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NCCN Guidelines Panel: Ovarian Cancer

On behalf of Helomics ®, I respectfully request that the NCCN Ovarian Cancer Panel review the enclosed data for consideration of the ChemoFx®® treatment marker in the epithelial ovarian cancer/fallopian tube cancer/peritoneal cancer guidelines.

Specific Changes: Recommend that ChemoFx® be moved to level 2 in the chemosensitivity/resistance and/or other biomarker assays section and that change be made to reflect current body of clinical evidence supporting the role of ChemoFx® in treatment selection of FDA approved, NCCN guideline recommended treatments.

CLIA-certified, NYSDOH approved: ChemoFx® is available and reimbursed by Medicare and commercial providers for use in gynecologic cancers.

Rationale: In support of the proposed changes we submit the following, including reference articles. We would also like to acknowledge the contributions of NCCN panel members who are also co-authors or co-contributors of some of the peer reviewed journal publications.

- There are over 30 treatments recommended by the National Comprehensive Cancer Network (NCCN) for different stages of gynecological cancer. There exists an unmet need to assist physicians in selecting effective treatments where there is no single standard of care.
- Helomics ® Corporation has addressed this need with ChemoFx®, a clinically validated treatment marker. ChemoFx® aids selection among FDA approved treatments in relation to their potential effectiveness on an individual patient basis using proprietary, patented, live tumor cell analysis.
- ChemoFx® is clinically validated, medically actionable, and economically beneficial as demonstrated by a large body of clinical evidence presented in this letter. The majority of the referenced publications in the body of evidence are newly published since the last ChemoFx® review.

Efficacy

- ChemoFx® has been shown to provide clinical utility through identification of effective treatments, *before* therapy administration, sparing both the patient and the healthcare system the toxicities and costs normally associated with cancer therapy.
- The use of ChemoFx® is associated with a significant improvement in patient outcomes measured in terms of both overall survival (OS) and progression free survival (PFS) in multi-center prospective and retrospective controlled studies designed to assess ChemoFx® as a treatment marker. As a result, the number of patients receiving ChemoFx® identified effective treatments that experience improved outcome is significantly increased when compared to patients treated empirically.

- Rutherford et al. A Prospective Study Evaluating the Clinical relevance of a Chemoresponse Assay for Treatment of Patients with Persistent or Recurrent Ovarian Cancer. *Gynecologic Oncology* 2013; 131: 362-367.
- Krivak et al. A Chemoresponse assay for prediction of platinum resistance in primary ovarian cancer. *American Journal of Obstetrics and Gynecology* 2014;210:68.e1-68e8
- Grendys et al. Overview of a chemoresponse assay in ovarian cancer. *Clinical and Translational Oncology* 2014; 16: 761-769.
- Herzog et al. *American Journal of Obstetrics and Gynecology* 2010; 203(1): 68.e1-68.e6.
- Gallion et al. Progression-free interval in ovarian cancer and predictive value of an *ex vivo* chemoresponse assay. *International Journal of Gynecologic Cancer* 2006; 16: 194-201.

- The use of ChemoFx® is predictive, in addition to prognostic, of treatment-specific outcome. ChemoFx® identifies specific therapies, among multiple recommended treatments, that improve both PFS and OS.
  - Tian et al. Evaluation of a chemoresponse assay as a predictive marker in the treatment of recurrent ovarian cancer: further analysis of a prospective study. *British Journal of Cancer* 2014; 111: 843-850.
- In primary gynecologic cancers, ChemoFx® can be used to identify the patient population resistant to standard of care treatment, the majority of whom experience early relapse.
  - Krivak et al. A Chemoresponse assay for prediction of platinum resistance in primary ovarian cancer. *American Journal of Obstetrics and Gynecology* 2014;210:1.e1-e8

Safety

- ChemoFx® is safe. Tissue is obtained during debulking surgery done as part of SOC. No additional intervention required
- ChemoFx® can spare patients the toxicities associated with ineffective cancer therapy.
- ChemoFx® has the potential to improve patient outcomes and quality of care by aiding selection of effective chemotherapy, on an individualized patient basis.

Quality of Evidence

- ChemoFx® clinical validation is based on results of multiple large, multi-center clinical trials with prospectively defined endpoints and analysis as documented in multiple recently published articles in peer reviewed journals.

Consistency of Evidence

- ChemoFx® has consistent clinical results demonstrating improvements in PFS and OS in multiple studies.

Affordability

- Use of ChemoFx® is both cost effective and potentially cost saving in the treatment of gynecologic cancers. This is due to the use of ChemoFx® aiding the selection of effective treatment.
  - Plamadeala et al. A cost-effectiveness analysis of a chemoresponse assay for treatment of patients with recurrent epithelial ovarian cancer. *Gynecologic Oncology* January 2015; 136(1): 94-98.
  - Havrilesky et al. Impact of a chemoresponse assay on treatment costs for recurrent ovarian cancer. *American Journal of Obstetrics and Gynecology* August 2010; 203(2): 160.e1-160.e7.
- ChemoFx® is available only at Helomics ® CLIA-certified, NYSDOH approved clinical reference laboratory.