Heart – Introduction

Examination of the heart is routinely included in toxicologic evaluation. In NTP studies, the heart is sectioned through the longitudinal axis, to include the right and left ventricles, interventricular septum, both atria, and a portion of the major vessels at the base of the heart.

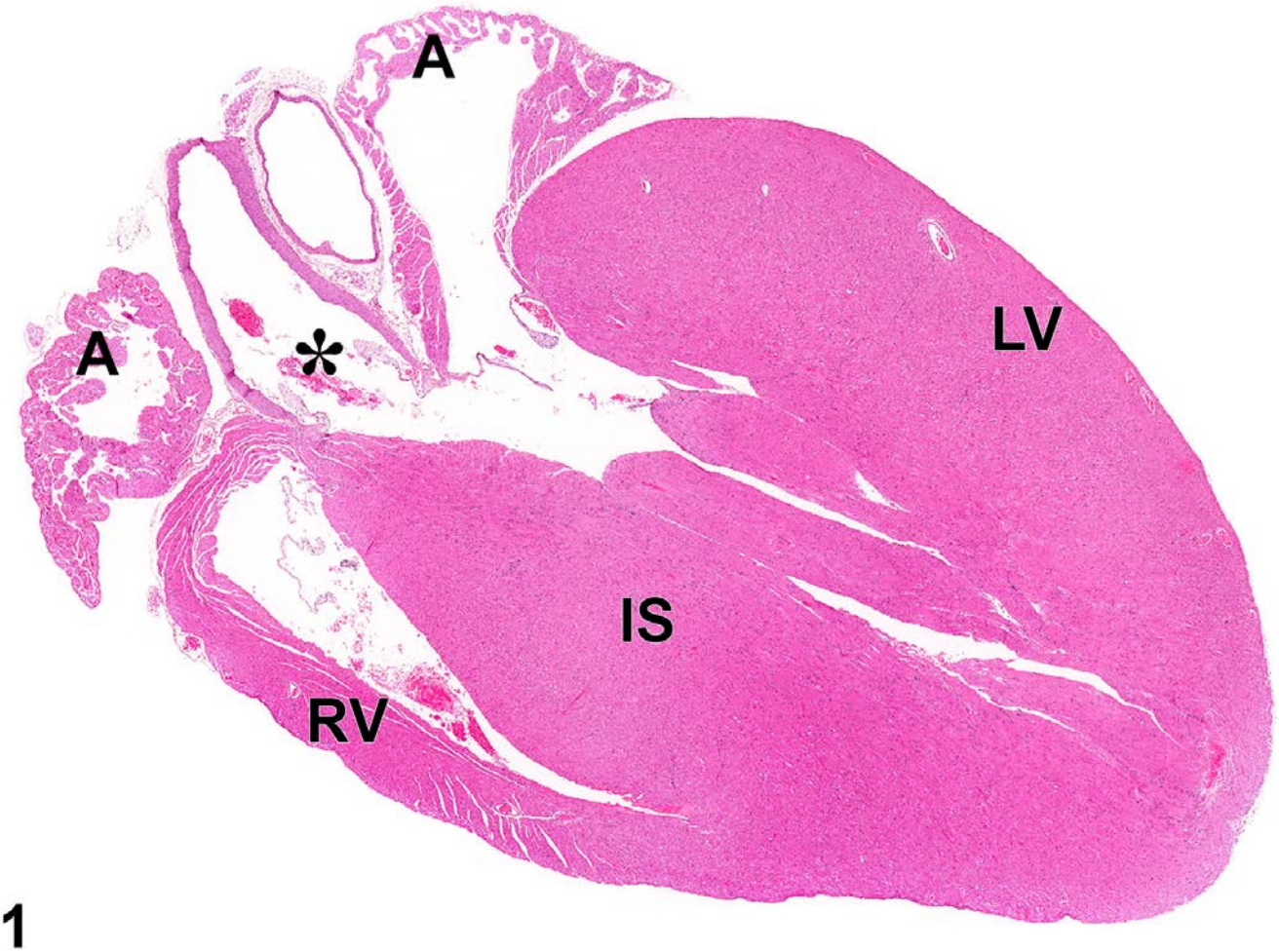


Figure 1 Normal heart in a male B6C3F1/N mouse from a chronic study. Shown are the left ventricle (LV), right ventricle (RV), right and left atria (A), interventricular septum (IS), and aorta (asterisk). The pericardium is removed (not present).

Heart – Introduction

The muscular chambers are composed of three layers: the epicardium, the myocardium, and the endocardium.

