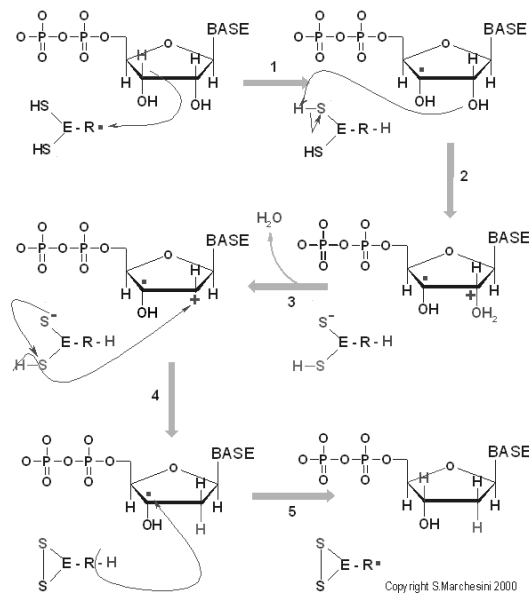


Ribonucleotide reductase reaction mechanism



The free radical of ribonucleotide reductase eliminates a hydrogen atom from carbon 3' of the substrate, generating a free radical on the substrate.

One of the thiol group of the enzyme donates a proton to oxygen on C2'.

A water molecule is eliminated.

The carbocation on C2' is reduced by the second sulfhydryl group.

The enzyme donates a hydrogen atom to radical C3' to form the deoxyribonucleotide; the enzyme is converted in its radical form and must be reduced to its starting disulfhydryl form.