

**Institutional Board Statement:** The study was reviewed and approved after two meetings of all the authors before and after immune-histochemistry and confocal microscopy.

**Clinical trial registration:** This study was not a clinical trial but a retrospective evaluation of biological parameters on histological surgical/endoscopic specimens from subjects referred to the General Surgery Unit, University of Florence (Italy) and treated for Familial polyposis (FAP)-associated duodenal carcinomas. Patients names are listed in the registers of the surgical operation list and the Pathology Unit of the University of Florence (Italy). The control group was composed of subjects referred to the outpatients Endoscopy Section of the Gastroenterology Unit, University of Bari (Italy) and the Pathology Unit of the same University. As required by Italian law, each patient gave written informed consent to the endoscopic examination as well as to the surgical procedure. Additionally, oral consent to the treatment of biological samples was obtained from each patient by phone. No Ethics Committee approval was required because all invasive procedures had been performed according to the current clinical patient management current protocols.

16<sup>th</sup> December 2015

A handwritten signature in black ink, appearing to read 'E. Ierardi', written over a horizontal line.

Prof. Enzo Ierardi