#4519 Characterization of a BRCA1-like compound present in human seminal plasma. Angelopoulou, K., Borchert, G., Lianidou, E., Lilja, H., Diamandis, E.P. *Mount Sinai Hospital, Toronto, ON, Canada M5G 1X5, University of Athens, Athens, Greece 157 71, and University of Lund, Malmö General Hospital, Malmö, Sweden S-205 02.*

The subcellular localization of the breast cancer susceptibility gene product BRCA1 has been controversial. Discrepant results have been reported over the last three years, partially due to the unavailability of highly specific reagents for BRCA1 protein. In this report, we present data indicating that two BRCA1 antibodies, (SG-11 and D-20), which were thought to be free of cross-reactivities, strongly interact with proteins present in human seminal plasma. This cross-reactivity is detectable even at seminal plasma dilutions as high as 10^6-fold, and it is effectively blocked by peptides that capture the binding site of either SG-11 or D-20 antibodies. Purification and characterization of the immunoreactive compound revealed that this consists of a macromolecular complex which contains semenogelins. The D-20 polyclonal antibody was found to cross-react with purified semenogelins I and II, whereas the SG-11 monoclonal antibody appeared to recognize a component of the macromolecular complex that was not semenogelin. These data demonstrate that the BRCA1 antibodies SG-11 and D-20 strongly interact with seminal plasma proteins and that they are not highly specific for BRCA1 protein. It is thus suggested that BRCA1 antibodies should be used with caution until reagents free of interference are developed and evaluated. In light of the very high cross-reactivity of the two antibodies with seminal plasma proteins, it is recommended that new BRCA1 antibodies should be examined for cross-reactivity with seminal plasma proteins in order to verify specificity.