We consider a brane configuration consisting of a D5-brane, D1-branes and D3-branes. According to the AdS/CFT correspondence this system realizes a ’t Hooft operator embedded in the interface in the gauge theory side. In the gravity side the near-horizon geometry is $AdS_5 \times S^5$. The D5-brane is treated as a probe in the $AdS_5 \times S^5$ and the D1-branes become the gauge flux on the D5-brane. We examine the condition for preserving appropriate amount of supersymmetry and derive a set of differential equations which is the sufficient and necessary condition. This supersymmetric configuration shows bubbling behavior. We try to derive the relation between the probe D5-brane and the Young diagram which labels the corresponding ’t Hooft operator. We propose the dictionary of the correspondence between the Young diagram and the probe D5-brane configuration.