Lung cancer has been a leading cause of death in the United States. Counterintuitively, more and more lung cancer patients have never smoked a single cigarette in their lifetime, especially the female patients. Several etiologic factors have been proposed for the development of lung cancer in non-smoker patients, including exposure to radon, cooking fumes, asbestos, heavy metals, and environmental tobacco smoke, human papillomavirus infection, and inherited genetic susceptibility. Family history of respiratory tract cancer in first-degree relatives was seen to confer an excess risk of lung cancer in multiple case control studies, where the risk was even higher for female non-smokers. In a later study of carcinogenesis of non-smoker lung cancer patients, over a dozen susceptible genes were identified:

<table>
<thead>
<tr>
<th>AKT1</th>
<th>ALK</th>
<th>BRAF</th>
<th>DDR2</th>
<th>EGFR</th>
<th>KRAS</th>
<th>MAP2K1</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRAS</td>
<td>PIK3CA</td>
<td>PTEN</td>
<td>RET</td>
<td>RIT1</td>
<td>ROS1</td>
<td></td>
</tr>
</tbody>
</table>

With the genetic susceptibility information of healthy individuals, previously covert, at-risk patients can now be identified and followed by a personalized surveillances and prevention programs.


You are welcome to contact us for more information!