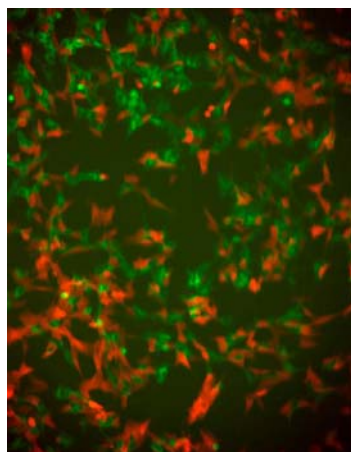


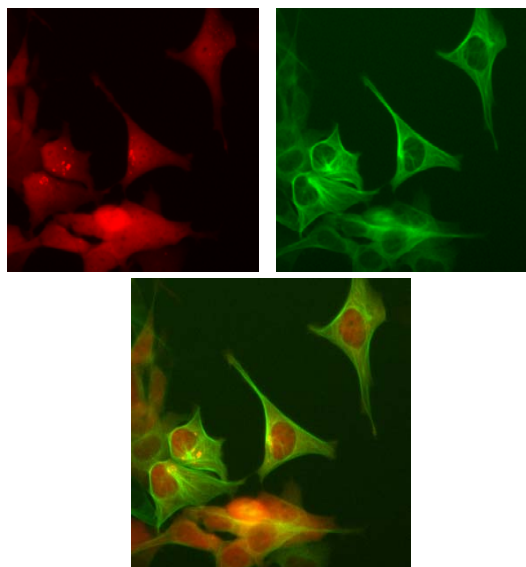
STABLE CELL LINES FOR CNS RESEARCH

Green fluorescent TAU & Red fluorescent α -synuclein SHSY5Y Cell Line



Host Cell Line:	SH-SY5Y
Construct 1:	tGFP-tau (ON4R)
Construct 2:	TagRFP α -synuclein
Catalog Number:	P30721
Fluorescent Protein:	tGFP & TagRFP
Resistance:	G418
Format:	$>3 \times 10^6$ cells in Cryopreserved vials
Storage:	Liquid Nitrogen

A novel SH-SY5Y cell line has been developed through stable transfection with tGFP-tau protein (ON4R isoform - G272V mutant) and TagRFP- α -synuclein.



This cell line is stably-transfected and it is ready to use in cell-based assay applications. This stably transfected cell line provides consistent levels of expression, which helps to simplify the interpretation of the results. This cell line is intended to be used as an "in vitro" model for research studies.

About tau protein (ON4R-G272V mutant)

Isoform of Tau, variant ON4R, having 4 microtubule binding repeats (R) and no amino terminal inserts (N).

Tau is a family of major neuronal microtubule associated proteins that are found in the neurofibrillary tangles (NFT) in Alzheimer's disease. Tau promotes the assembly and maintains the structure of microtubules in neuronal cells. The Tau proteins are derived from alternative mRNA splice variants that originate from a single gene and result in mature proteins that vary in size from 352 to 441 amino acids. There are six Tau isoforms, that differ from one another in having three or four microtubule binding repeats (R) of 31-32 amino acids each, and two, one or none amino terminal inserts (N) of 29 amino acids each. G272V mutation produces tau proteins that are more favorable substrates for phosphorylation by brain protein kinases than wild-type tau isoforms

About α -synuclein

Alpha-synuclein is a synuclein protein of unknown function primarily found in neural tissue.

Alpha-synuclein is specifically upregulated in a discrete population of presynaptic terminals of the brain during a period of acquisition-related synaptic rearrangement. It has been shown that alpha-synuclein significantly interacts with tubulin, and that alpha-synuclein may have activity as a potential microtubule-associated protein, like tau.

It is linked genetically and neuropathologically to Parkinson's disease (PD). α -Synuclein may contribute to PD pathogenesis in a number of ways, but it is generally thought that its aberrant soluble oligomeric conformations, termed protofibrils, are the toxic species that mediate disruption of cellular homeostasis and neuronal death, through effects on various intracellular targets, including synaptic function

About TagRFP protein

TagRFP is a monomeric red (orange) fluorescent protein generated from the wild-type RFP from sea anemone *Entacmaea quadricolor* [Merzlyak et al., 2007]. It possesses bright fluorescence with excitation/emission maxima at 555 and 584 nm, respectively. TagRFP is about three times brighter than mCherry protein [Shaner et al., 2004], which makes it the brightest monomeric red fluorescent protein available so far.

About tGFP protein

tGFP is an improved variant of the green fluorescent protein CopGFP cloned from copepoda *Pontellina plumata* (Arthropoda; Crustacea; Maxillopoda; Copepoda). It possesses bright green fluorescence (excitation/emission max = 482/ 502 nm) that is visible earlier than fluorescence of other green fluorescent proteins. TurboGFP is mainly intended for applications where fast appearance of bright fluorescence is crucial. It is specially recommended for cell and organelle labeling and tracking the promoter activity.

Quality Control

All cells are performance assayed and test negative for mycoplasma, bacteria, yeast and fungi. Cell viability, morphology and proliferative capacity are measured after recovery from cryopreservation. Innoprot guarantees stable expression for many generations and provides support for cell culture and visualization.

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