

## Signal transducing adaptor molecule 2 (*Stam2*) is expressed in the mouse during embryo development and in the adult brain

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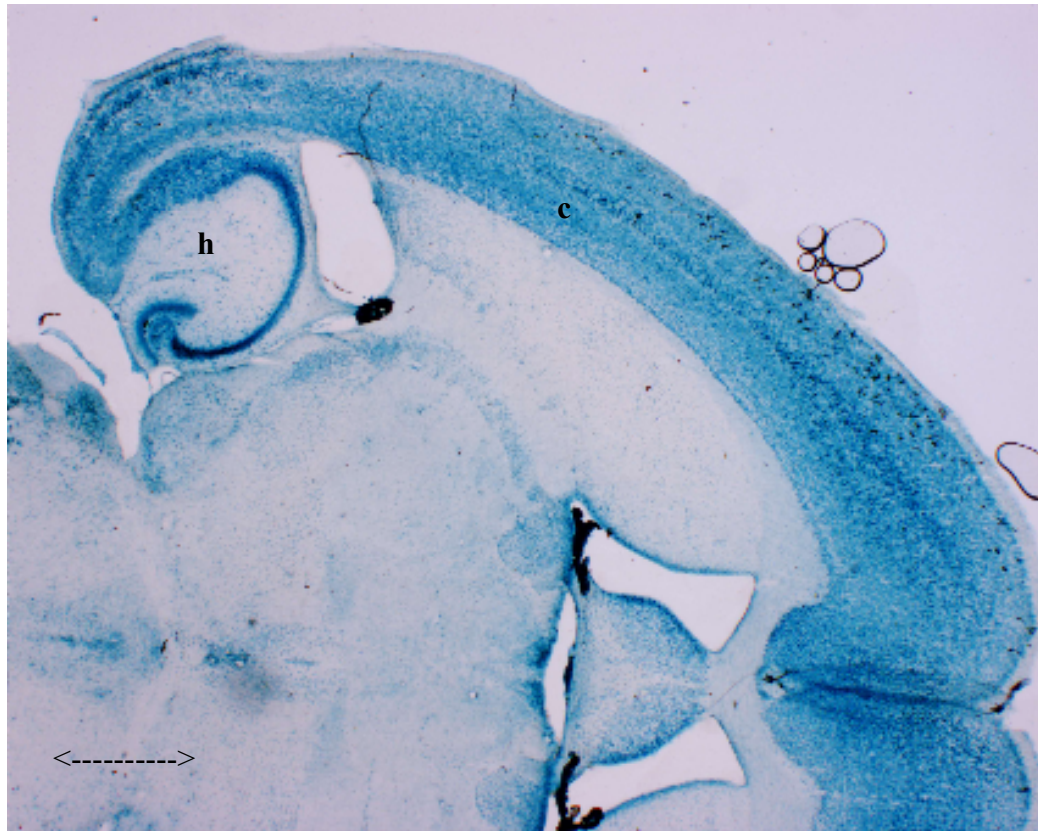
STAM2 (Signal transducing adaptor molecule 2) was identified as a phosphotyrosine protein involved in a cellular response to variety of cytokines or growth factors. Its interactions with HRS protein implicated its function in endosome mediated intracellular membrane trafficking. Therefore HRS, STAM1 and STAM2 are referred as ESCRT-0 complex which would sort the ubiquitinated cargo toward the degradation in the lysosomes [1].

In order to investigate *Stam2* expression mouse carrying a gene trap modification of *Stam2* gene was created [2]. Expression pattern was determined by monitoring the activity of the introduced *lacZ* gene. The fact that *lacZ* was transcribed in frame with *Stam2* gene enabled the detection of protein encoded by *lacZ*, beta-galactosidase by histochemical staining with X-gal, either in whole mount preparations or on the tissue sections.

The expression pattern analysis showed that *Stam2* expression started during embryo development and it was mainly localized in the ventral part of the neural tube, and in the heart. In 18.5-day embryos, and in the newborns expression was present in the brain, which then continued to adulthood. In the adult brain, weak *Stam2* expression could be find in all gray matter, but very strong expression was present in the cortex, hippocampus, and along the olfactory pathway.

*Stam2* expression in the developing and in the adult nervous system indicates its particular role in the signaling processes in the brain cells. The cell type and the subcellular localization of *Stam2* is expected to reveal the importance of ESCRT-0 complex for the mouse brain.

1. K.G. Bache et al., J. Biol. Chem. **278** (2003) p12513
2. T. Thomas et al., Transgenic Res. **9** (2000) p395.
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**Figure 1.** Stam2 expression in cortex and hippocampus of the mouse brain determined by X-gal staining of the brain cryosections of the mouse heterozygous carrier of gene trap modified Stam2 gene. **h** – hippocampus, **c** – cortex. Bar – 1 mm.