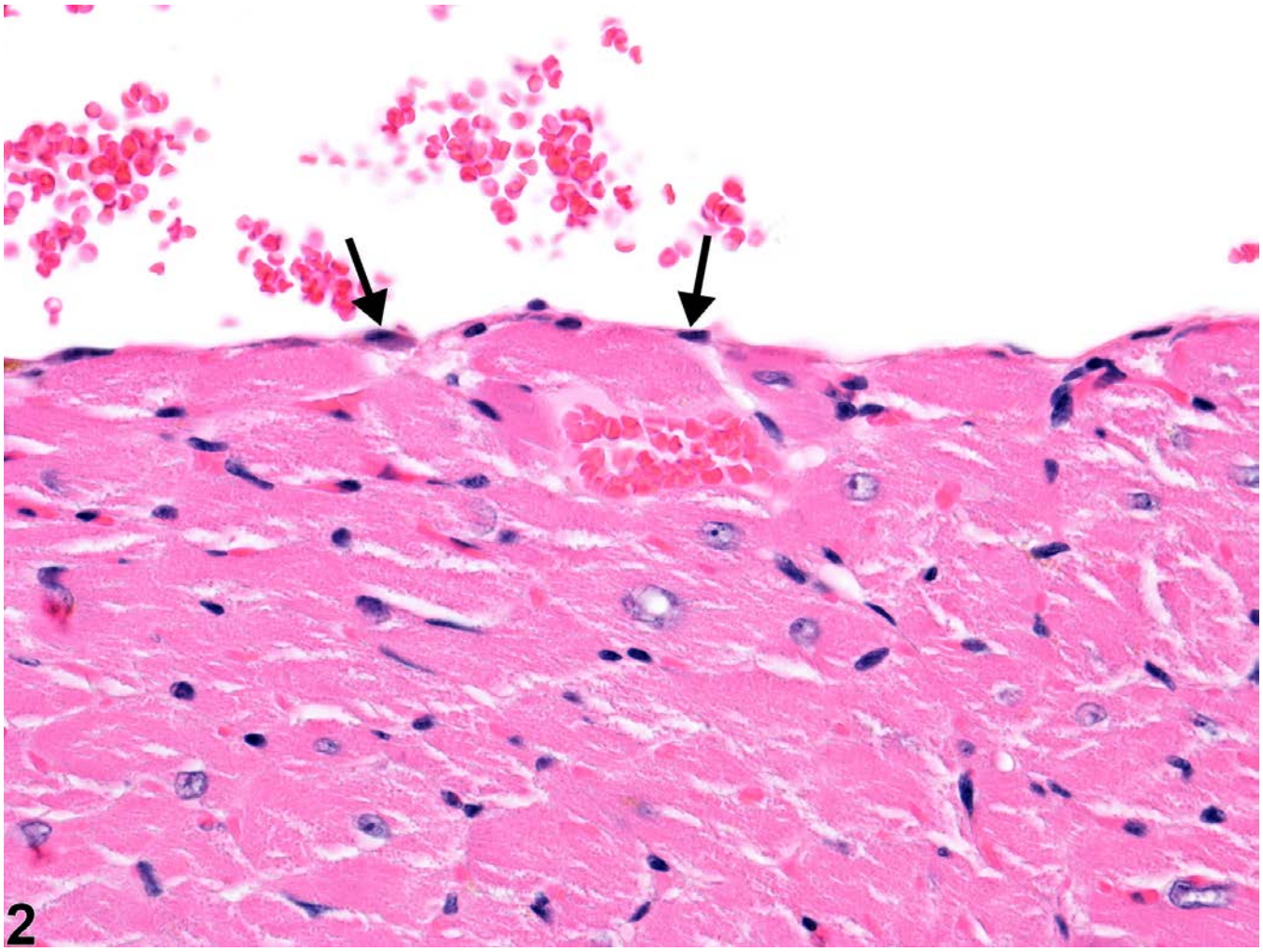


Figure 2 Normal heart in a male B6C3F1/N mouse from a chronic study. The outer endothelial layer is indicated by arrows.

