Adenocarcinoma, Esophagus, Rat

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**Synonyms.** Carcinoma with glandular differentiation, tubular adenocarcinoma, signet ring cell carcinoma

**Gross Appearance**

Adenocarcinomas of the esophagus are seen with two macroscopic forms (Pera et al. 1989). One form has a diffuse pattern of infiltration with thickening of the esophageal wall, which may measure up to 4 mm in thickness. The second form is seen as a nodular pattern with single or multiple nodules measuring from 1 mm up to 7 mm in diameter (Fig. 289). In the larger nodular adenocarcinomas, it is common to find an ulcerated surface. Adenocarcinomas are found in the middle and distal thirds of the esophagus.

**Microscopic Features**

Three microscopic patterns are observed: (1) tubular and glandular structures, (2) signet-ring shaped, diffusely infiltrating cells, and (3) a combination of the first two patterns (Pera et al. 1989). The tubular and glandular pattern is formed by well-developed glands lined with mucous-
**Fig. 289.** Nodular adenocarcinoma in the lower third of the esophagus of a Sprague-Dawley rat. Note its origin immediately above one of the suture stitches placed along the line of the esophago-jejunostomy (arrow).

**Fig. 290.** *(above)* Adenocarcinoma, esophagus, rat, with a characteristic tubular and glandular pattern. Alcian blue plus H&E, ×200

**Fig. 291.** *(below)* Tubular/glandular adenocarcinoma of the esophagus of a rat. Note moderately to well-developed glandular structures with mucin production. H&E, ×250