

Ovarian Cancer Tumor Markers

[The CA-125 tumor marker blood test](#) is the most common marker used for epithelial ovarian cancers. CA stands for "cancer antigen." CA-125 can be made by normal cells but is made in higher concentration in some ovarian cancer cells than normal ovarian cells.

CA-125 may be used as part of an ovarian risk index to diagnose ovarian cancer, or it may be used to monitor the response to ovarian cancer treatments. Not all ovarian cancers express CA-125, and levels are normal in around 20% of these types of ovarian cancers. In contrast, some benign ovarian tumors, as well as other conditions, may result in an elevated CA-125 level.

Of the 3 subtypes of epithelial ovarian cancer, mucinous cancers are less likely to express CA-125 than either serous or endometrioid tumors.

HE4 - human epididymis protein 4 is a newer tumor marker that may also be expressed in ovarian cancer, and CA-125 is more likely to be found with serous and endometrioid tumors. Some researchers have found that using a combination of CA-125 and HE4 is more helpful in diagnosing ovarian cancer than either test used alone.

Since women under the age of 40 are more likely to have the mucinous subtype of epithelial ovarian cancer, these 2 tumor markers may be less helpful in the diagnostic process for younger women.

Other tumor markers that can sometimes be useful for monitoring mucinous ovarian cancers are **CA-72-4**, **CA-19-9** and [CEA](#) (carcinoembryonic antigen). There are others which may be elevated but are far less commonly used. CA 19-9 is commonly found in women with the mucinous subtype and may be helpful in the diagnostic process when combined with CA-125.

The two main markers used for the group of germ cell cancers are: [alpha-feto protein \(AFP\)](#) and [human chorionic gonadotropin \(hCG\)](#). The latter is also used to monitor normal pregnancy. Levels of AFP and hCG which are significantly elevated are a highly specific way in diagnosing these tumors.

The only markers that are useful in stromal tumor markers are produced by the granulosa cell subtype. These include **estradiol** (a type of estrogen) and **inhibin**. Since these [tumors are often found in young women](#), these tests may be done as part of a workup for an abdominal mass (and other symptoms such as precocious puberty) in girls and young women.

Genetic Tumor Markers

Once a diagnosis of ovarian cancer is confirmed, women should have their tumors analyzed for genetic markers which can help guide treatment options. These might include BRCA, BRAF, EGFR, PDL and many others.