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## A new perspective on estrogen receptor beta in ovarian cancer progression

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O f the gynecological malignancies, epithelial ovarian cancer is the leading cause of death in the great majority of developed countries with more than 140,000 women dying from this cancer across the world in 2008. The importance of estrogen signaling in the development and progression of ovarian cancer has been assumed to be less significant than in breast or endometrial malignancies, although preclinical studies and clinical data have shown that not only normal ovaries but also many malignant ovarian tumors can be considered as endocrine related, and hormone-dependent. Estrogens exert their action through two estrogen receptors (ER $\alpha$  and ER $\beta$ ) that are encoded by separate genes. In the healthy ovary, the levels of ER $\beta$  are high and predominate over ER $\alpha$ , being ER $\beta$ 1, - $\beta$ 2, and - $\beta$ 5 the most represented isoforms. The majority of ovarian tumors also express ER $\beta$ , but few studies have examined the prognostic role of ER $\beta$  isoforms in ovarian cancer. We have recently shown a strong statistical association of cytoplasmic ER $\beta$ 2 immunoreactivity with an unfavorable outcome in advanced serous ovarian cancer patients, a finding also reported in familial and sporadic breast cancer. The functional role of cytoplasmic ER $\beta$ 2 is far from being elucidated, however preliminary data from our ongoing studies suggest that cytoplasmic protein accumulation may confer pro-survival advantages to ovarian cancer cells by inhibiting apoptotic pathways.

## Biography

Daniela Gallo completed her first Master's Degree in Pharmaceutical Chemistry & Technology in 1990, her second in Pharmacy in 1992, and her PhD in Pharmacology and Toxicology in 1998, at the University La Sapienza of Rome. She is currently responsible for the Pre-Clinical Oncology Unit at the Department of Obstetrics and Gynecology, Catholic University Medical School in Rome. She also actively participates to the preparation of clinical trials in the field of Gynecologic Oncology. She is a Lecturer for the post graduate course in "Preclinical and clinical drug development: technical, regulatory and ethical aspects" at the Catholic University Medical School in Rome. She has published more than 45 papers in peer-reviewed journals.

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