**Table 2** Mutational landscape of G proteins in cancer. Table was adapted from O’Hayre et al. (O'hayre et al., 2013).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Mutation** | **Gene name** | **% affected tumors** | **Hotspot residues** | **Mechanism of action** | **Location** |
| *GNAS* | G protein Subunit Alpha S | 4.45% | R201  Q227 | Reduce rate of GTP hydrolysis of active bound Gα, resulting in continuous signaling of Gαs. | testis,  small intestine,  pituitary,  bile tract |
| *GNAQ* | G Protein Subunit Alpha Q | 3.36% | Q209  R183 | Activate GEF, Trio and Rho GTPase signaling, activating MAPK-pathway. | eye, meninges |
| *GNA11* | G Protein Subunit Alpha 11 | 2.49% |
|  | | | | | |