Esophageal tumors are a heterogeneous group with the main histological subtypes of Mets Adenocarcinoma and Squamous P and PP only, with frequencies of 40.0% and 15.0%, respectively. With IHC-EGFR, Treatment of esophageal cancer largely relies on surgery and radiation; however, ongoing investigations correlating observed molecular differences with clinical outcomes are crucial. IHC-TLE3, IHC-RRM1, and IHC-TOPO1 are examples of such investigations.

TP53 mutation frequency in adenocarcinoma and squamous cell carcinoma tumors. Values are expressed as the number of tumors with the mutation out of the total number of tumors analyzed. Mutations in TP53 were more frequent in adenocarcinoma than in squamous cell carcinoma, with a significant difference between the two histological groups (p=0.0017). Other differences even though may seem large in frequency, did not reach significance due to small N.

Figure 3: Proteins expressions and gene amplifications observed at a higher frequency in adenocarcinoma (green) than in squamous cell carcinoma (red). Stars indicate statistical significance between the two histological groups.

Figure 4: Mutations detected by NextGen sequencing were compared between tumors with adenocarcinoma and squamous cell carcinoma. Solid bars represent mutation rates of variants that are pathogenic (P) or presumptively pathogenic (PP) while shaded bars are variants of unknown significance. Comparative analysis performed on T and PP variants shows that KRAS, APC, FGFR2 and NRAS/L1 mutations are significantly different between the two histological groups.