# ARG81353
# SOD Activity Assay Kit

Package: 100 assay
Store at: -20°C

## Summary

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| Product Description | ARG81353 SOD Activity Assay Kit is a detection kit for the quantification of Superoxide Dismutase in serum, plasma and cell / tissue lysates. |
| Tested Reactivity | Hu, Ms, Rat, Mamm |
| Tested Application | FuncSt |
| Target Name | SOD |
| Conjugation Note | Read at 490 nm. |
| Sample Type | Serum, plasma and cell / tissue lysates. |
| Standard Range | 0.0012 - 5 U/µl (Unit Definition: One unit will inhibit the rate of reduction of cytochrome c by 50% in a coupled system, using xanthine and xanthine oxidase, at pH 7.8 at 25°C in a 3.0 ml reaction volume.) |
| Sample Volume | 10 - 70 µl |
| Alternate Names | homodimer; EC 1.15.1.1; SOD; HEL-S-44; Superoxide dismutase [Cu-Zn]; ALS1; Superoxide dismutase 1; IPOA; ALS; hSod1 |

## Application Instructions

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| Application Note | Please note that this kit does not include a microplate. |
| Assay Time | 1 hour |

## Properties

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| Form | Liquid |
| Storage instruction | Store the kit at -20°C. Do not expose test reagents to heat, sun or strong light during storage and usage. Please refer to the product user manual for detail temperatures of the components. |
| Note | For laboratory research only, not for drug, diagnostic or other use. |

## Bioinformation

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| Gene Symbol | SOD1 |
| Gene Full Name | superoxide dismutase 1, soluble |
| Background | The protein encoded by this gene binds copper and zinc ions and is one of two isozymes responsible for destroying free superoxide radicals in the body. The encoded isozyme is a soluble cytoplasmic protein, acting as a homodimer to convert naturally-occuring but harmful superoxide radicals to molecular oxygen and hydrogen peroxide. The other isozyme is a mitochondrial protein. Mutations in this gene have been implicated as causes of familial amyotrophic lateral sclerosis. Rare transcript variants have been reported for this gene. [provided by RefSeq, Jul 2008] |
| Function | Destroys radicals which are normally produced within the cells and which are toxic to biological systems. [UniProt] |

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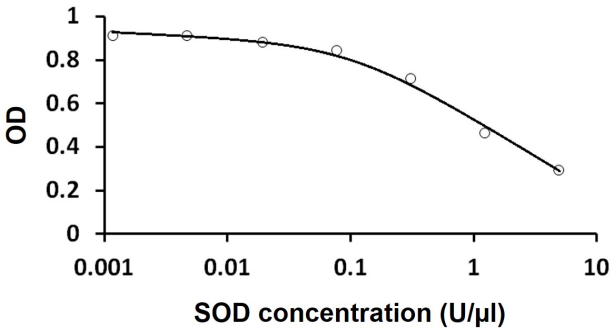
| PTM | Unlike wild-type protein, the pathogenic variants ALS1 Arg-38, Arg-47, Arg-86 and Ala-94 are polyubiquitinated by RNF19A leading to their proteasomal degradation. The pathogenic variants ALS1 Arg-86 and Ala-94 are ubiquitinated by MARCH5 leading to their proteasomal degradation.<br><br>The ditryptophan cross-link at Trp-33 is responsible for the non-disulfide-linked homodimerization. Such modification might only occur in extreme conditions and additional experimental evidence is required.<br><br>Palmitoylation helps nuclear targeting and decreases catalytic activity.<br><br>Succinylation, adjacent to copper catalytic site, probably inhibits activity. Desuccinylation by SIRT5 enhances activity. [UniProt] |

## Images




ARG81353 SOD Activity Assay Kit standard curve image

ARG81353 SOD Activity Assay Kit results of a typical standard run with optical density reading at 490 nm.