

Journal of Andrology, Vol. 24, No. 6, November/December 2003
Copyright © [American Society of Andrology](#)

Expression and Localization of Total Akt1 and Phosphorylated Akt1 in the Rat Semiferrous Epithelium

MARY L. HIXON AND KIM BOEKELHEIDE

Department of Pathology and Laboratory Medicine, Brown University, Providence, Rhode Island.

Correspondence to: Dr Kim Boekelheide, Department of Pathology and Laboratory Medicine, 175 Meeting St, Brown University, Providence, RI 02912 (Fax: 401-863-9008; e-mail: Kim_Boekelheide@Brown.edu).

Akt1 is a survival factor that is believed to play a role in the transcriptional modulation of a subset of genes associated with cell growth, proliferation, and apoptosis. We have explored in detail the expression of total Akt1 and phosphorylated Akt1 in the developing and adult rat testis. Throughout testis postnatal development, the expression of total Akt1 protein exhibited a mainly cytoplasmic localization within both the germ cells and the supporting Sertoli cells. In contrast, phosphorylated Akt1 staining demonstrated a mainly nuclear localization within germ cells. In the developmental sequence of germ cells, phosphorylated Akt1 stained the nuclei of spermatogonia, spermatocytes, and round spermatids. During spermiogenesis, phosphorylated Akt1 staining decreased in the nucleus and became localized to a bright spot at the base of the nucleus in elongate spermatids. Of interest, total Akt1 was found to localize to the perinuclear region of germ cells and the supranuclear region of Sertoli cells, depending on fixation. Further analysis demonstrated this staining to be associated with the Golgi complex in both germ and Sertoli cells.

Key words: Testis, phosphoinositide-3 kinases, protein kinase B, perinuclear, Golgi

This Article

- ▶ [Full Text](#)
- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by Hixon, M. L.](#)
- ▶ [Articles by Boekelheide, K.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Hixon, M. L.](#)
- ▶ [Articles by Boekelheide, K.](#)