

Table 5 Apparent second order rate constants for reaction of selected biological oxidants with the amino acid cysteine in different environments at neutral pH (~7.4) and ~22 °C

Data from [4-6,47,275-282].

Oxidant	Cysteine environment	Apparent second order rate constant ($M^{-1}\cdot s^{-1}$)
HOCl	Free amino acid	3.6×10^8
	Cys in GSH	1.2×10^8
HO SCN	Free amino acid	7.8×10^4
	Cys in GSH	2.5×10^4
	Cys-34 in BSA	7.6×10^4
ONOOH	Free amino acid	2.6×10^3
	Cys in GSH	7.3×10^2
	Cys-34 in BSA	3.8×10^3
	Active site Cys in peroxiredoxin 5	7×10^7
H ₂ O ₂	Free amino acid	0.84
	Cys in GSH	0.42
	Cys-34 in BSA	2.3
	Active site Cys in peroxiredoxin 2	$\sim 10^7$

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