent on a normal p53 status which may be a determinant of the chemosensitivity of tumor cells.[30-34]

According to previous reports, p53 inhibits Bcl-2 expression and increases Bax expression.[35] However, both our own studies and those of others have demonstrated that agents (such as NO and -radiation) which cause DNA damage might elevate p53 and Bax levels and eventually cause apoptosis.[36-39] These results imply that p53-regulated Bax protein elevation was not induced by all of the apoptosis-inducing agents. In this study, we also demonstrate that the Bax protein was induced consistently by p53 protein expression. The role that p53 plays in KT-induced Bax protein expres-