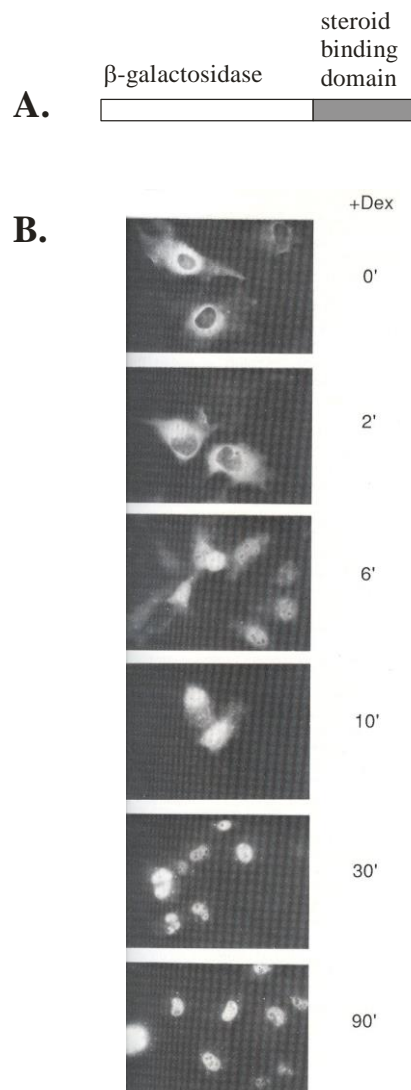


FUNCTIONAL ANALYSIS OF THE STEROID BINDING DOMAIN OF A GLUCOCORTICOID RECEPTOR

Terms to be familiar with before you start to analyze the figure

*transfection * expression plasmid * β -galactosidase * glucocorticoid receptor * immunocytochemistry*

The figure



Mammalian cells were transfected with an expression plasmid encoding a fusion protein: the recombinant gene contained the gene of bacterial β -galactosidase and a DNA fragment coding for the steroid binding domain of the glucocorticoid receptor (Fig. A).

The transfectants were treated with dexamethasone (+ Dex), a synthetic glucocorticoid.

at the indicated time points immunocytochemistry was performed using an anti- β -galactosidase antibody (Fig. B).

Answer the following questions!

1. What was the aim of using β -galactosidase in this experiment?
2. What type of immunocytochemistry was used?
3. What was the effect of dexamethasone?
4. Which region of the steroid-binding domain is responsible for this effect?
5. What is the significance of this phenomenon in the mechanism of action of glucocorticoid hormones?

The source of the figure

Picard, D., Yamamoto, K.R. (1987) 2 signals mediate hormone-dependent nuclear localization of the glucocorticoid receptor. EMBO J. 6, 3333-3340.

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