DNA repair proteins are a key component in the prevention of DNA-damage accumulation and mutagenesis. In the process of studying fluorescently labelled DNA-repair proteins, small foci which appear in the absence of any chemical or physical mutagen, were observed. Their size and location indicate that they might form at sites of endogenous DNA-damage. Therefore, the examination of their frequency and kinetics would be an opportunity to explore the dynamics of endogenous DNA-repair foci. For that purpose, we performed live cell imaging of cells co-expressing mCherry-tagged PCNA and an EGFP-tagged DNA-repair protein of interest. Each cell line was observed with and without ATR and ATM kinase inhibitor. In these conditions we explored the dynamics of endogenous foci throughout each phase of the cell cycle. We were able to obtain the kinetics of accumulation and dissociation of the DNA-repair proteins and observe the abundance of each protein throughout the different phases. Our results give new insights into the behaviour of DNA-repair proteins with or without the presence of a kinase inhibitor.