Title of the Contribution:
Association of death receptor 4 haplotype 626C-683C with an increased breast cancer risk.

Abstract:
Dysregulation of apoptosis plays a crucial role in carcinogenesis. Tumour necrosis factor-related apoptosis-inducing ligand stimulates the extrinsic apoptotic pathway by binding to death receptor 4 (DR4). Thus, genetic alterations within the candidate tumour suppressor gene DR4 would be expected to provoke a deficient apoptotic signalling thereby facilitating the development of cancer. The DR4 variants Thr209Arg and Glu228Ala were genotyped in a series of 521 breast cancer cases and 1100 control subjects from Germany, determining their impact on breast cancer risk. Neither Thr209Arg (626C>G) nor Glu228Ala (683A>C) alone were significantly associated with breast cancer risk [odds ratio (OR) = 0.84, 95% confidence interval (CI) = 0.65-1.08, P = 0.18 and OR = 0.89, 95% CI = 0.72-1.12, P = 0.30]. However, haplotype analysis revealed a 3.5-fold risk for carriers of the 626C-683C haplotype (OR = 3.52, 95% CI = 1.45-8.52, P = 0.003).