rational therapeutics®

The Art & Science of Personalized Cancer Care

EVA-PCD Functional Analysis

CPT Code: 86849 – EVA-PCD

$3,500 – $4,500

This is not a Medicare covered test

A laboratory assay that exposes living tumor cells from patients to chemotherapy drugs/targeted agents, singly and in combination, for three days. Drug induced cell death (apoptotic and non-apoptotic) is examined by morphology, cytochemistry, staining characteristics and cellular metabolism. Living cells vs. dead cells shows which drugs kill the cancer cells (these cells are "sensitive" to these drugs) and which ones do not (these cancer cells are "resistant" to these drugs).

Up to sixteen (16) drugs are tested as single agents and in combination. Drug panels selected for each patient are consistent with patient diagnosis and treatment status. The use of this assay enables the physician to prescribe those agents with the highest probability of improving the patient's outcome and minimizing unnecessary toxic therapies.

Assay Processing Steps

1. Visual and physical assessment of specimen quality.
2. Verification of accompanying documentation.
3. Manual teasing and mincing of specimen (solid tumors).
4. Enzymatic disaggregation (solid tumors).
5. Ficoll-hypaque purification and washing of viable tumor cells.
6. Estimation of total tumor cell yield by hemacytometer and microscope slide.
7. Adjustment of cellular concentration of cell suspension to within acceptable range.
8. Preparation of Day 0 control slide.
9. Manual addition of cell suspension into 96-well EVA assay plate.
10. Preparation of serial drug dilutions in 96-well drug plate.
11. Addition of drug serial dilutions to cells in 96-well EVA assay plate.
12. Incubation of assay for 72-96 hours.
13. Computer entry of specimen information into laboratory database.
14. Day 1 quality control slide prepared and evaluated.
15. Day 2 quality control slide prepared and evaluated.
16. Day 3 quality control slide prepared and evaluated.
17. Final (Day 4) control slide prepared and evaluated.
18. Cytospin slide preparation of EVA assay.
19. Assay slide staining and counterstaining.
20. Coverslip assay slides.
21. Data entry of assay status.
22. Morphologic analysis of drug efficacy.
23. Computer calculation and entry of assay results.
24. Generation of preliminary EVA assay report.
25. Review and revisions of report by medical director.
26. Assay fee assessed. Insurance billing initiated.
27. Generation of revised preliminary report.
28. Facsimile transmission of initial report.
29. Literature search – National Library of Medicine standard regimes.
30. Dictation and transcription report of findings and recommendations.
31. Facsimile transmission and mailing – preliminary and final reports.
32. Permanent archiving of microscope slides, patient chart and computer data.

Drug List

- 5-Fluorouracil
- Actinomycin-D
- Asparaginase
- Bleomycin
- Carboplatin
- Carmustine (BCNU)
- Chlorodeoxyadenosine (2-CDA)
- Cisplatin
- Cytarabine (ARA-C)
- Dacarbazine (DTIC)
- Deoxy-aza-cytidine
- Dexamethasone
- Docetaxel (Taxotere)
- Doxorubicin
- Erbitux (Cetuximab, C225)
- Estramustine
- Etoposide (VP16)
- Fludarabine
- Geldanamycin
- Gemzar (Gemcitabine)
- Gleevec (Imatinib)
- Herceptin (Trastuzumab)
- Interferon-A
- Iressa (Gefitinib)
- Irinotecan (Camptosar)
- Mitomycin-C
- Mitoxantrone
- Nexavar (Sorafenib)
- Nitrogen Mustard
- Paclitaxel (Taxol)
- Rapamycin (Sirolimus)
- Rituxan (Rituximab)
- Sutent (Sunitinib)
- Sprycel (Dasatinib)
- Tamoxifen
- Tarceva (Erlotinib)
- Temodar (TMZ)
- Topotecan
- Trichostatin A (SAHA, Zolinza)
- Tykerb (Lapatinib)
- Ukrain
- Velcade (Bortezomib)
- Vinblastine
- Vincristine
- Vinorelbine (Navelbine)
- Zactima (Vandetanib)

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