

Tetracysteine tagged L-type calcium channel imaged using Total Internal Reflection Microscopy (TIRF-M). In contrast to connexin43 at gap-junctions that are highly concentrated and localized, the α_{1C} channels in HEK293 cells are much more difficult to image due to their diffuse expression pattern and low open probability. TIRF-M improves signal/background ratio by confining the observation to a thin (~150 nm) section including the plasma membrane while excluding the majority of intracellular unspecific background staining.