Heart – Introduction

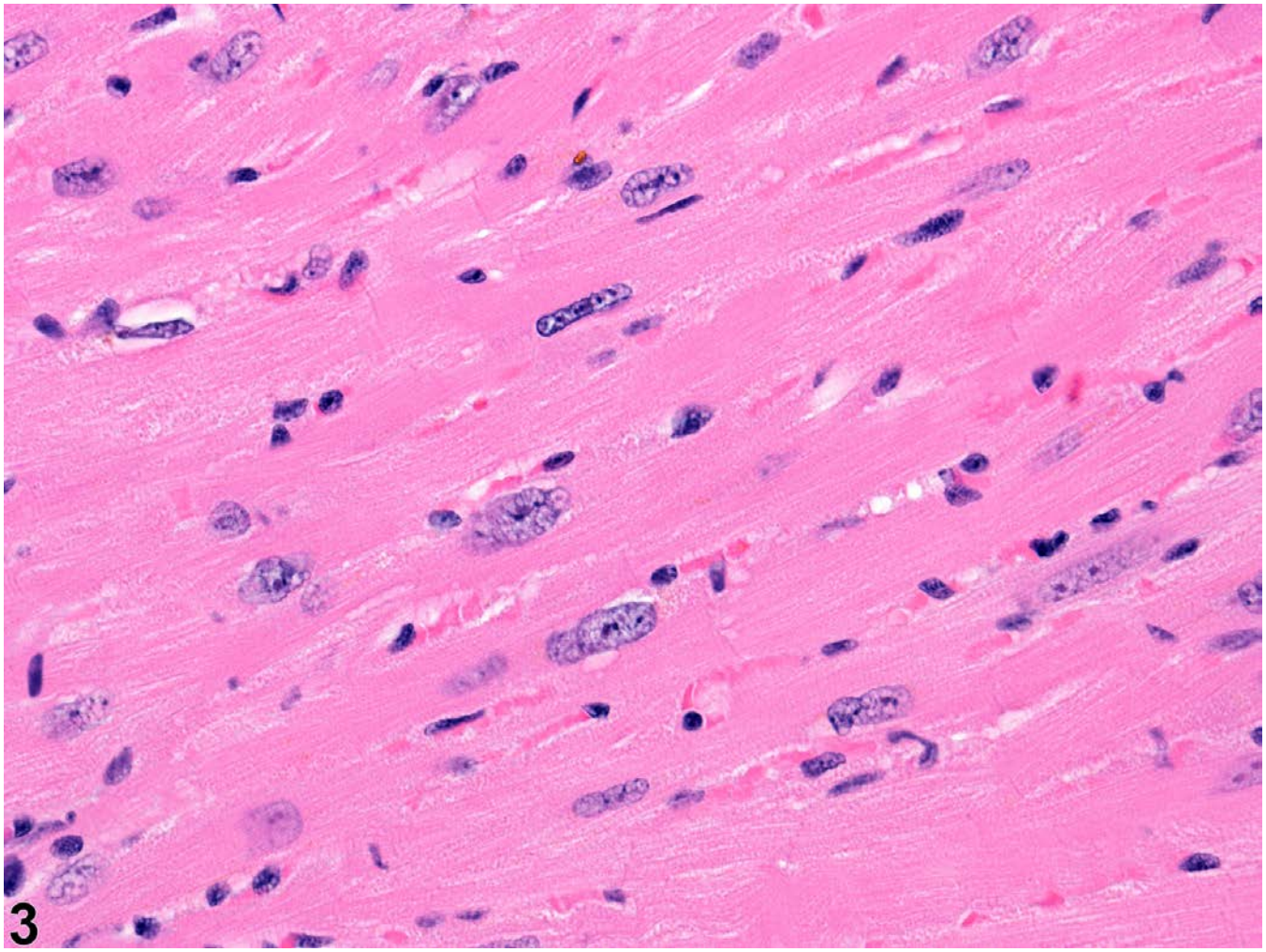
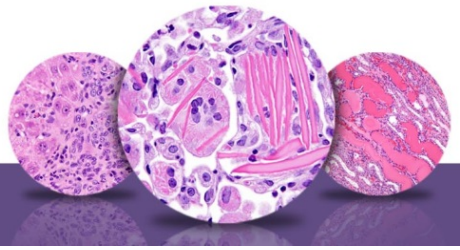


Figure 3 Normal myocardium in a male B6C3F1/N mouse from a chronic study.

Damage to the heart may be either structural or functional. Structural abnormalities may be detected microscopically, whereas functional changes are typically assessed through other means, such as enzyme detection or blood pressure measurements. Differentiating spontaneously occurring lesions from treatment-related lesions may be difficult. Spontaneous cardiomyopathy is commonly found in rats but less commonly in mice. Further, some spontaneous lesions may be exacerbated by treatment, making differentiation even more difficult.



Heart – Introduction

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Authors:

Crystal L. Johnson, DVM, DACVP
Veterinary Pathologist II
Charles River Laboratories, Inc.
Research Triangle Park, NC

Abraham Nyska, DVM, Diplomate ECVP, Fellow IATP
Expert in Toxicologic Pathology
Visiting Full Professor of Pathology
Sackler School of Medicine, Tel Aviv University
Timrat, Israel