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### **Molecular predictors of response to EGFR antagonist**

**Reviewed by Dr. Charles Butts**

Sequist LV *et al.* Molecular Predictors of Response to Epidermal Growth Factor Receptor Antagonists in Non-Small-Cell Lung Cancer [JCO 2007; 25\(5\):587-95](#)

This paper published in JCO in the Biology of Neoplasia section is a review of the molecular predictors of response to EGFR antagonist in non-small cell lung cancer by the Dana Farber Group. The review “summarizes the biology of EGFR in non-small cell lung cancer, the clinical and molecular predictors of benefit from treatment of EGFR TKI’s, the use of patients specific molecular profiling, and future directions in clinical basic scientific research”. This is an excellent review of both the clinical and molecular predictors of response with both Erlonidib and gefitinib. The authors point out the major handicap of this type analysis, that being the small numbers of cases and subgroup bias in any analysis of response based on molecular markers to guide EGFR TKI therapy. This is particularly a problem in non-small cell lung cancer where very often we are faced with only cytological diagnosis from a fine needle aspiration which provides insufficient material for molecular analysis. The optimal combination of molecular predictors of response to EGFR TKI’s remains to be defined. However, based on the current evidence they would recommend consideration of Erlonidib as second line therapy for any eligible chemo refractory patient based on the results of BR21. The use of EGFR TKI’s as first line therapy for non-small cell lung cancer should be guided by clinical trials using molecular markers for patient selection.