

PRODUCT SPECIFICATION

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SSI-HYB 353-05 Anti Ro60

Mouse monoclonal antibody

Article No.	96968 (0.2 mL), 101084 (1.0 mL)
Product Name	SSI-HYB 353-05 Anti Ro60
Clone	SSI-7G8
Subclass	IgG1 / Kappa
Presentation	Preparation: Protein-A purified Concentration: 1 mg/mL \pm 10%, based on A_{280} . See Certificate of Analysis for details. Solvent: PBS, pH 7.2 – 7.4 Storage: -18 °C or colder
Antigen	<p>Ro60 is a 60 kDa ring-shaped protein with two overlapping RNA binding sites.</p> <p>In the cytoplasm, Ro60 assemble into a ribonucleoprotein complex also comprising the E3 ubiquitin ligase Ro52 and the Pol-III transcriptional terminator La/SSB and possibly also the RNA-binding Nucleolin and the chaperone Calreticulin (1-3). When associated in the complex, Ro60 binds non-covalently to non-coding RNAs called Y-RNAs at the binding site on the outer surface of the ring. The binding of Y RNAs to Ro60 inhibits binding of other RNAs to Ro60 and regulates the subcellular distribution of Ro60 possibly by masking a nuclear localization signal (4).</p> <p>Unbound Ro60 translocate to and accumulates in the nucleus, where it joins the RNA quality control program. By binding small misfolded RNAs via its central cavity and by modulating RNA metabolism, Ro60 enhances cell survival during cellular stress such as ultraviolet radiation (4-5). A major function of Ro60 has been proposed to be protection against autoantibody development by sequestering defective ribunucleoproteins from immune surveillance (6).</p> <p>Ro60 is also known as the SSA antigen associated with the autoimmune disorder; Sjögren's Syndrome and it is a major target of autoantibodies in patients suffering from the rheumatic diseases systemic lupus erythematosus, subacute cutaneous lupus erythematosus and neonatal lupus erythematosus..</p>
Immunogen	Purified bovine Ro60.
Specificity	SSI-HYB 353-05 reacts with native Ro60.
Epitope Specificity	SSI-HYB 353-05 recognizes a conformational epitope (7) with a different specificity compared to SSI-HYB 353-01, SSI-HYB 353-02 and SSI-HYB 353-06..
Reactivity	SSI-HYB 353-05 reacts well in sandwich ELISA and is use full as detection antibody when using SSI-HYB 353-02 as catching antibody. SSI-HYB 353-05 is reactive in Hep-2000 immunofluorescence assay (7, Figure 1) and it detects Ro-60 on line blot/dot blot.
Culture Medium	Dulbecco's modified Eagle's medium with 10% fetal calf serum.
Fusion Partner	X63-Ag8.653.

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Immunization

Female NMRI mice were immunized i.p. with immunogen adsorbed onto Al(OH)₃.

Application

Method	Usability	References
ELISA	yes	
Immunoblotting	yes	
Immunofluorescence	yes	7
Immunocytochemistry	yes	7

References

1. **Slobbe RL, Pluk W, van Venrooij WJ, Pruijn GJ.** Ro ribonucleoprotein assembly in vitro. Identification of RNA-protein and protein-protein interactions. *J Mol Biol.* 1992 Sep 20;227(2):361-6.
2. **Cheng ST, Nguyen TQ, Yang YS, Capra JD, Sontheimer RD.** Calreticulin binds hYRNA and the 52-kDa polypeptide component of the Ro/SS-A ribonucleoprotein autoantigen. *J Immunol.* 1996 Jun 1;156(11):4484-91.
3. **Fouraux MA, Bouvet P, Verkaart S, van Venrooij WJ, Pruijn GJ.** Nucleolin associates with a subset of the human Ro ribonucleoprotein complexes. *J Mol Biol.* 2002 Jul 12;320(3):475-88.
4. **Sim S, Weinberg DE, Fuchs G, Choi K, Chung J, Wolin SL.** The subcellular distribution of an RNA quality control protein, the Ro autoantigen, is regulated by noncoding Y RNA binding. *Mol Biol Cell.* 2009 Mar;20(5):1555-64. doi: 10.1091/mbc.E08 11-1094. Epub 2008 Dec 30.
5. **Chen X, Smith JD, Shi H, Yang DD, Flavell RA, Wolin SL.** The Ro autoantigen binds misfolded U2 small nuclear RNAs and assists mammalian cell survival after UV irradiation. *Curr Biol.* 2003 Dec 16;13(24):2206-11.
6. **Xue D, Shi H, Smith JD, Chen X, Noe DA, Cedervall T, Yang DD, Eynon E, Brash DE, Kashgarian M, Flavell RA, Wolin SL.** A lupus-like syndrome develops in mice lacking the Ro 60-kDa protein, a major lupus autoantigen. *Proc Natl Acad Sci U S A.* 2003 Jun 24;100(13):7503-8. Epub 2003 Jun 3.
7. **Ødum Nielsen I, Hartwig Trier N, Friis T, Houen G.** Characterization of continuous monoclonal antibody epitopes in the N-terminus of Ro60. *Biopolymers.* 2016 Jan;106(1):62-71. doi: 10.1002/bip.22758.

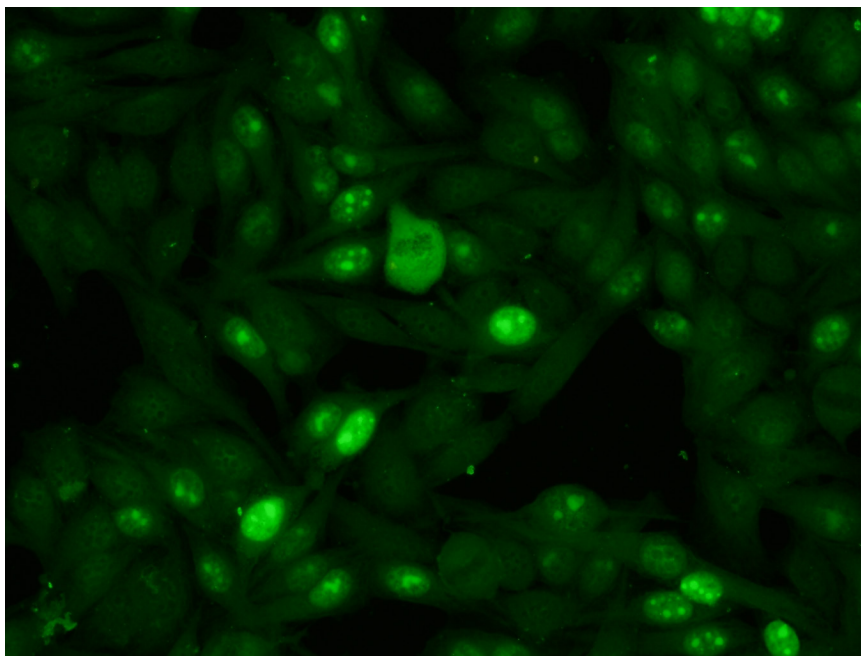


Figure 1. In the Ro 60 overexpressing human cell line, Hep-2000, immunofluorescent staining with SSI-HYB 353-05 results in speckled nuclear staining and prominent strong nucleoli staining of the Ro 60 overexpressing interphase cells.

Conditions

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