

# IMPACT OF COMPREHENSIVE GENOMIC PROFILING NGS PANELS IN PRECISION ONCOLOGY: THE CITY OF HOPE CMDL EXPERIENCE

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## ABSTRACT

The City of Hope (COH) Comprehensive Cancer Center provides a multidisciplinary, collaborative environment where basic, clinical, and translational research intersect and is recognized as one of the leaders in cancer treatment. The COH Clinical Molecular Diagnostic Laboratory (CMDL) has been a pioneer in molecular diagnostics with over twenty years of clinical experience in both somatic and germline molecular testing.

The CMDL has been offering multiple next generation sequencing (NGS)-based comprehensive genomic profiling panels, HopeSeq Panels, for many years to guide clinicians in diagnosis, prognosis, and therapeutic strategies in cancer treatment by providing expanded coverage for the clinical trials and the gene targets which are recommended and cited by the professional organizations including the World Health Organization (WHO), the European Leukemia Net (ELN), the National Comprehensive Cancer Network (NCCN) and the European Society for Medical Oncology (ESMO). Being a designated laboratory for the NCI-ComboMATCH study by the National Cancer Institute (NCI), these comprehensive genomic profiling panels have strengthened COH's leading position in cancer research and treatment and have further expanded its position as a leading provider of Precision Oncology.

The comprehensive genomic profiles of each patient are reviewed in daily multidisciplinary genomic tumor board meetings by an expert team which includes molecular pathologists, clinical molecular geneticists, hematopathologists and clinicians prior to reporting to ensure the variants are appropriately classified based on AMP/ACMG guidelines in the context of the patient's cancer.

**Keywords:** Genetic Profile, Deep Sequencing, Personalized Medicine, Genomic Tumor Board